Ubuntu Municipality

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

TENDERER:			
TELEPHONE:		**FAX:**	
TOTAL PRICE (INCL. VAT)		**CONTRACT PERIOD**	
CLOSING DATE	**9 February 2021**	**TIME**	**12h00**

COMPILED FOR:

Ubuntu Municipality
Acting Municipal Manager
Mr R.A. Jacobs
78 Church Street
Victoria West
7070
Private BagX329
Victoria West
7070

CONSULTANT:

IX ENGINEERS
Contact person: Mr E Geldenhuys
Montrio Corporate Park, Block 3, North Wing, 1st Floor
10 Oliver Road, Monument Heights, Kimberley, 8301
PO Box 50, Kimberley 8300, South Africa
Telephone: +27(0)53 830 0460
etienne.g @ixengineers.co.zaa
www.ixengineers.co.za

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

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THE CONTRACT

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION AND RESERVOIR

TENDER NO. UB/VW/05/2020

PART T1: TENDERING PROCEDURES

T1.1 Tender Notice and Invitation to Tender

T1.2 Tender Data

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

T1.1 : TENDER NOTICE AND INVITATION TO TENDER

Ubuntu Municipality

Ubuntu Municipality

menswaardigheid - hoop - erfenis
ubuntu - ithemba - izithethe
humanity - hope - heritage

TENDER NO. UB/VW/07/2021

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NOTICE AND INVITATION TO TENDER

The Ubuntu Municipality invites tenderers from civil engineering contractors for the **VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION**. The works will include the upgrading of the existing water pump station, installation of a balancing reservoir, refurbishment of the existing concrete reservoir at Mandela Square and the replacement of water reticulation within Victoria West.

Only those tenderers who are actively registered with the CIDB, in a contractor grading designation equal to or higher than the latest CIDB promulgated contractor grading designation, determined in accordance with the sum tendered will be eligible to tender. The project is estimated that the contractor grading designation must be **4CE** or higher. This tender has a pre-qualification criterion with **30% sub-contracting requirement as per PPPFA.** Only tenderers who satisfy the eligibility criteria stated in the Tender Conditions and Tender Data are eligible to submit tenders.

The Ubuntu Municipality Procurement and Supply Chain Management Policies, the Preferential Procurement Policy Framework Act, Act No 5 of 2000 and the regulations promulgated under this act shall apply in the adjudication and awarding of the tender.

Forms MBD 4, 8, 9 to be fully completed and attached. Proof that no monies are owed to a municipality must be attached.

Queries relating to these documents may be addressed directly to Mr. Etienne Geldenhuys, Tel No. (053) 830 0460, Cell No. +27 82 924 5108, e-mail: etienne.g@ixengineers.co.za.

Tender documents will be available from **Friday, 15 January 2021 on the e-tender portal and the Municipal website.**

A compulsory Tender Briefing with the representatives of the employer will be held on **Monday, 25 January 2021** at **12h00** at Victoria West – Library Hall, tenderers arriving more than 15 minutes late for the briefing session will not be allowed into the facility. The closing time for receipts of tenders is **12h00 on Tuesday, 09 February 2021 at Ubuntu Municipality**. Sealed tenders, endorsed with the corresponding tender number and description, must be placed in the tender box of Ubuntu Municipality. Postal delivery to reach Ubuntu Municipality, Private Bag X329, Victoria West, 7070, not later than **12h00** on **Tuesday, 09 February 2021**, after which the tenders will be opened in public. Telegraphic, telephonic, telex, facsimile, e-mail and late tenders will not be accepted and incomplete tenders and tenders received late will not be considered.

The Municipality does not bind itself to accept the lowest or any tender and reserves the right to accept the whole or only part of the tender if; (a) the tender-amounts received are too high; (b) the tenderers do not comply with the specific tender goals; or (c) objective criteria exist which justify or necessitate the non-acceptance of any tenders. The 80/20 preference point scoring system will be used for the tenders.

Requirements for sealing, addressing, delivery, opening and assessment of tenders are stated in the Tender Data.

Tender No UB/VW/07/2021

Mr R.A Jacobs
Acting Municipal Manager
78 Church Street
Victoria West
7070

15 January 2021

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

T1.2 : TENDER DATA

The Conditions of Tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (refer: www.cidb.org.za) and included as Appendix A in this document.

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

Clause	Wording
F.1.1	The employer is Ubuntu Municipality
F.1.2	The tender documents issued by the employer comprise of those listed in the contents page.
F.1.4	The Employer's agent is: Name: iX engineers (Pty) Ltd Address: 10 Oliver Road, Monument Heights, Kimberley, 8301 Tel no (053) 830 0460 E-mail: etienne.g@ixengineers.co.za
F.2.1.1	Only those tenderers who achieve the following requirements will be eligible to submit a tender **Local labour target:** It is a requirement of this contract that work be executed in such a manner so as to maximise the use of local labour-intensive construction methods. Therefore a minimum of 30 local labourers from within Ubuntu local Municipal area have to be employed for a period of 80% of the construction period. The following components of work may be executed using local labour based construction methods: • Locating of existing services. • Preparation of bedding and blanket. • Laying and joining of all pipes with a nominal diameter of 160 mm or less. • Backfilling of all trenches with compaction excluded. • Mass earth works relating to sloping and trimming. • Placing of form work. • Mixing, placing and finishing of concrete for small concrete works • Building work including brick laying, plastering, etc.; (manholes/chambers) • All cleaning and finishing off The contractor must submit monthly labour reports to the client Contractors to adhere to the minimum labour rates as stipulated by the Department of Labour. Contractors to ensure that Schedule 19: Part T2.2, must be completed. If the Tenderer has not completed the form at close of tender, client shall request the tenderer to complete the form, failure of which shall result in the tenderer being non-responsive.

Clause	Wording
	Sub-contracting Goals The Tenderer must sub-contract a minimum of 30% to an EME or QSE as follows: i (i) an EME or QSE which is at least 51% owned by black people; ii (ii) an EME or QSE which is at least 51% owned by black people who are youth; iii (iii) an EME or QSE which is at least 51% owned by black people who are women; iv (iv) an EME or QSE which is at least 51% owned by black people with disabilities; v (v) an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships; vi (vi) a cooperative which is at least 51% owned by black people; vii (vii) an EME or QSE which is at least 51% owned by black people who are military veterans; viii (viii) an EME or QSE. **A tenderer that fails to meet any local labour and sub-contracting goals as stipulated in the tender document will be considered non-responsive.**
F.2.1.1.2	Only those tenderers who are registered with the CIDB, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations, for a CE class of construction work, are eligible to have their tenders evaluated Joint Ventures are eligible to submit tenders provided that: 1. every member of the joint venture is registered with the CIDB; 2. the lead partner has a contractor grading designation in the CE class of construction work; 3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a CE class of construction work or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations. Notwithstanding the above, tenderers who are capable of being so registered prior to the evaluation of submissions may be evaluated at the sole discretion of the Employer.
F.2.7	The arrangements for a compulsory clarification meeting are: Location: **Library Hall, Victoria West** Date: 25 January 2021 Starting time: 12h00
F.2.12	If, a tenderer wishes to submit an alternative offer, the only criteria permitted for such alternative tender offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Employer's Agent. Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative tender offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in development of pricing proposal. Acceptance of an alternative tender offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the tenderer, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements.

Clause	Wording
	The modified Pricing Data must include an amount equal to 5% of the amount tendered for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.
F.2.13.5 F.2.15.1	The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are: Location of tender box: Ubuntu Municipality Physical address: 78 Church Street VICTORIA WEST Postal address: P/Bag X327, VICTORIA WEST, 7070 Identification details: "**CONTRACT NO. UB/VW/07/2021: VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION**
F.2.13 / F.3.5	A two-envelope procedure will not be followed.
F.2.15	The closing time for submission of tender offers is at 12h00 on Tuesday , 09 February 2021.
F.2.15	Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted
F.2.16	The tender offer validity period is 90 days.
F.2.22	Return all retained tender documents within twenty-eight (28) days after the expiry of the validity period.
F.2.23	The tenderer is required to submit the following certificates with his tender:
F2.23.1 F2.23.2	Tax Clearance Certificate Tenderers shall be registered and in good standing with the South African Revenue Service (SARS) and shall submit documentary evidence in the form of an **original** valid Tax Clearance Certificate issued by SARS or proof that he or she has made arrangements with SARS to meet his or her outstanding tax obligations or a PIN number. Each party to a Consortium/Joint Venture shall submit a separate Tax Clearance Certificate, or proof that he or she has made the necessary arrangements with SARS. Either a 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)
F.3.2	Issue addenda *Add the following to F.3.2:* Notwithstanding any requests for confirmation of receipt of Addenda issued, the tenderer shall be deemed to have received such addenda if the employer can show proof of transmission thereof (or a notice in respect thereof) via electronic mail, facsimile or registered post.
F.3.4	The time and location for opening of the tender offers are: Time: **12h00** on **09 February 2021** Location: **Ubuntu Municipality, Victoria West**
F.3.11	The procedure for the evaluation of responsive tenders is **Method 2.** **Scoring the financial offer:** The financial offer will be scored using Formula 1 / 2* (Option 1) where the value of W_1 is: 1) 90 where the financial value inclusive of VAT of all responsive tenders received have a value in excess of R50 000 000; or 2) 80 where the financial value inclusive of VAT of one or more responsive tender offers equals or is less than R50 000 000. 3) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore 80/20 system shall be applicable. 4) Preference points for this bid shall be awarded to:

<table>
<tr><th>Clause</th><th>Wording</th></tr>
<tr><td></td><td>
a) Price; and
b) B-BBEE Status Level of Contribution
Points awarded for Price
The 80/20 OR 90/10 Preference Point System
A maximum of 80 or 90 points is allocated for price on the following basis:
80/20 or 90/10
Ps = 80 $Ps = 80\left(1 - \frac{Pt - P\,min}{P\,min}\right)$ or $Ps = 90\left(1 - \frac{Pt - Pmin}{P\,min}\right)$
Where:
Ps = Points scored for comparative price of bid under consideration
Pt = Comparative price of bid under consideration
Pmin = Comparative price of lowest acceptable bid
Points awarded for B-BBEE Status Level of Contribution
In terms of Regulation 5 (2) and 6 (2) of the Preferential Procurement Regulations as published in Government Gazette Nr.40553 dated 20 January 2017, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:
<table>
<tr><th>B-BBEE Status Level of Contributor</th><th>Number of points (90/10 system)</th><th>Number of points (80/20 system)</th></tr>
<tr><td>1</td><td>10</td><td>20</td></tr>
<tr><td>2</td><td>9</td><td>18</td></tr>
<tr><td>3</td><td>6</td><td>14</td></tr>
<tr><td>4</td><td>5</td><td>12</td></tr>
<tr><td>5</td><td>4</td><td>8</td></tr>
<tr><td>6</td><td>3</td><td>6</td></tr>
<tr><td>7</td><td>2</td><td>4</td></tr>
<tr><td>8</td><td>1</td><td>2</td></tr>
<tr><td>Non-compliant contributor</td><td>0</td><td>0</td></tr>
</table>
Scoring preferences:
</td></tr>
<tr><td>F.3.13.1</td><td>
Tender offers will only be accepted if:
a) the offer section of the “Form of Offer and Acceptance” (Part C1.1) is fully completed and signed;
b) the tenderer submitted with the tender offer an original valid Tax Clearance Certificate issued or PIN by the South African Revenue Services;
c) the tenderer is registered with the Construction Industry Development Board in an appropriate contractor grading designation;
d) the tenderer is not in arrears for more than 3 months with municipal rates and taxes and municipal service charges;
e) the tenderer or any of its directors is not listed in 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
f) the tenderer has not:
i) abused the Employer’s Supply Chain Management System; or
ii) failed to perform on any previous contract and has been given a written notice to this effect; and
</td></tr>
</table>

Clause	Wording
	g) has completed 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 comprise the tender process. h) the tender satisfies the eligibility criteria as per F.2.1.1 above.
F.3.18	The number of paper copies of the signed contract to be provided by the Employer is 1
	The additional conditions of tender are: 1. Prices must be valid for 90 days and must be inclusive of VAT 2. Tenders need a valid Tax Clearance Certificate for tender. In no certificate is available, the tender will be rejected. 3. Proof of CIDB registration in 4CE or higher is required. If no certificate is available, the tender will be rejected. 4. The lowest or any tender will not necessarily be accepted.

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

PART C1 : AGREEMENT

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

C1.1 : FORM OF OFFER AND ACCEPTANCE

1. OFFER

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

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

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 .....

..... Rand (in words); R.....(in figures)

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

Signature(s) ....

Name(s) ....

Capacity ....

for the **TENDERER**.....
(Name and address of organization)

Name
of witness .....

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

2. ACCEPTANCE

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

The terms of the contract are contained in

Part C1: Agreements and contract data (which includes this agreement)

Part C2: Pricing data

Deviations from and amendments to the documents listed in the quotation data and any addenda thereto, as listed in the 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.

The tenderer shall, within two weeks after receiving a completed copy of this agreement including the schedule of deviation (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil 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 original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor), within five (5) working days of the date of such receipt, notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.[1]

Signature(s) ....

Name(s) ....

Capacity ....

for the **Employer** UBUNTU MUNICIPALITY
PRIVATE BAG X329
VICTORIA WEST
7070

Name
of witness .....

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

3. SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the documents issued by the employer before the closing date is limited to those permitted in terms of the conditions of the quotation.

2. A tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid, be the subject of agreements reached during the process of offer and acceptance, the outcome of such agreement shall be recorded here.

3. Any other matter arising from the process of offer and acceptance either as a confirmation, clarification or change to the tender documents, and which it is agreed by the Parties becomes an obligation of the contract, shall also be recorded here.

4. Any change or addition to the documents arising from the above agreements and recorded here, shall also be incorporated into the final draft of the contract.

1. Subject .....

   Details .....

2. Subject .....

   Details .....

3. Subject .....

   Details .....

4. Subject .....

   Details .....

5. Subject .....

   Details .....

By the duly authorized representatives signing this schedule of deviations, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the quotation data and addenda thereto as listed in the schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

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

Signature(s) .....

for the **Tenderer** .....
(Name and address of organization)

Signature(s) .....

for the **Employer,** Ubuntu Municipality, Private Bag X329, Victoria West, 7070

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

C1.2 : LIST OF RETURNABLE DOCUMENTS

The following documents are to be completed and returned as they constitute the tender. Whilst many of the returnable are required for the purpose of evaluating the quotations, some will form part of the subsequent contract, as they form the basis of the quotation offer. For this reason, it is very important that tenderers return **all information requested.**

1. RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES (included hereafter for completion)

Schedule A	Contractors Information
Schedule B	Compulsory Enterprise Questionnaire
Schedule C	Authority of signatory
Schedule D	Personnel Schedule
Schedule E	Schedule of Plant and Equipment available for the contract
Schedule F	Schedule of Work Experience
Schedule G	Certificate of Attendance at Clarification Meeting
Schedule H	Declaration Concerning Fulfillment of the Construction Regulations, 2003
Schedule I	Preference Claim Form In Terms of The Preferential Procurement Regulation of 2011 (MBD 6.1)
Schedule J	Declaration of Interest (MBD 4)
Schedule K	Declaration of Bidder's Past Supply Chain Management Practices (MBD 8)
Schedule L	Certificate of Independent Bid Determination (MBD 9)

2. OTHER DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

Schedule M	Original **Valid** Tax Clearance Certificate
Schedule N	Company Profile including Curriculum Vitae of Key-personnel
Schedule O	Certificate of Contractors Registration issued by the CIDB
Schedule P	Payment of Municipal Accounts
Schedule Q	Bank Rating Certificate

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

SCHEDULE A: CONTRACTOR'S INFORMATION

COMPLETE AS FULLY AS POSSIBLE, WHERE APPLICABLE

CONTRACTORS, SUPPLIERS AND SERVICES PROVIDERS (PROFESSIONAL AND NON-PROFESSIONAL) PART ONE

1.0 NAME OF COMPANY

2.0 ADDRESS: PHYSICAL

POSTAL

WEBSITE http

E-MAIL

2.1 PHYSICAL ADDRESS IN LOCAL AREA (if applicable)

CODE

CONTACT PERSON (NAME & DETAILS)

TELEPHONE

FAX

CELL PHONE

3.0 SECTOR (eg Construction)

3.1 NATURE OF BUSINESS (eg Plumbing)

1.

2.

4.0 REGISTERED AS: ☐ CLOSE CORPORATION ☐ PTY LTD COMPANY ☐ CO-OPERATIVE

☐ SOLE TRADER ☐ LTD COMPANY

☐ PARTNERSHIP ☐ NOT REGISTERED

4.1 REGISTERED NO. (if applicable)

5.0 VAT REGISTRATION NO.
(if applicable) (Attach Certified Copy)

5.1 RATES SERVICES ACCOUNT NO.
(Ubuntu Municipality)

6.0 ANNUAL SALES/TURNOVER (Previous Financial Year)

20 ..... R .....

20 ..... R .....

20 ..... R .....

7.0 TOTAL ASSETS (Previous Financial Year)

20 ..... R .....

20 ..... R .....

20 ..... R .....

8.0 CURRENT CONTRACTS WITH UBUNTU MUNICIPALITY

		1.	2.	3.
CONTRACT NO				
DURATION				
APPROXIMATE VALUE				
DATES CONTRACTS WERE SIGNED				
PAYMENT TERMS				

9.0 PREVIOUS CONTRACTS WITH MUNICIPALITIES (Last Financial Year Only)

CONTRACT NO			
APPROXIMATE VALUE			

10.0 NAME AND ADDRESS OF AUDITORS/ACCOUNTING OFFICERS

NAME

ADDRESS

CODE

11.0 PROFESSIONALS ATTACHED TO THE CONCERN WITH QUALIFICATIONS (Name and Qualification)

Initials	Qualifications	Surname

Initials	Qualifications	Surname

PART 2

12.0 NAMES AND NUMBERS OF DIRECTORS/PARTNERS/MEMBERS - % HOLDING

	Initials	Surname	ID Number	Sex%*	HDI Holding	
1.						YES/NO
2.						YES/NO
3.						YES/NO
4.						YES/NO
5.						YES/NO
6.						YES/NO
7.						YES/NO
8.						YES/NO

13.0 INDICATE ON WHICH DATE YOUR BUSINESS STARTED ITS CURRENT TYPE OF BUSINESS

*DEFINITION OF HISTORICALLY DISADVANTAGED INDIVIDUAL (HDI) MEANS A SOUTH AFRICAN CITIZEN.

- WHO, DUE TO THE APARTHEID POLICY THAT HAD BEEN IN PLACE, HAD NO FRANCHISE IN NATIONAL ELECTIONS PRIOR TO THE INTRODUCTION OF THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA, 1983 (ACT NO 110 OF 1983) OR THE CONSTITUTION OF THE REPUBLIC OF SOUTH AFRICA, 1993 (ACT NO 200 OF 1993) ("THE INTERIM CONSTITUTION") AND/OR
  - WHO IS A FEMALE; AND/OR
  - WHO HAS A DISABILITY.

PROVIDED THAT A PERSON WHO OBTAINED SOUTH AFRICAN CITIZENSHIP ON OR AFTER THE COMING INTO EFFECT OF THE INTERIM CONSTITUTION, IS DEEMED NOT TO BE A HDI.

14.0 BANK REFERENCE

ACCOUNT NAME	
BANK NAME	
BRANCH NAME	
BRANCH CODE	
ACCOUNT NUMBER	

I ..... (FULL NAME) HEREBY CERTIFY THAT THE ABOVE INFORMATION IS TRUE AND CORRECT

....

SIGNATURE **DATE**

(ADDITIONAL INFORMATION MAY BE ATTACHED IF NECESSARY.)

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

SCHEDULE B : 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*

***** 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 of 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: (insert separate page if necessary)

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 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, 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;

v) 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 .....

* The schedule should be used where tenders are subject to the local Government: Municipal Finance Management Act

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

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SCHEDULE C : AUTHORITY FOR 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 and attach any supporting documentation to the relevant schedule.

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

A. Certificate for Company

I, ... , chairperson of the board of directors of ..... … ..... , hereby confirm that by resolution of the board (copy attached) taken on ..... 20…., Mr/Ms ..... acting in the capacity of ..... , was authorized to sign all documents in connection with this tender and any contract resulting from it on behalf of the company.

As witnesses :

1. .....
2. .....

Chairman : .....

Date : .....

B. Certificate for Partnership

We, the undersigned, being the key partners in the business trading as .... hereby authorize 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 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 authorise Mr/Ms ..... , authorised signatory of the company .... , 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 authorization is evidenced by the attached power of attorney signed by legally authorized signatories of all the partners to the Joint Venture.

NAME OF FIRM	ADDRESS	AUTHORISING SIGNATURE, NAME & CAPACITY
Lead partner		

D. Certificate for Sole Proprietor

I, ... hereby confirm that I am the sole owner of the business trading as .....

As witnesses:

1. .....
2. .....

Signature : Sole owner : .....

Date : .....

E. Certificate for Close Corporation

We, the undersigned, being the key members in the business trading as .... hereby authorize 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 all of the key-partners upon who rests the direction of the affairs of the Partnership as a whole.

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SCHEDULE D : PERSONNEL SCHEDULE

Job Description	Number of Non-Local Labour to be Employed on the Contract	Number of Local Labour to be Employed on the Contract
Contract Manager		
Site Agent		
Quantity Surveyor		
Surveyors		
General Foreman		
Foremen		
Community Officers		
Clerks		
Operators		
Bricklayers		
Learner Bricklayers		
Steel fixers		
Watchmen		
Gang Bosses		
Pipe Layers		
Labourers		
* Other		
* Other		
* Other		

* To be filled in by Tenderer

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

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

Tenderer .....

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SCHEDULE E : SCHEDULE OF PLANT AND EQUIPMENT AVAILABLE FOR THE CONTRACT

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

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

Quantity	Description, Size, Capacity, etc

Attach additional pages if more space is required.

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

Quantity	Description, Size, Capacity, etc

Attach additional pages if more space is required.

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

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

Tenderer .....

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SCHEDULE F : SCHEDULE OF WORK EXPERIENCE

The following is a statement of similar work successfully executed by myself/ourselves:

Employer, contact person and telephone number	Description of Contract	Value of Work Inclusive of VAT (Rand)	Date Completed

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

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

Tenderer .....

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SCHEDULE G : CERTIFICATE OF ATTENDANCE AT 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 .

Ubuntu Municipality (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 rates and prices included in the tender.

Particulars of person(s) attending the meeting:

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

Capacity .....

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

Capacity .....

Attendance of the above persons at the meeting is confirmed by the Employer's representative, namely:

Name : Signature .....

Capacity : Engineer Date & Time .....

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SCHEDULE H : DECLARATION CONCERNING FULFILMENT OF THE CONSTRUCTION REGULATIONS, 2014

In terms of regulation 4(4) of the Construction Regulations, 2014 (hereinafter referred to as the Regulations), promulgated on 18 July 2003 in terms of Section 43 of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) the Employer shall not appoint a contractor to perform construction work unless the Contractor can satisfy the Employer that his/her firm has the necessary competencies and resources to carry out the work safely and has allowed adequately in his/her tender for the due fulfilment of all the applicable requirements of the Act and the Regulations.

Tenderers shall answer the questions below:

1. I confirm that I am fully conversant with the Regulations and that my company has (or will acquire/procure) the necessary competencies and resources to timeously, safely and successfully comply with all of the requirements of the Regulations.

(Tick)

YES	
NO	

2. Indicate which approach shall be employed to achieve compliance with the Regulations.

(Tick)

Own resources, competent in terms of the Regulations (refer to 3 below)	
Own resources, still to be hired and/or trained (until competency is achieved)	
Specialist subcontract resources (competent) - Specify:	

3. Provide details of proposed key persons, competent in terms of the Regulations, who will form part of the Contract team as specified in the Regulations (CVs to be attached):

.....

.....

.....

4. Provide details of proposed training (if any) that will be undergone:

.....

.....

.....

.....

.....

.....

5. List potential key risks identified and measures for addressing risks:

.....

.....

.....

.....

.....

.....

6. I have fully included in my tendered rates and prices (in the appropriate payment items provided in the Schedule of Quantities) for all resources, actions, training and any other costs required for the due fulfilment of the Regulations for the duration of the construction and defects repair period

(Tick)

YES	
NO	

SIGNATURE OF PERSON(S) AUTHORISED TO SIGN THIS TENDER:

1. ..... ID NO: .....

(Name in Print): .....

2. ..... ID NO: .....

(Name in Print): .....

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SCHEDULE I : PREFERENTIAL PROCUREMENT SCHEDULE

MBD 6.1

THE TENDERER MUST ATTACH TO THIS PAGE A CERTIFIED COPY OF A VALID B-BBEE RATING CERTIFICATE

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017.

---

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to all bids:

- 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 The value of this bid is estimated to exceed/not exceed R50 000 000 (all applicable taxes included) and therefore the……system shall be applicable.

1.3 Preference points for this bid shall be awarded for:

(a) Price; and
(b) B-BBEE Status Level of Contribution.

1.3.1 The maximum points for this bid are allocated as follows:

		POINTS
1.3.1.1	**PRICE**	……..
1.3.1.2	**B-BBEE STATUS LEVEL OF CONTRIBUTION**	……..
	Total points for Price and B-BBEE must not exceed	**100**

1.4 Failure on the part of a bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

1.5. The purchaser reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the purchaser.

2. DEFINITIONS

"B-BBEE" means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
"B-BBEE status level of contributor" means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
"black designated groups" has the meaning assigned to it in the codes of good practice issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
"black people" has the meaning assigned to it in section 1 of the Broad-Based Black Economic Empowerment Act;
"Broad-Based Black Economic Empowerment Act" means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);
"co-operative" means a co-operative registered in terms of section 7 of the Cooperatives Act, 2005 (Act No. 14 of 2005);
"designated group" means-
(a) black designated groups;
(b) black people;
(c) women;
(d) people with disabilities; or
(e) small enterprises, as defined in section 1 of the National Small Enterprise Act, 1996
(Act No. 102 of 1996);
"designated sector" means a sector, sub-sector or industry or product designated interms of regulation 8(1)(a);
"EME" means an exempted micro enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
"functionality" means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents;
"military veteran" has the meaning assigned to it in section 1 of the Military Veterans Act, 2011 (Act No. 18 of 2011);
"National Treasury" has the meaning assigned to it in section 1 of the Public Finance Management Act, 1999 (Act No. 1 of 1999);
"people with disabilities" has the meaning assigned to it in section 1 of the Employment Equity Act, 1998 (Act No. 55 of 1998);
"price" includes all applicable taxes less all unconditional discounts;
"proof of B-BBEE status level of contributor" means-
(a) the B-BBEE status level certificate issued by an authorised body or person;
(b) a sworn affidavit as prescribed by the B-BBEE Codes of Good Practice; or
(c) any other requirement prescribed in terms of the Broad-Based Black Economic
"QSE" means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
"Rand value" means the total estimated value of a contract in Rand, calculated at the time of the tender invitation;
"rural area" means-
(a) a sparsely populated area in which people farm or depend on natural resources, including villages and small towns that are dispersed through the area; or
(b) an area including a large settlement which depends on migratory labour and remittances and government social grants for survival, and may have a traditional land tenure system;
"stipulated minimum threshold" means the minimum threshold stipulated in terms of regulation 8(1)(b);
"the Act" means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000);
"township" means an urban living area that any time from the late 19th century until 27 April 1994, was reserved for black people, including areas developed for historically disadvantaged individuals post 27 April 1994;

"treasury" has the meaning assigned to it in section 1 of the Public Finance Management Act, 1999 (Act No. 1 of 1999); and
"youth" has the meaning assigned to it in section 1 of the National Youth Development Agency Act, 2008 (Act No. 54 of 2008).

3. ADJUDICATION USING A POINT SYSTEM

3.1 The bidder obtaining the highest number of total points will be awarded the contract.

3.2 Preference points shall be calculated after prices have been brought to a comparative basis taking into account all factors of non-firm prices and all unconditional discounts;.

3.3 Points scored must be rounded off to the nearest 2 decimal places.

3.4 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.

3.5 However, when functionality is part of the evaluation process and two or more bids have scored equal points including equal preference points for B-BBEE, the successful bid must be the one scoring the highest score for functionality.

3.6 Should two or more bids be equal in all respects, the award shall be decided by the drawing of lots.

4. POINTS AWARDED FOR PRICE

4.1 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

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

Where

Ps = Points scored for comparative price of bid under consideration

Pt = Comparative price of bid under consideration

Pmin = Comparative price of lowest acceptable bid

5. Points awarded for B-BBEE Status Level of Contribution

5.1 In terms of Regulation 5 (2) and 6 (2) of the Preferential Procurement Regulations, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5.2 Bidders who qualify as EMEs in terms of the B-BBEE Act must submit a certificate issued by an Accounting Officer as contemplated in the CCA or a Verification Agency accredited by SANAS or a Registered Auditor. Registered auditors do not need to meet the prerequisite for IRBA's approval for the purpose of conducting verification and issuing EMEs with B-BBEE Status Level Certificates.

5.3 Bidders other than EMEs must submit their original and valid B-BBEE status level verification certificate or a certified copy thereof, substantiating their B-BBEE rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.

5.4 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.

5.5 A trust, consortium or joint venture will qualify for points for their B-BBEE status level as an unincorporated entity, provided that the entity submits their consolidated B-BBEE scorecard as if they were a group structure and that such a consolidated B-BBEE scorecard is prepared for every separate bid.

5.6 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

5.7 A person will not be awarded points for B-BBEE status level if it is indicated in the bid documents that such a bidder intends sub-contracting more than 25% of the value of the contract to any other enterprise that does not qualify for at least the points that such a bidder qualifies for, unless the intended sub- contractor is an EME that has the capability and ability to execute the sub-contract.

5.8 A person awarded a contract may not sub-contract more than 25% of the value of the contract to any other enterprise that does not have an equal or higher B-BBEE status level than the person concerned, unless the contract is sub-contracted to an EME that has the capability and ability to execute the sub-contract.

6. BID DECLARATION

6.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

7. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3.1.2 AND 5.1

7.1 B-BBEE Status Level of Contribution: …… = ……(maximum of 10 or 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 5.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency accredited by SANAS or a Registered Auditor approved by IRBA or an Accounting Officer as contemplated in the CCA).

8 SUB-CONTRACTING

8.1 Will any portion of the contract be sub-contracted? YES / NO (delete which is not applicable)

8.1.1 If yes, indicate:

(i) what percentage of the contract will be subcontracted? .....……%

(ii) the name of the sub-contractor? ……..

(iii) the B-BBEE status level of the sub-contractor? ……..

(iv) whether the sub-contractor is an EME? YES / NO (delete which is not applicable)

9 DECLARATION WITH REGARD TO COMPANY/FIRM

9.1 Name of firm : .....

9.2 VAT registration number : .....

9.3 Company registration number ……

9.4 TYPE OF COMPANY/ FIRM

□ Partnership/Joint Venture / Consortium

□ One person business/sole propriety

□ Close corporation

□ Company

□ (Pty) Limited

[TICK APPLICABLE BOX]

9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

…….. .....

…… .....

……..…..

9.6 COMPANY CLASSIFICATION

□ Manufacturer

□ Supplier

□ Professional service provider

□ Other service providers, e.g. transporter, etc.

[TICK APPLICABLE BOX]

9.7 MUNICIPAL INFORMATION

Municipality where business is situated …….

Registered Account Number …….

Stand Number …….

9.8 TOTAL NUMBER OF YEARS THE COMPANY/FIRM HAS BEEN IN BUSINESS?

……

9.9 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contribution indicated in paragraph 7 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we 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 paragraph 7, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct;

(iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –

(a) disqualify the person from the bidding 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) restrict the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, 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

WITNESSES:

1. ……

2. ……

……..
SIGNATURE(S) OF BIDDER(S)

DATE: ……..

ADDRESS: ……..

……

……

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SCHEDULE J : DECLARATION OF INTEREST (MBD 4)

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.

……

***** 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.

3.8 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.

……

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

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SCHEDULE K : DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (MBD 8)

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)? **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 IS 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

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VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

SCHEDULE L : CERTIFICATE OF INDEPENDENT BID DETERMINATION (MBD 9)

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

Js 9141w 4

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

SCHEDULE M: ORIGINAL VALID TAX CLEARANCE CERTIFICATE

Tenderers who wish to submit tenders are to be registered on the Central Suppliers Database of SARS, therefore proof of registration will do by submitting a Tax Compliance Status Letter.

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SCHEDULE N: COMPANY PROFILE INCLUDING CURRICULUM VITAE OF KEY-PERSONNEL

The tenderer must attach to this page a Company Profile including Curriculum Vitae of key personnel.

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SCHEDULE O: CERTIFICATE OF CONTRACTORS REGISTRATION ISSUED BY THE CIDB

The tenderer must attach to this page a copy of the Contractors Registration certificate issued by the Construction Industry Development Board.

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SCHEDULE P : PAYMENTS OF MUNICIPAL ACCOUNTS

In terms of the Municipal Preferential Procurement Policy, tenderers must ensure that they are up-to-date with their payments of municipal accounts.

The tenderer must attach to this page, a copy of the latest Municipal account.

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SCHEDULE Q : BANK RATING CERTIFICATE

NB. This schedule is used in evaluating Responsiveness and Financial Risk

Tenderers must attach a valid, up to date and original stamped letter from the Tenderer's bank stating the Tenderer's financial standing / bank rating based on the amount or higher tendered for this contract. The amount or higher tendered MUST therefore be stated on the letter and MUST correspond with the tendered amount or higher amount as tendered.

The bidder shall provide the following details of his banker and the operational bank account registered in the name of the Bidder for verification purposes:

Name of Account Holder:_____

Name of bank:_____Branch:_____

Account Number:_____Type of Account:_____

Telephone Number:_____Facsimile Number:_____

Name of Contact Person (at bank):_____

In the case of Joint Ventures or Associations, details of the bank account of the lead-partner whose account will be used in the execution of the project shall be provided.

Bank Ratings are interpreted as follows:

A - Undoubted for amount of enquiry
B - Good for amount of enquiry
C - Good for amount quoted, if strictly in way of business
D - Fair trade risk for amount quoted
E - Figure considered too high
F - Financial position unknown or new account with no history
G - Dishonest on record
H - Frequently dishonest
Savings - Bank Report cannot be obtained on a Savings Account (High Risk)

NB.

Failure by the Tenderer to provide the required bank details and original bank rating letter with his Tender, will lead to the conclusion that the Tenderer does not have the necessary financial resources at his disposal to complete the contract successfully within the specified time for completion and will be disqualified for being non-responsive.

The Employer undertakes to treat the information thus obtained as confidential, strictly for the use of evaluation of the Tender submitted by the Tenderer.

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

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

Tenderer .....

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TENDER NO. UB/VW/07/2021

C1.3 : PROCUREMENT

C1.3.1 PREFERENTIAL PROCUREMENT PROCEDURES

C1.3.2 Requirements

The following are conditions by the Employer regarding procurement of the project and will be utilised to adjudicate tenders.

C1.3.3 ACCEPTANCE OR REJECTION OF TENDERS

The Employer does not bind himself to accept the lowest or any tender and reserves the right to accept any tender. No reason for the acceptance or rejection of any tender will be given.

Tenders are considered in terms of the Preferential Procurement Regulations 2011.

C1.3.4 Tax Clearance Certificate

The Tenderer shall submit a valid original Tax Clearance Certificate from the South African Revenue Service ("SARS") certifying the taxes of the Tenderer to be in order or that suitable arrangements have been made with SARS, as stipulated in Regulation 16.

Failure to submit the Tax Clearance Certificate will result in the tender being rendered incomplete and the tender will be rejected.

C1.3.5 Employment Targets

C1.3.5.1 Employment of Local Community Labour

The maximum possible number of workers is to be employed from the currently unemployed persons in the local community.

To this end the Contractor is required to give preference to the use of local community labour and limit the use of non-local to key personnel only.

Key personnel are defined as supervisors and skilled labourers without whom a specific task cannot be executed. As far as possible these people should impart their management and building skills to individuals within the community workforce.

C1.3.6 Employment of Local Sub-Contractors

It is a requirement of this contract that local sub-contractor from Victoria west be appointed for a minimum of 30% of the Tender value

The Contractor must make use of a quotation process for the procurement of successful local sub-contractors. Transparency and fairness is of great importance during the procurement process and the method of obtaining quotations and evaluation thereof must be submitted to the client for approval.

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TENDER NO. UB/VW/07/2021

C1.4: CONTRACT DATA

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

Copies of these conditions of contract may be obtained from the SAICE Tel no.: (0)11 805 5947.

The General Conditions of Contract for Construction Works 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.

Each item of data given below is cross-referenced to the clause in the General Conditions of Contract for Construction Works to which it mainly applies.

PART 1 : DATA PROVIDED BY THE EMPLOYER

Clause	Description
1.1.1.15 1.2.1.2	The Employer is UBUNTU Municipality The Employer's address for receipt of communications and notices is : Telephone: 053 631 0891 Address (Postal) : Private Bag X327 Victoria West 7070 Contact Person: Mr. R A Jacobs
1.1.1.16 1.2.1.2	The Engineer is iX engineers (Pty) Ltd The Engineer's address for receipt of communications and notices is : Telephone: 053 830 0460 E-mail : etienne.g@ixengineers.co.za Address (Postal): PO Box 50 KIMBERLEY 8300 Address (Physical): 10 Oliver Road Monument Heights KIMBERLEY 8301 Contact Person: Mr. E. Geldenhuys
1.3.2	The governing law is the law of the Republic of South Africa.
1.1.1.12 and 5.8	The special non-working days are public holidays, Sundays and the year-end break. These days will be excluded from time calculations.

Clause	Description
5.8	The year-end break will be taken as the days between 16 December 2020 and 4 January 2021.
3.2.2	The Engineer is required to obtain the specific approval of the Employer before executing any of the following functions or duties: a) The issuing of a variation order in terms of clause 6.3.2
4.3.1	Employer, Labour and Occupational Health and Safety compliance required.
6.2	A performance guarantee as security is Not Applicable. 10% Retention will be withheld by the Employer from payments to the Contractor.
5.2	The Contractor shall commence executing the Works within 14 days from the Commencement Date. Commencement Date shall be the date on which an appointment letter or letter of intent is submitted to the successful contractor.
5.6.1	The Contractor shall deliver his programme of work within 14 days from the Commencement Date.
5.13.1	The penalty for failing to complete the Works is R 2 500 (Two Thousand Five Hundred Rand) per day. No maximum limit.
6.8.2	Contract price adjustment will not be applicable and work will be done in one phase, no phased payment will be done. Payment will be done within 30 day after the payment certificate are approved and submitted to the Employer.
6.8.3	Not applicable.
6.10.3	A Retention Money Guarantee is not permitted. The percentage retention on the amounts due to the Contractor is 10%. The limit of retention money is 10% of the contract price and no interest shall be payable to the Contractor upon money withheld.
7.8	The Defects Liability Period is 12 months measured from the date of the Certificate of Completion.
10.5	Dispute resolution shall be by mediation
Additional Clauses	
11	**Non-compliance with Engineer's Instructions** Should the Contractor fail within reasonable time to carry out the Engineer's instructions regarding any matter whatsoever on which he is authorized to order and direct the Contractor, then without vitiating the Contract and without prejudice to any other remedy the Employer may have under the Contract, the Employer may, after serving notice of its intention on the Contractor, itself take such action or employ others to take such action on its behalf as the Contractor has failed to take on the Engineer's instructions. For this purpose the Employer may use any suitable plant or materials brought on Site by the Contractor. The cost to the Employer of taking action on account of the Contractor's failure to carry out the Engineer's instructions shall be for the Contractor's account and may be recovered from the Contractor by the Employer, but such work shall be valued as if performed by the Contractor in terms of the Contract at Contract rates and included in the payments due to the Contractor.

Clause	Description
12	**Implementation of the Occupational Health and Safety Act No. 85 of 1993** The Employer and the Contractor hereby agree, in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act, Act no. 85 of 1993 and the relevant Regulations made thereunder, with specific reference to the Construction Regulations of 2014, hereinafter referred to as "the Act", that the Contractor as an Employer in its own right and in its capacity as Contractor for the execution of the Works, shall have certain obligations and that the following arrangement shall apply between them to ensure compliance by the Contractor with the provisions of the Act, namely: i)The Contractor undertakes to acquaint the appropriate officials and the employees of the Contractor with all the relevant provisions of the Act, and the regulations promulgated in terms of the Act, and ii)The Contractor undertakes that all relevant duties, obligations and prohibitions imposed in terms of the Act and regulations will be fully complied with, and iii)The Contractor shall be obliged to report forthwith to the Employer any investigation, complaint, or criminal charge which may arise as a consequence of the provisions of the Act and regulations pursuant to work performed on behalf of the Employer, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.
13	**Employment of Labour Force** The Contractor shall employ all unskilled labourers required for the execution of the Contract locally from the local residents. The minimum wage for unskilled labourers shall be in accordance with the Basic Conditions of Employment Act, No. 75 of 1997, as published in the Government Gazette from time to time for the Civil Engineering Sector, and for the specific Magisterial District.
14	**EXTENSION OF TIME FOR ABNORMAL RAINFALL** Extension of time in respect of Clause 5.12 in respect of abnormal rainfall shall be calculated using the following formula for each calendar month or part thereof: $V = (Nw - Nn) + \frac{Rw - Rn}{X}$ Where: V = Extension of time in calendar days in respect of 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 in the relevant calendar month, as derived from existing rainfall records, as stated in the Site Information, on which a rainfall of 10 mm or more has been recorded for the calendar month. Rw = Actual rainfall in mm recorded for the calendar month under consideration. Rn = Average rainfall in mm for the calendar month as derived from existing rainfall records as stated in the Site Information.

Clause	Description
	For the purpose of this Contract the values of Nn, Rn and X shall be those assigned to them in the Description of Works – Abnormal Rainfall . If V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn. The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall. Extension of time for part of a month shall be calculated using pro rata values of Nn and Rn. This formula does not take into account flood damage which could cause or concurrent delays and will be treated separately as far as extension of time is concerned. The factor (Nw – Nn) shall be considered to represent a fair allowance for variations from the average in the number of days during rainfall exceeds 10 mm. The factor (Rw – Rn) shall be considered to represent a fair allowance for variations from the average in the number of days which the rainfall did not exceed 10 mm but wet conditions prevented or disrupted work. For the purpose of applying the formula, accurate rain gauging shall be taken at a suitable point on the Site and the Contractor shall at his own expense, take all necessary precautions to ensure that rain gauges cannot be interfered with by unauthorised persons.
15	**Preferential Procurement** The Tenderer must sub-contract a minimum of 30% to an EME or QSE (BBBEE status level contributor 1) according to the PPPFA, whom is registered with the National Treasury Web Based Central Supplier Database (CSD) and have a CIDB grading of 1 or higher. Within the Bill of Quantities, allowance under Preliminary and General section has been made for any overhead cost that the sub-contractor may require and the tenderer should only add his mark-up on the cost of the sub-contractor to. The Tenderer is responsible to source, appoint, manage and ensure compliance of the sub-contractor for the project on items as identified by the Tenderer.
16	**Mechanical Sub-Contractor** The re-configuration of the existing pump station equipment for this project will be sourced out to an industry specialist for which an allowance has been made within the Bill of Quantities. The tenderer will accommodate the payment for the specialist and assist with access to site. The tenderer will be allowed to take a handling fee on the cost of the specialist. Within the Bill of Quantities, a provisional sum has been allowed for the specialist, and the tenderer should only add his mark-up on the cost of the specialist.
17	**Appointment of Local sub-Contractors** It is a requirement of this contract that a local sub-contractor from Victoria west with 1 B-BBEE status Level of Contribution be appointed for minimum 30 % of the tender value The contractor must make use of quotation process for the procurement of the successful local sub-contractor. Transparency and fairness is of great importance for the client during the procurement process an the method of obtaining quotations and evaluations thereof must be submitted to the client for approval

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PART C2: PRICING DATA

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

C2.1: PRICING INSTRUCTIONS

C2.1.1 PREAMBLE TO THE BILLS OF QUANTITIES

C2.1.1.1 All prices shall be quoted in the currency of the Republic of South Africa and will be held to be firm unless otherwise stated, in which case sufficient information must be afforded at the time of tendering to indicate the basis on which payments shall be adjusted.

C2.1.1.2 The tenderer shall enter a price against each item in the schedule of prices. If the tenderer fails to enter a price against any item in the schedule of prices the relevant cost for such item shall be regarded as being covered by other prices in the schedule of prices.

C2.1.1.3 The prices quoted against each item of these schedules shall cover the full inclusive cost, value added tax excluded, of everything required for the execution of the work under the item plus an apportionment of any costs involved in meeting the obligations and liabilities.

C2.1.1.4 The tenderers shall calculate value added tax and enter it at the end of the summary of the schedule of prices.

C2.1.1.5 The prices quoted for the supply of plant and equipment shall include for all handling, loading, transporting and of-loading required for the delivery of the plant and equipment to the site, including in the case of off-site storage for double handling at the store.

C2.1.1.6 The prices quoted for erection and/or installation shall include for all handling, loading, transporting and off-loading to take plant and equipment to place on site where required, erection, installation, painting, guaranteeing for a period of twenty four (24) months and upholding for a period of twelve (12) months, all as specified.

C2.1.1.7 The prices quoted for commissioning of plant include for operating, mechanical and electrical testing, adjusting and handling over in a proper working order and for the provision of operating and maintenance manuals, where applicable.

C2.1.1.8 Any additional charges in connection with off-site storage which there may be over and above the prices quoted in the various sections of this schedule of prices shall be set-out in detail by the tenderer.

C2.1.1.9 The work of installation, erection and testing of the plant and equipment shall as far as possible be carried out in one continuous operation and the cost of transporting personnel between the Contractors' headquarters and the site will be paid at the quotation amount for same for only one return trip for such continuous operation. No additional payment will be made for any weekend or holiday trips back to the Contractor's headquarters. Additional trips for personnel will only be paid for if authorised, or when requested by the Engineer in writing.

C2.1.1.10 Amounts allowed for contingencies will be spent in part or as a whole at the sole discretion of the Engineer.

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TENDER NO. UB/VW/07/2021

C2.2 : BILL OF QUANTITIES

AS PER SANS REQUIREMENTS, PROJECT SPECIFICATIONS AND DRAWINGS, NATIONAL BUILDING REGULATIONS AND MANUALS.

SUMMARY OF BILL OF QUANTITIES

SCHEDULE	DESCRIPTION	PAGE NO	AMOUNT	
			R	c
A	PRELIMINARY AND GENERAL	C2.2-6		
B.1	SITE CLEARANCE	C2.2-7		
B.2	RESERVOIR SUPPLY	C2.2-11		
B.3	INFRASTRUCTURE	C2.2-15		
B.4	RESERVOIR	C2.2-16		
B.5	FENCING	C2.2-17		
C	UPGRADING OF WATER RETICULATION	C2.2-25		
SUB TOTAL A Allow 10 % for contingencies to be spent in part or as a whole at the sole discretion of the Engineer				
SUB TOTAL B Add 15 % VAT				
TOTAL CARRIED FORWARD TO FORM OF OFFER				
COMPLETION PERIOD (IN WEEKS)			Weeks	

_____ _____

DATE SIGNATURE OF SERVICE PROVIDER

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION AND RESERVOIR

TENDER NO. UB/VW/05/2020

C2.3 : DAYWORK SCHEDULE

C2.3.1 GENERAL

Tenderers must complete this list which shall be used for the assessment of value of the work which the Engineer instructed in writing that must be done on a day work bases, all in agreement with Clause 6.5 of the General Conditions of Contract for Construction Works 2010. All the rates are fixed and shall be binding until and with the issuing of the final certificate, except for statutory increases, announced from time to time.

C2.3.2 LABOUR COSTS

Rates for labour as listed below shall include all the allowances as specified in the General Conditions of Contract for Construction Works 2010. The extra allowance applicable on labour costs listed below, is stated in the Contract Data (Part 2) and must not be included in this list.

Overtime costs attached to this contract shall be paid in the same relation as to that which the employees are actually paid.

Only the net working hours will be measured under Day work and it will be held that the Contractor has made provision in his rates for possible interruptions and standing time.

DESCRIPTION	UNIT	RATE
Unskilled labour	hour	
Semi-skilled labour	hour	
Pipe layer	hour	
Ganger	hour	
Foreman/Section leader	hour	
Brick layer	hour	
Electrician	hour	

C2.3.3 EQUIPMENT COSTS

Full comprehensive hourly rates, which also include the cost of the operators and other equipment, must be listed below. Rates must also include all the costs of consumable items, maintenance, depreciation, tools and all other coincidences that shall be necessary to operate the equipment for the purpose it is designed for. The rates must also include all the overhead costs, profits, site supervision, insurance, holidays with payment, travelling costs (or travelling allowances) and residence allowances of operators and any other allowances that is applicable. No further percentage allowances shall be applicable on equipment. The Tenderer must list under each heading the fabrication and specification of the equipment available.

The Contractor will be paid the actual net cost of plant hired by him for Day work and in addition will be paid a percentage allowance on the net cost of such hire which allowance will cover the Contractors overhead costs and profit.

DESCRIPTION	UNIT	RATE
1. Excavators		
.....	hour	
.....	hour	
.....	hour	
2. Bulldozers		
.....	hour	
.....	hour	
3. Graders		
.....	hour	
.....	hour	
4. Scrapers		
.....	hour	
.....	hour	
5. Front-end loaders		
.....	hour	
.....	hour	
6. Rollers		
.....	hour	
.....	hour	
7. Pneumatic tyre rollers		
.....	hour	
.....	hour	
8. Small rollers		
.....	hour	
.....	hour	
9. Trucks		
(m^3 specified)		
.....	hour	
.....	hour	
.....	hour	
10. Water truck (litres specified)		
.....	hour	
.....	hour	

DESCRIPTION	UNIT	RATE
11. Tractor and trailer		
.....	hour	
.....	hour	
.....	hour	
12. Crane truck (tons specified)		
.....	hour	
.....	hour	
13. Compressor		
.....	hour	
.....	hour	
14. Concrete mixer (litres specified)		
.....	hour	
.....	hour	
.....	hour	
15. "Dumper" (m^3 specified)		
.....	hour	
.....	hour	
.....	hour	
16. Water pumps		
75 mm	hour	
100 mm	hour	
150 mm	hour	
17. Compactors (Plate)		
.....	hour	
.....	hour	
.....	hour	
18. Other equipment		
.....	hour	
.....	hour	
.....	hour	
.....	hour	
.....	hour	

_____ _____

SIGNATURE OF TENDERER DATE

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
A	SANS:1200 A	**SECTION A: PRELIMINARY AND GENERAL** **The Tenderer shall price all preliminary and general items required by him, and/or his subcontractors, necessary to execute the works. Pricing should be done in accordance with the General Conditions of Contract, SANS 1200, as well as applicable project specifications. Items not priced are deemed to be included and covered in the Tenderer's rates.**				
A.1	8.3	**FIXED-CHARGE ITEMS**				
A.1.1	8.3.1	**Contractual Requirements**	Sum	1		
	8.3.2	**Establish Facilities on the Site :**				
	8.3.2.1	**a) Facilities for Engineer (SANS 1200 AB)**				
A.1.2	PS AB 3.1	Project Name Boards	No.	2		
A.1.3	PS AB 3.2	Offices: 1 furnished room for meeting purposes	Sum	1		
A.1.4	PS AB 9.1	Site instruction & Site diary books	Sum	1		
	8.3.2.2	**b) Facilities for Contractor**				
A.1.5	PS A 4.2	Offices and storage sheds	Sum	1		
A.1.6		Workshops	Sum	1		
A.1.7		Laboratories	Sum	1		
A.1.8	PS A 4.2	Living accommodation	Sum	1		
A.1.9		Ablution and latrine facilities	Sum	1		
A.1.10	PS A 4.3	Tools and equipment	Sum	1		
A.1.11		Water supplies, electric power and communications	Sum	1		
A.1.12		Dealing with water	Sum	1		
A.1.13	PS A 5.8	Access	Sum	1		
A.1.14		Plant and equipment	Sum	1		
A.1.15		As-built information based on data from a registered land surveyor to include existing and constructed infrastructure.	Sum	1		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
A.1.16	PS A 5.1.1	Setting out of bench marks, services and erf pegs by a registered land surveyor - Allowance must be made for setting out of excavations and placement of services after excavation.	Sum	1		
A.1.17	8.3.3	Other fixed-charge obligations	Sum	1		
A.1.18	8.3.4	Remove Engineer's and Contractor's Site establishment on completion	Sum	1		
A.1.19	8.3.5	Contractual requirements allowed for sub-contractor to be appojnted under the contract for the duration of the work.Allowance to make provision for over head cost to complete the scope of work to be sub-contracted.	Sum	1		
		Overheads, charges and profit on item A.1.19above.	%	0.0		
A.2	8.4	**TIME-RELATED ITEMS**				
A.2.1	8.4.1	Contractual Requirements	Sum	1		
A.2.2		Time related cost for the preferential procurement sub-contractor appointed as per Contract data requirement to execute the portion of the works as per appointment by the Contractor. Allowance must be all inclusive for labour, material, accommodation and company overhead cost to complete the sectional scope of the works.	Sum	1		
A.2.3		Overheads, charges and profit on item A.2.2above.	%			
	8.4.2	Operate and maintain facilities on the Site for the duration of the Contract:				
A.2.4	8.4.3	Contractual requirements allowed for sub-contractor to be appojnted under the contract for the duration of the work.Allowance to make provision for over head cost to complete the scope of work to be sub-contracted.	Sum	1		
.		Overheads,charges and profit on item a.2.4above	%			
TOTAL CARRIED FORWARD						

ITEM	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
	8.4.2.1	**a) Facilities for Engineer for duration of construction (SANS 1200 AB)**				
A.2.4	PS AB 5.1	Cellphone allowance	Sum	1		
A.2.5		Offices: 1 furnished room for meeting purposes	Sum	1		
		Project Name Boards	Sum	1		
A.2.6	PS AB 9.1	Site instruction & Site diary books	Sum	1		
	8.4.2.2	**b) Facilities for Contractor for duration of construction, except where otherwise stated**				
A.2.7	PS A 4.2	Offices and storage sheds	Sum	1		
A.2.8		Workshops	Sum	1		
A.2.9		Laboratories	Sum	1		
A.2.10	PS A 4.2	Living accommodation	Sum	1		
A.2.11		Ablution and latrine facilities	Sum	1		
A.2.12	PS A 4.3	Tools and equipment	Sum	1		
A.2.13		Water supplies, electric power and	Sum	1		
A.2.14		Dealing with water	Sum	1		
A.2.15	PS A 5.8	Access	Sum	1		
A.2.16		Plant and equipment	Sum	1		
A.2.17	8.4.3	Supervision	Sum	1		
A.2.18	8.4.4	Company and head office overhead costs	Sum	1		
A.2.19	PS AB 9.2	Quality assurance and control	Sum	1		
A.2.20		Other time-related obligations (Specify)	Sum	1		
	PS A 8.4.6	Standing time costs				
A.2.21		a) Plant	Sum/day	1		Rate Only
A.2.22		b) Labour	Sum/day	1		Rate Only
A.2.23		c) Other resources (to be specified by	Sum/day	1		Rate Only
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
A.3	8.5	**SUMS STATED PROVISIONALLY BY ENGINEER**				
	8.8.5	**Land Survey Act**				
A.3.1		a) Search for and record tri- gonometrical survey beacons, bench marks and plot and protect boundary pegs, and expose on completion of Works	PC Sum	1.0000	15000.00	15000.00
A.3.2		b) Overheads, charges and profit on item A.3.1 above.	%	15000.00		
		Material Testing				
A.3.3	PS A 8.4.5	a) Additional material testing by commercial laborotries required by the Engineer	PC Sum	1.0000	25000.00	25000.00
A.3.4		b) Overheads, charges and profit on item A.3.3 above.	%	25,000		
		Community Liason Officer (CLO)				
A.3.5	PS A 8.5a	a) Employment of Community Liaison Officer	PC Sum	1.0000	36,000	36,000
A.3.6	PS A 8.5b	b) Contractor's overheads, charges and profit on employment of CLO as per item A.3.5 above	%	36,000		
		Existing Services & Structures				
A.3.7		a) Relocate and/or reinstate existing services effected by construction	PC Sum	1.0000	15000.00	15000.00
A.3.8		b) Overheads, charges and profit on item A.3.7 above.	%	15000.00		
		Mechanical equipment				
A.3.9		a) Existing pump station configuration adjustment to allow pump operation aligned with balancing reservoir level control system. Installation by mechanical supplier.	Sum	1.0000	76000.00	76000.00
A.3.10		b) Overheads, charges and profit on item A.3.9 above.	%	76000.00		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
A.4	8.8	**TEMPORARY WORKS**				
A.4.1	PS A 8.8.2	Deal with traffic and provide access during construction	Sum	1		
A.5	8.8.4	**EXISTING SERVICES**				
A.5.1	PS A 8.8.4	Excavate by hand in soft material to expose all services	m³	20		
A.5.2		Temporary protection of all services, this will include all roads, stormwater channels, fencing, water reticulation, etc.	Sum	1		
A.6	PS A	**OCCUPATIONAL HEALTH AND SAFETY**				
A.6.1	PS A 8.9.1	Cost of health and safety measures in terms of the Construction Regulations (2014) of the Occupational Health and Safety Act	Sum	1		
A.6.2	PS A 8.9.2	Compilation and maintenace of a Health and Safety Plan, including Risk Assesments, Safe Works Procedures and Methods Statements	Sum	1		
A.6.3	PS A 8.9.3	Compilation and maintenance of the Health and Safey File	Sum	1		
A.7		**ENVIRONMENTAL MANAGEMENT**				
A.7.1	PS A 8.3.6	Requirements in terms of the Environmental Management Programme	Sum	1		
TOTAL CARRIED FORWARD TO SUMMARY						

SCHEDULE B1: SITE CLEARANCE

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
B.	SANS 1200 C	**SECTION B1 : SITE CLEARANCE**				
B.1.1		**CLEAR SITE**				
	PS C 8.2.1	**Clear and grub Site for:**				
B.1.1.1	PS C 5.1	Area for balancing reservoir	ha	0.074		
	PS C 8.2.2	**Remove and grub large trees and tree stumps of girth Over and up to:**				
B.1.1.2		Over 0.5 m and upto 1.0 m	No.	1		
B.1.1.3		Over 1.0 m and upto 2.0 m	No.	2		
	PS C 8.2.8	**Demolish and remove existing structures, reinstate or remove to dump site as per project specification:**				
B.1.1.6		Existing fence complete with wiring, poles & stays.	m	244		
B.1.1.7		Concrete footings	m^3	2.5		
B.1.1.8		Underground pipes	m	18		
	8.2.10	**Topsoil**				
B.1.1.11		Stripping average 150mm thick layer of top soil over areas to be excavated for installation of services and depositing material to prescribed stock piles on site (Rate to include for re-use, compaction and levelling of stock pile material on site as instructed by engineer)	m^3	110		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
B.2		**SECTION B.2: RESERVOIR SUPPLY**				
B.2.1	SANS: 1200 DB	**EXCAVATION**				
	PS DB 8.3.2(a)	Excavate in all materials for trenches, 800mm wide, 1m deep, select, backfilled and compacted to 90% of MAASHTO density (100% for sand), including spoil of surplus material for main pipes with:				
B.2.1.1		Diameter up to 200 mm	m	26		
	8.3.2(b)	Extra-over items C.1 for (provisional):				
B.2.1.2		Intermediate excavation	m³	8		
B.2.1.3		Hard rock excavation	m³	16		
B.2.1.4		Excavate unsuitable material from trench bottom (provisional)	m³	1		
B.2.1.5	8.3.8.1(c)	Hand excavation to expose existing services	m³	3		
B.2.1.6	PS DB 8.3.2(e)	Extra-over PS DB 8.3.2(a) for temporary stockpiling of material	m³	15		
B.2.2	8.3.3	**EXCAVATION ANCILLARIES**				
	PS DB 8.3.3.1	Make up deficiency in backfill material (unlimited freehaul distance)				
B.2.2.1	8.3.3.1(a)	From other necessary excavations on site	m³	4		
B.2.2.2	8.3.3.1(c)	From commercial sources	m³	10		
B.2.3	8.3.5	**EXISTING SERVICES**				
	PS DB 8.3.5(a)	Services that intersect a trench				
B.2.3.1		High voltage underground electrical cables	No	1		
B.2.3.2		Low voltage underground electrical cables	No	2		
B.2.3.3		Water main pipes	No	1		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
	PS DB 8.3.5(b)	Services that adjoin a trench				
B.2.3.4		Security fence	m	22		
B.2.3.5		Water pipes	m	15		
B.2.4	PS DB 8.3.6	**FINISHINGS**				
	8.3.6.1	Reinstate road surfaces complete with all layers				
B.2.4.1		Compacted Gravel Surface	m²	40		
	PS DB 8.3.6.2	Extra-over DB 8.3.6.1 for imported material for:				
B.2.4.2		150 mm G5 selected layer	m³	110		
B.2.5.	SANS 1200 LB	**BEDDING (PIPES)**				
	8.2.1	Provision of bedding material compacted to 93% of MAASHTO density (100% for sand) with material from trench excavation				
B.2.5.1		Selected granular material	m³	1		
B.2.5.2		Selected fill material	m³	2		
	8.2.2.3	Provision of bedding material compacted to 93% of MAASHTO density (100% for sand) with material from commercial sources				
B.2.5.3		Selected granular material	m³	8		
B.2.5.4		Selected fill material	m³	4		
B.2.5.5	8.2.6	Bedding for cables	m	7		
B.2.6.	SANS 1200 L	**MEDIUM-PRESSURE PIPELINES**				
	8.2.1	Supply, lay and bed Class 9 uPVC pipes on flexible pipe bedding, test and disinfect the following pipes:				
B.2.6.1		160 mm dia Class 9	m	17		
B.2.6.2		200 mm dia Class 9	m	9		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
B.2.7.		**SPECIALS AND FITTINGS**				
	8.2.2	Supply, lay and bed on bedding according to SANS 1200 drawing LB-2, test and disinfect with necessary couplings:				
		uPVC Class 16 bends for uPVC pipes				
B.2.7.1		160 mm dia x 90°	No	2		
B.2.7.2		200 mm dia x 90°	No	2		
		Cast iron flanged reducer for uPVC pipes:				
B.2.7.3		200 mm x 160 mm dia	No	1		
		Cast iron flanged T-piece for uPVC pipes:				
B.2.7.4		160 mm dia	No	1		
B.2.7.5		200mm dia	No	1		
		Cast iron flanged adaptors for uPVC pipes:				
B.2.7.6		160mm dia	No	6		
B.2.7.7		200mm dia	No	2		
		Viking Johnson flange adaptor for steel pipes onto uPVC pipes for sizes:				
B.2.7.8		150mm dia steel to 160mm dia uPVC	No	1		
B.2.7.9		200mm dia steel onto 200mm dia uPVC	No	1		
B.2.8.		**VALVES**				
	PS L 8.2.3	Supply, in valve box and install on concrete support, joint, include cut pipes where necessary and test complete the following flanged valves:				
B.2.8.1		160mm dia AVK resilient seal RHC cast iron valve	No	1		
B.2.8.2		150mm Single door flanged swing type Non-return Valve	No	1		
,	TOTAL CARRIED FORWARD					

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
B.2.9.		**ANCILLARIES**				
B.2.9.1	PS L 8.2.11	Anchor/Thrust blocks	m³	2.5		
B.2.9.2		Pipeline markers	No	3		
B.2.10.	8.2.13	**VALVE CHAMBERS AND MANHOLES**				
B.2.10.1		Valve chambers complete to drawing detail for depths up to 1,5 m	No	1		
B.2.11.		**SUNDRIES**				
	PS L 8.2.16	Connect to existing water mains, all inclusive of labour and material:				
B.2.11.1		160 mm dia uPVC pipeline	No	1		
B.2.11.2		300mm dia steel pipe	No	1		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
B.3	SANS 1200 D	**SECTION B3: WATER INFRASTRUCTURE**				
B.3.1		**EXCAVATION**				
	D 8.3.2	a) Excavation in all materials, backfill, fill and dispose of surplus and unsuit- able materials from:				
B.3.1.1		Foundation excavation	m³	36		
B.3.1.2		Pipeline excavations	m³	3		
	8.3.2	b) Extra over for item I.1.1 to I.1.2 for:				
B.3.1.3		Intermediate material	m³	22		
B.3.1.4		Hard rock excavation	m³	7		
B.3.2	SANS 1200 G	**CONCRETE (STRUCTURAL)**				
B.3.3.	PS G 8.1.3	**CONCRETE**				
		Blinding layer in 20 MPa/19mm concrete				
B.3.3.1		50 mm Minimum thickness for foundations	m²	16		
	8.4.3	Strength concrete: grade 20MPa/19mm				
B.3.3.2		Mass concrete to anchor inlet pipe	m³	0.3		
B.3.3.3		Mass concrete to anchor scour pipe	m³	0.4		
B.3.3.4		Mass concrete to anchor outlet pipe	m³	0.4		
B.3.3.5		Additional mass concrete under foundations (on instruction of Engineer only)	m³	2.4		Rate Only
	8.4.3	Strength concrete: grade 30 MPa/19mm				
B.3.3.6		Foundations of steel tank	m³	8.6		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
B.3.4	PS G 8.1.1 & PSG 8.	**FORM WORK**				
	8.2.1	Rough:				
B.3.4.1		Wall foundations	m²	16		
	8.2.2	Smooth:				
B.3.4.2		Steel tank foundations (straight)	m²	4.8		
B.3.5	8.1.2	**REINFORCEMENT**				
	8.3.1	Mild steel bars:				
B.3.5.1	8.1.2.2	Diameter 25mm: Basic price	t	0.02		
	8.1.2.3	Extra-over for item D.4.1 for steel bars with diameter:				
B.3.5.2		8 mm	t			
B.3.5.3		10 mm	t	0.02		
B.3.5.4		12 mm	t			
	8.3.1	High tensile steel bars:				
B.3.5.5	8.1.2.2	Diameter 25 mm: Basic price	t	0.5		
	8.1.2.3	Extra-over for item D.4.6 for steel bars with diameter:				
B.3.5.6		10 mm	t			
B.3.5.7		12 mm	t	0.02		
B.3.5.8		16 mm	t	0.48		
B.3.6	PS G 8.4.4	**UNFORMED SURFACE FINISHES**				
		Wood-floated finish:(See PS G 5.5.10.4)				
B.3.6.1		Bottom of foundations	m²	15		
		Steel-floated finish (See PS G 5.5.10.5)				
B.3.6.2		Top of foundations	m²	1		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
B.3.7	SA	**STEEL PRESSED TANK**				
B.3.7.1	SA 1.3	Supply and construct a galvanized steel pressed water storage tank on a concrete foundations complete with stand structural members, pipework, valves including ball float valve, internal and external ladder access hatch and level indicator. Tank to be 4x4x2 panels (4.88m x 4.88m x 2.44) Sum must include watertight testing and disinfection of tank	Sum	1		
B.3.7.2		Construct complete scour / outlet structure with uPVC connection and line as per the detailed drawing	Sum	1.0		
B.3.8		**SUNDRIES**				
B.3.8.1		Excavate, compact, trim and shape earth channel (1m bottom wide and 0,15m deep) for scour and overflow pipe	m	10		
B.3.9	SANS 1200 L	**HD BOLTS AND MISCELLANEOUS METAL WORK**				
B.3.9.1	8.2.5	Supply, install and test pipes, fittings and valves for 80mm dia steel inlets pipe (see drw. item no. 1 to 9)	Sum	1		
B.3.9.2	8.2.5	Supply, install and test pipes, fittings and valves for 150mm dia steel scour pipe (see drw. item no. 10 to 14)	Sum	1		
B.3.9.3	8.2.5	Supply, install and test pipes, fittings and valves for 100mm dia steel overflow pipe (see drw. item no. 15 to 19)	Sum	1		
B.3.9.5	8.2.5	Supply, install and test pipes, fittings and valves for 150mm dia steel outlet pipe (see drw. item no. 20 to 24)	Sum	1		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
BROUGHT FORWARD						
B.3.10	SANS 1200 DM	**AREA AROUND STEEL TANK**				
	8.3.3(a)	Preparation and compaction of insitu material to 93% MAASTHO density (100% for sand)				
B.3.10.1		Area around steel tank	m²	160		
B.3.10.2	8.3.4	Cut to fill, compacted to 93% of MAASTHO density	m³	18		
	SABS 1200 ME 8.2	Construct 150 mm gravel wearing coarse compacted to 95% MAASTHO density with material from commercial sources				
B.3.10.3		Area around steel tank	m²	220		
	SANS 1200 MJ	Supply and construct surface with segmented paving inclusive of cutting of units, edge restrainer roller course levelling and 20mm sand. All inclusive of labour and material.				
B.3.10.4		60mm Class 25 interlocking	m²	220		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
		SCHEDULE B4 : RESERVOIR				
B.4,1		**SCAFFOLDING**				
B.4.1.1		Supply, erect and dismantle scaffolding required for reservoir related works as per items below. Price to be all inclusive of supply, labour and transport.	Sum	1.0		
B.4.2		**PREPERATION**				
B.4.2.1		Allow to drain and disconnect reservoir from network. High pressuse wash all exposed reservoir surfaces (inside and outside).	Sum	1.0		
B.4.2.2		Remove loose and defectice concrete and clean exposed reinforcing steel by sandblasting.	m²	0.5		
B.4.3		**REFURBISHMENT**				
B.4.3.1		Supply and repair concrete spalling by aplication of Sika Armatec 110 Monotop 615HB over defective area's as per manufacturer specifications.	m²	0.5		
B.4.3.2		Provide and apply Sika Top Seal 107 on outside of reservoir as per manufacturer specifications.	m²	390.0		
B.4.3.3		Supply and apply joint sealing by using Sika Combiflex System as per manufacturer specifications.	m	60.0		
B.4.3.4		Supply and apply Penetron Crystalline Slurry on reservoir inside surface as per manufacturer specifications. Allow for curing process, flushing and disinfection.	m²	380.0		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
B.5		**SCHEDULE B5: FENCING**				
B.5.1	SANS 1200 C	**CLEARING FENCE LINE**				
	8.2.1	Clear fence line 1m wide. Price all inclusive including disposal of material to approved dump sites:				
B.5.1.1		Fencing for pump station and pressed tank	m	126.00		
B.5.1.2		Concrete reservoir	m	168.00		
B.5.2		**NEW FENCE**				
	SANS: 2536/YM139	Supply and erection of new Vi-Secure fencing or Similar approved with aperature size of 76mm x 12mm with galvanised finish. Price all inclusice of material, labour, foundation and excavation in all materials:				
B.5.2.1		2.4m High fence with posts as per detail drawing	m	288.00		
B.5.2.2		100mm high toughened steel shark tooth spike to be fixed to panel edge at 200mm intervals using anti vandal bolts. Spike finish to be hot dipped galvanized.	m	288.00		
B.5.2.3		Double swing gate with locking mechanism and center fix barrel to match fence specification and material: 2.4m high x 3m wide	No	2		
TOTAL CARRIED FORWARD TO SUMMARY						

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUAN-TITY	RATE	AMOUNT
	SANS 1200 C	**SECTION C1: SITE CLEARANCE**				
C.1.1	8.2.1	**Clear and grub:**				
C.1.1.1		Strips, 1,0 m wide	m	550		
C.1.2	8.2.2	**Remove and grub large trees and tree stumps of girth:**				
		.01 Over 1,0 m and up to and including 2,0 m	No.	5		
		.02 Over 2,0 m and up to and including 3,0 m	No.	1		
C.1.3	8.2.4	**Reclear surfaces (only on instructions from Engineer):**				
C.1.1.3.1		Strips, 1,0 m wide	m	50		
C.1.4	8.2.7	**Dismantle and remove:**				
		Pipelines not encased in concrete:				
		.01 Up to 500 mm dia	m	50		
C.1.5	8.2.8	**Demolish and remove existing concrete and/or brick structures (only on instruction from Engineer)**	m^3	5		
C.1.6	8.2.9	**Transport materials and debris to unspecified site and dump**	m^3-km	5		
C.1.7	**PS C 8.2.11**	**Take down and re-erect existing fences**				
		.01 1,2m High diamond mesh fence.	m	250		
		.02 Double course 230 mm thick brick wall (including plaster finish)	m^2	50		
		.03 Single course 120 mm thick brick wall (including plaster finish)	m^2	20		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUAN-TITY	RATE	**AMOUNT**
BROUGHT FORWARD						
C2	SANS 1200 DB	**SECTION C2: EARTHWORKS**				
C.2.1	PSDB 8.3.2	**Excavate in all materials for trenches, backfill, compact to 90% of MAASHTO density (100% for sand) and dispose of surplus material:**				
		Pipes up to 200 mm dia for depths:				
		.01 Up to 1,5 m	m	1,890		
C.2.2	PSDB 8.3.2	**Extra over item C1.1 above for:**				
		.01 Intermediate excavation	m³	25		
		.02 Hard rock excavation	m³	25		
		.03 Hand excavation where ordered by the Engineer:				
		.01 Soft material	m³	30		
	PSDB 8.3.2.4	.04 Backfill stabilized with 5% cement where directed by the Engineer	m³	2		
	PSDB 8.3.2.5	.05 Soilcrete backfill where directed by the Engineer	m³	2		
	8.3.2	.06 Extra-over for temporary stockpiling of material	m³	600		
C.2.3		**Excavate and dispose of unsuitable material from trench bottom**	m³	5		
C.2.4	PSDB 8.3.3	**Excavation ancillaries:**				
		.01 Make up deficiency in backfill material:				
		.01 From other necessary excavations on Site	m³	10		
		.02 By importation from designated borrow pits	m³	2		
		.03 By importation from commercial or off-site sources selected by the Contractor	m³	10		
		.02 Compaction in road crossings	m³	5		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUAN-TITY	RATE	**AMOUNT**
BROUGHT FORWARD						
C.2.5	PSDB 8.2	**Existing services that intersect or adjoin a trench**				
		.01 Services that intersect a trench:				
		.01 Watermains up to 200 mm dia	No.	30		
		.02 Cables (including Fibre Optics)	No.	30		
		.03 Kerbs	No.	30		
		.04 Water pipes for house connections	No.	30		
		.02 Services that adjoin a trench:				
		.01 Watermains up to 200 mm dia	m.	50		
		.02 Cables	m.	50		
		.03 Kerbs	m.	30		
		.04 Existing boundary fence	m.	30		
C.2.6	PSDB 8.3.8.1	**Location of existing services:**				
		Excavate by hand in soft material to expose pipe.	m^3	20		
C.2.7	PSD 8.3.17	**Finishing:**				
C.2.7.1		Reinstate road and sidewalk surfaces to original state complete with all courses (Rates below will include all temporary stockpiling of materials including lifting, stacking and storing of paving blocks & kerbing):				
		.01 Gravel surfacing	m²	40		
		.02 Asphalt of thickness 40 mm in roadway	m²	60		
		.03 Concrete slab (Class 20 Mpa, concrete thic	m³	5		
		.04 Paving bricks	m²	1,000		
		.05 Kerbing	m	200		
		.02 Reinstate lawn grass.	m²	30		
		.03 Reinstate concrete open stormwater drains.	m	300		
		.04 Reinstate road markings (150mm wide)	m	100		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUAN-TITY	RATE	**AMOUNT**
BROUGHT FORWARD						
C.2.8	PSDB 5.1	**Accommodation of traffic**	PC Sum	1	R 50,000.00	R 50,000.00
C.2.9	PSDB 5.1	**Provision of temporary bridges for maintaining access to properties:**				
		.01 Temporary pedestrian bridges	No.	5		
C.2.10	PSDB 8.3.4	**Particular items:**				
		.02 Temporary Works: Control water inflow				
		.01 Provide equipment	sum	1		
		.02 Operate and maintain	days	15		
		.03 Remove equipment	sum	1		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUAN-TITY	RATE	**AMOUNT**
BROUGHT FORWARD						
C.3	SANS 1200 LB	**SECTION C3: BEDDING**				
C.3.1	PSLB 8.2.2	**Supply only of bedding by importation (unlimited free-haul distance):**				
C.3.1.1		From commercial sources:				
		.01 Selected granular material compacted to 93% of MAASHTO density (100% for sand)	m³	160		
		.02 Selected fill material compacted to 93% of MAASHTO density (100% for sand)	m³	600		
C.3.2	PSLB 8.2.3	**Concrete bedding cradle:**				
		.01 Up to Class 25 MPa/19 mm	m³	5		
	8.2.4	**Encasing of pipes in concrete:**				
		.01 Up to Class 25 MPa/19 mm	m³	5		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUAN-TITY	RATE	**AMOUNT**
BROUGHT FORWARD						
C.4	SABS 1200 L	**SECTION C4: MEDIUM-PRESSURE PIPELINES**				
C.4.1	8.2.1	**Supply, lay, joint and bed pipes on flexible pipe bedding, test and disinfect the following pipes:**				
		.01 HDPe, PE 100, Class PN 10 pipe:				
		.01 DN 63 mm HDPe, PE 100, Class PN 10	m	834		
		.02 DN 110 mm HDPe, PE 100, Class PN 10	m	50		
		.02 uPVC, Class 09 pipes:				
		.01 160 mm uPVC, Class 09	m	110		
		.02 125 mm uPVC, Class 09	m	845		
		.03 110 mm uPVC, Class 09	m	50		
C.4.2	8.2.2	**Extra over items C4.1.1 for supplying, laying and bedding of HDPE specials (Class PN 10) complete with couplings:**				
C.4.2.1		90° elbows:				
		.01 63 mm dia	No	3		
C.4.2.2.		45° elbows:				
		.01 63 mm dia	No	2		
C.4.2.3		Tees:				
		.02 63 mm dia	No	6		
C.4.2.4		Flange adaptors				
		.01 63 mm dia	No	2		
C.4.2.5	8.2.2	End caps:				
		.01 63 mm dia	No	2		
C.4.3.		**Extra over items C4.1.2 for supplying, laying and bedding of uPVC specials (Class 16) complete with couplings:**				
C.4.3.1		90° elbows:				
		.01 125 mm dia	No	3		
C.4.3.2.		45° elbows:				
		.01 125 mm dia	No	2		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUAN-TITY	RATE	**AMOUNT**
BROUGHT FORWARD						
C.4.3.3.		22,5° elbows:				
		.01 125 mm dia	No	2		
C.4.3.4		Reducing Tees:				
		.01 160 mm x 125 mm	No	2		
		.02 160 mm x 110 mm	No	1		
		.02 160 mm x 125 mm	No	1		
C.4.3.5		Reducers:				
		.01 160 mm x 125 mm	No	2		
		.02 160 mm x 110 mm	No	4		
		.03 125 mm x 63 mm	No	1		
C.4.3.6		Flange adaptors				
		.01 125 mm dia	No	12		
		.02 110 mm dia	No	12		
C.4.3.7	8.2.3	End caps:				
		.01 125 mm dia	No	5		
C.4.4.	8.2.3	**Extra over items C.4.1for supplying, fixing and bedding of socketed RSV gate valves:**				
		.01 160 mm	No	2		
		.02 125 mm	No	22		
		.03 75	No	1		
C.4.5.	8.2.3	**Fire Hydrant**				
		Supply and install cast iron Fire Hydrant, including T-piece, complete according to the drawing details for the following pipes:				
		.01 80 mm	No	9		
C.4.6.		**Bulk Meter**				
		Supply and install 150 mm flanged Elster Kent (or similar) complete with necessary fittings	No	1		
TOTAL CARRIED FORWARD						

ITEM NO	PAYMENT CLAUSE	DESCRIPTION	UNIT	QUAN-TITY	RATE	**AMOUNT**
BROUGHT FORWARD						
C.4.7.	8.2.11	**Anchor/thrust blocks and pedestals**	m³	10		
C.4.8.	8.2.13	**Valve and hydrant chambers etc:**				
		.01 Valve chamber as per drawing	No	20		
		.02 Fire hydrant as per drawing	No	7		
C.4.9.	8.2.13	**SPECIALS AND FITTINGS** Supply, install, test, construst special valve chambers complete (including gate valve, air valve, strainer, steel special pieces, bulk meter, etc.)				
		.01 Valve chamber 1 as per drawing	sum	1		
		.02 Valve chamber 2 as per drawing	sum	1		
C.4.10.	8.2.16	**Sundries**				
		Cut into and connect to existing mains for the following pipe sizes:				
		.01 DN 125 mm	No	5		
		.02 DN 63 mm	No	10		
		.03 DN 50 mm	No	10		
C.4.11.	8.2.17 1200 LF	**Marker blocks (as per drawing)**	No	20		
C.4.12.	8.2.1	**Provide erf connections complete:**				
		For single residential erven complete shown including excavation, backfill, compaction, pipe materials and specials as shown on drawings				
		.01 Long single on 125 mm uPVC pipe	No	15		
		.02 Long double on 125 mm uPVC pipe	No	20		
		.03 Long single on DN 63 mm HDPe pipe	No	40		
		.04 Long double on DN 63 mm HDPe pipe	No	40		
		.05 Short single on 125 mm uPVC pipe	No	20		
		.06 Short double on 125 mm uPVC pipe	No	20		
		.07 Short single on DN 63 mm HDPe pipe	No	20		
		.08 Short double on DN 63 mm HDPe pipe	No	20		
C.4.13.	8.2.1	**Saddles** Supply and install the following duraflo saddles with Plasson couplings and fittings for the following pipe sizes:				
		.01 125mm diameter HDPe pipe(32mm diameter)	No	65		
		.02 63mm diameter HDPe pipe(32mm diameter)	No	80		
TOTAL CARRIED FORWARD TO SUMMARY						

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

C.2.4: M&E DATA SHEETS

A: DATA SHEETS FOR PIPING AND VALVES

1. DATA SHEET FOR PIPING

1.1	Manufacturer	…….. .... ……..
1.2	Material of piping	…….. .... ……..
1.3	Finish	…….. .... ……..
1.4	Maximum working pressure	…….. .... ……..
1.5	Test pressure	…….. .... ……..
1.6	Internal diameter	…….. .... ……..
1.7	Couplings	…….. .... ……..

2. DATA SHEET FOR NON-RETURN VALVES

Single door swing type

3.1	Manufacture	……..……....
3.2	Make and model number	……..……..
3.3	Material:	.....
	Body	……..…..……..
	Blade	……..
3.4	Accessories	……....……..
3.5	Size:	…….....
3.6	Maximum working pressure	……..

3. DATA SHEET FOR SHUT-OFF VALVES

	Manufacture	…..……...
4.1	Make and model number	……..
4.2	Material:	…… …….....
	Body	……..……
	Blade	……..……..……
4.3	Accessories	……..……..…
4.4	Size:	……..…….....
4.5	Maximum working pressure	…….....

....

SIGNATURE OF TENDERER **DATE**

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

PART C3: SCOPE OF WORKS

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

C3.1: DESCRIPTION OF THE WORKS

EMPLOYER'S OBJECTIVES

The employer's objectives are to have a pressed steel balancing reservoir constructed at the existing Mandela Square water pump station site, modify the existing pump station configuration, refurbish the existing concrete reservoir and replace old asbestos water reticulation pipelines within Victoria West.

The site is within the existing town of Victoria West and can be reached via existing surfaced roads and gravel roads.

OVERVIEW OF THE WORKS

The contract comprises of the following:

- Rehabilitate and/or waterproof lining on the interior of the concrete reservoir.
- Supply and install a new 50 kl pressed steel balancing reservoir.
- Connect the newly erected reservoir to the existing supply pipework.
- Mechanical / Electrical configuration of the existing water pump station.
- Replace old asbestos water reticulation pipelines with a combination of HDPe pipes and uPVC pipes complete with house connections, fittings, valves, fire hydrants and valves. Connect to existing reticulation as required.

EXTENT OF THE WORKS

Work included in this contract involves the following:

a) Establishment of camp and plant on site.

b) Provision of a site office.

c) Site clearance.

d) Accommodation of traffic.

e) Earthworks to shape existing ground levels.

f) Detection and adjustment of existing services.

g) Pipe laying for reticulation network.

h) Connect to existing house connections.

i) Trench excavation, bedding, blanket fill and backfill of trenches.

j) Construction of valve chamber and related works.

k) Connection of existing water systems.

l) Crossing of roads and repair of roads.

m) Testing of new pipelines, erf connections and water meters.

n) Construction of balancing reservoir concrete foundations.

o) Installation of 50 kl pressed steel elevated reservoir complete with all pipework, level indicator, ladder and connections.

p) Clean and refurbish existing concrete reservoir.

q) Supply and installation of security fencing with gates

r) Concrete paving surrounding structures.

s) Cleaning and tidying up of site.

Construction methods must be such that no property or life is endangered. The Employer accepts no responsibility for work that is done outside the site boundaries without the Engineer's approval.

The compilation of the construction programme and any amendments thereto during the course of construction shall be at the cost of the Contractor and shall not be measured elsewhere in this contract.

LOCATION OF WORKS

Victoria West is situated in the area of Ubuntu Municipality, 107 km from Britstown.

The exact location of the site is as follows:

- Latitude (S) 31°23'29"
- Longitude (E) 23°06'48"

Access to the site is via existing surfaced roads.

ABNORMAL RAINFALL

The source for rainfall statistics shall be taken as listed in WB 40 of the Weather Bureau, Department of Environment Affairs, for the determination of Rn and Nn as specified in GCC 5.12.2.2 (see Contract Data (Part 1)).

The Contractor shall keep daily rainfall records and submit them to the Engineer at every site meeting. No additional costs shall be made for the supply and installation of the rain gauge or for the keeping of the rainfall records and all costs must be included in the appropriate items.

Add the following to GCC 5.12.2.2

a) Abnormal climatic conditions

No extension of the time for completion shall be granted on the grounds of normal rainfall conditions, but extension of time in terms of clause 5.12.2.2 of the General Conditions of Contract (2015) on the grounds of abnormal rainfall or wet conditions shall be calculated separately for each calendar month or part thereof, according to the following formula. It shall be calculates as follows for the time of completion, including any extension thereof:

$$V = (Nw - Nn) + \frac{RW - Rn}{X}$$

V = Extention of time for calendar days of the calendar month concerned.

If the Value of V is negative and the absolute value thereof is greater than Nn, V is taken as negative Nn.

Nw = Actual number of days during calendar month on which a rainfall of 10 mm or more is recorded.

Nn = Average number of days in the calendar month concerned on which a rainfall of 10 mm or more is recorded in terms of existing rainfall data.

Rw = Actual rainfall for the calendar month concerned in mm

Rn = Average rainfall for the calendar month in mm deduced from existing rainfall data.

The total extension of time is the algebraic sum of the monthly totals for the period concerned. Extension of time for parts of a month shall be calculated by using pro rata values of Nn and Rn. If the algebraic sum of the monthly totals is negative, no reduction of the time for completion as a result of rainfall shall be applicable.

This formula does not take any delays as a result of flood damage, which may cause further or simultaneous delays, into consideration and flood damage shall be treated separately for purposes of extension of time for completion.

The factor (Nw – Nn) is considered as a fair allowance for deviation from the normal for the number of days on which the rainfall exceeds 10 mm. The factor (Rw – Rn) /X is considered as a fair allowance for deviation from the normal for the number of days on which the rainfall does not exceed 10 mm, but on which wet conditions will hamper or disrupt work.

For the purpose of this Contract the values of Nn, Rn and X shall be the following:

Rainfall Station: Victoria West-TNK

Average Rainfall: 155 mm per year

Average number of days with Rainfall exceeding 10 mm: 4.1 days / year

MONTH	Nn	Rn
January	1.9	47.6
February	1.7	52.1
March	2.0	50.3
April	0.9	26.1
May	0.6	16.4
June	0.3	10.6
July	0.1	6.2
August	0.3	8.2
September	0.3	8.3
October	0.6	17.4
November	0.7	19.6
December	1.1	25.9
TOTAL	**4.1**	**288.7**

X = 20 **Y = 10**

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

C3.2: ENGINEERING

C3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Works designed by, per design stage*:*

Basic engineering and detail to tender stage	Engineers for Employer
Final design approved for construction stage	Engineers for Employer
Temporary works	Contractor (Engineer)
Progress and compliance inspections	Engineers for Employer
Setting out and Construction of works	Contractor
Preparation of “as built” drawing data	Contractor

C3.2.2 DRAWINGS

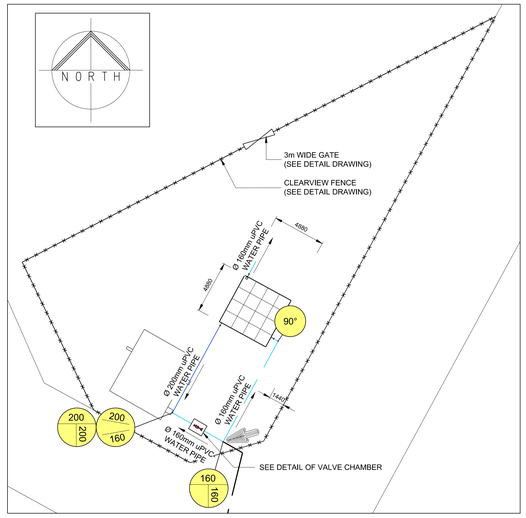
Typical construction drawings are attached as annexures to this contract document. Additional drawings will, in terms of Clause 5.9 of the General Conditions of Contract (2015), be issued to the Contractor by the Engineer/Employer on the commencement date and from time to time as required.

The drawings listed below are provided in order to give an overview of the project.

Drawing No.	Title
301067-07	Balancing Reservoir Layout and Details
301067-08	Valve Chamber Detail
301067-02	Water Layout (Reservoir)
301067-CI-DAL-001	Water Layout (1 of 2)
301067-CI-DAL-001A	Water Layout (2 of 2)
301067-CI-DRD-001	Water Details 1
301067-CI-DRD-002	Water Details 2
301067-CI-DRD-003	Water Details 3
301067-CI-DRD-004	Water Details 4
301067-CI-DRD-005	Water Details 5
301067-CI-DRD-006	Water Details 6

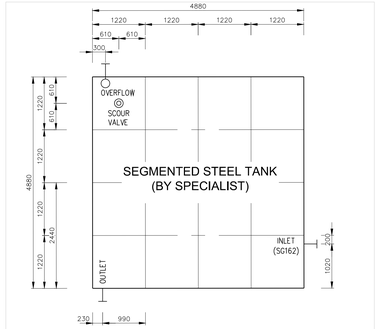
LEGEND :

- NEW 160mm Ø uPVC WATER SUPPLY
- NEW 200mm Ø uPVC WATER SUPPLY
- EXISTING WATER SUPPLY
- NEW GATE VALVE
- NEW NON-RETURN
- CONNECT TO EXISTING/PROPOSED NETWORK
- 90° BEND
- 110 / 110 T - PIECE
- 160 / 110 REDUCER



SITE LAYOUT OF BALANCING RESERVOIR

SCALE 1:200



SEGMENTED STEEL TANK : LAYOUT

SCALE 1:50

LIST OF FITTINGS

INLETS TO TANK

1. 80mm ⌠ x 100 mm LONG FLANGED CONNECTOR BY TANK SUPPLIER
2. 80mm ⌠ FLANGED 90‡ BEND. RADIUS = 200mm.
3. 80mm ⌠ FLANGED STEEL PIPE. TOTAL LENGTH = 3000mm.
4. 80mm ⌠ FLANGED STEEL PIPE. TOTAL LENGTH = 2390mm.
5. 80mm ⌠ FLANGED 90‡ BEND. RADIUS = 200mm.
6. 80mm ⌠ x 75mm ⌠ FLANGED REDUCER.
7. 80mm ⌠ VIKING JOHNSON FLANGE ADAPTOR TO FIT 50mm ⌠ uPVC PIPE.

TANK SCOUR PIPE

10. 150mm ⌠ x 100mm LONG FLANGED CONNECTOR BY TANK SUPPLIER.
11. 150mm ⌠ FLANGED STEEL PIPE. TOTAL LENGTH = 2045mm.
12. 150mm ⌠ FLANGED 90‡ BEND. RADIUS = 300mm.
13. 150mm ⌠ FLANGED STEEL PIPE. TOTAL LENGTH = 600mm.
14. 150mm ⌠ FLANGED R.S.V. WITH NON-RISING SPINDLE.

TANK OVERFLOW PIPE

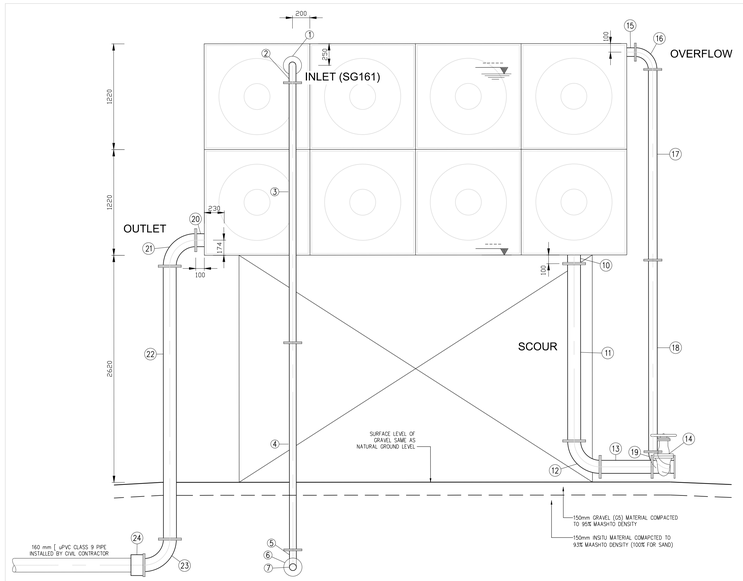
15. 100mm ⌠ x 100mm LONG FLANGED CONNECTOR BY TANK SUPPLIER.
16. 100mm ⌠ FLANGED 90‡ BEND. RADIUS = 200mm.
17. 100mm ⌠ FLANGED STEEL PIPE. TOTAL LENGTH = 2200mm.
18. 100mm ⌠ FLANGED STEEL PIPE. TOTAL LENGTH = 2210mm.
19. 100mm ⌠ 90‡ BEND ON END FLANGED AND ONE END PLAIN. RADIUS = 300mm.

TANK OUTLET

20. 150mm ⌠ x 100mm LONG FLANGED CONNECTOR BY TANK SUPPLIER.
21. 150mm ⌠ FLANGED 90‡ BEND. RADIUS = 300mm.
22. 150mm ⌠ FLANGED STEEL PIPE. TOTAL LENGTH = 3145mm.
23. 150mm ⌠ FLANGED 90‡ BEND. RADIUS = 300mm.
24. 150mm ⌠ VIKING JOHNSON FLANGE ADAPTOR TO FIT 160mm ⌠ uPVC PIPE.

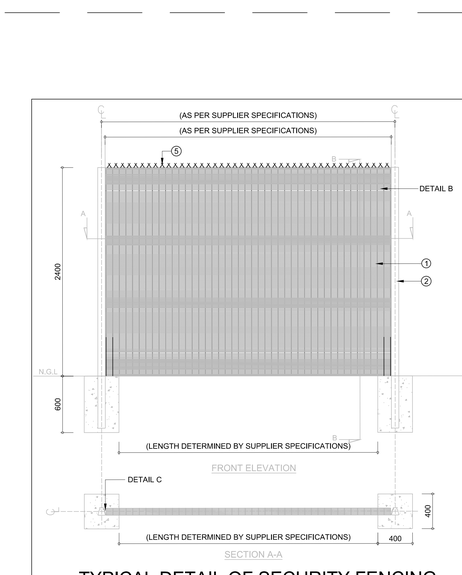
NOTES

1. ALL STEEL PIPES AND FITTINGS MUST BE HOT DIPPED GALVANISED TO SANS 121 (ISO 1461) –HEAVY DUTY COATING. SEE PROJECT SPECIFICATION FOR CORROSION PROTECTION OF ALL STEEL AND CAST IRON ITEMS.
2. ALL FOUNDATION EXCAVATIONS AND REINFORCING MUST BE INSPECTED BY ENGINEER BEFORE CONCRETE IS CAST.
3. MINIMUM STRENGTH OF CONCRETE FOR FOUNDATIONS MUST BE 30MPa/19mm.
4. MINIMUM CLEARANCE OF REINFORCING IS 40mm.



ELEVATION : INLET SIDE AND DETAIL OF PIPEWORK

SCALE 1 : 25



TYPICAL DETAIL OF SECURITY FENCING (MESH PANELS)

SCALE 1 : 25

SPECIFICATION :

(INVISIBLE WALL PANEL)

1. PANEL : MESH PANELS GALVANIZED. PANEL INFORMATION: PANEL REINFORCED WITH 4 x DEEP "V" FORMATION HORIZONTAL RECESSED BANDS (RIGIDITY), 2 x 70° FLANGES ALONG SIDES (INTERNAL FIXTURES - ANTI VANDAL ALLOWING FOR FLUSH POST AND PANEL FINISH, 4Ø LINE WIRE SECURE CONNECTION, LOCKING RECESS MECHANISM) AND 2 x 30° FLANGES ALONG TOP AND TOE. (ARROW - STRAIGHT EDGES, INTEGRATED ANGLE). COATING: MESH GALVANIZED. THEN MARINE FUSION BOND COATED.
2. POST : POST. COATING: GALVANIZED, THEN MARINE FUSION BOND COATED.
3. CLAMPS : 8 x SINGLE BOLT COMB CLAMPS. 8 x DOUBLE BOLT COMB CLAMPS. COATING: GALVANIZED THEN MARINE FUSION BOND COATED.
4. FOUNDATION : 400 x 400 x 600mm CONCRETE FOUNDATION SIZES.
5. TOPPING : SHARK TOOTH SPIKES. COATING: GALVANIZED, THEN MARINE FUSION BOND COATED.
6. FENCING INSTALLATION AS PER SUPPLIER SPECIFICATIONS.

DETAIL A

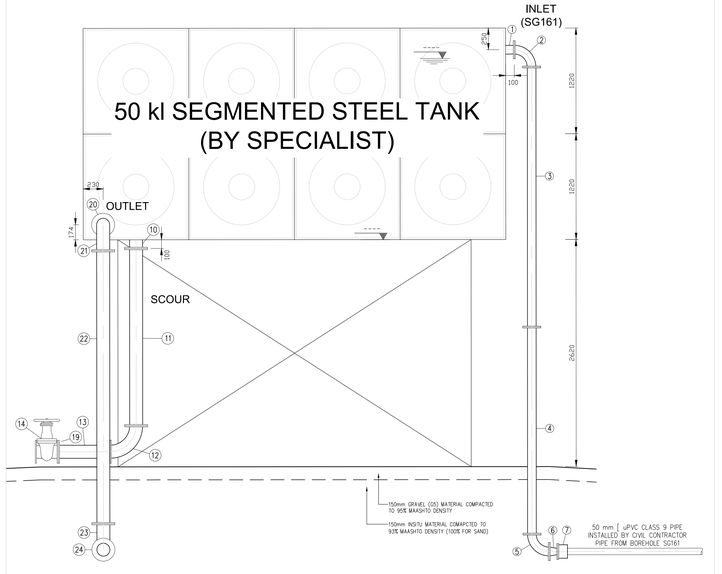
SCALE 1 : 10

DETAIL B

SCALE 1 : 10

DETAIL C

SCALE 1 : 10



ELEVATION : OUTLET SIDE AND DETAIL OF PIPEWORK

SCALE 1 : 25

NOTES

FOR APPROVAL

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	14/02/20	ISSUED FOR DISCUSSION	W.F.	A.K.
B	10/03/20	ISSUED FOR APPROVAL	W.F.	A.K.

CONSULTING ENGINEER

SIGNATURE | PR No | DATE

CLIENT

SIGNATURE | DATE

DESIGNED	DRAWN	CHECKED
E.Geldenhuys	W.Faber	A.Khumalo

CONSULTANT

iX engineers
Infrastructure Excellence

Montrio Corporate Park | Block 3, 1st Floor North Wing
10 Oliver Road | Monument Heights | Kimberley | 8301
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CLIENT

UBUNTU MUNICIPALITY

PROJECT

VICTORIA WEST - UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION AND RESERVOIR

DRAWING DESCRIPTION

BALANCING RESERVOIR

SCALE FOR REDUCED PLAN

0 10 20 30 40 50

50mm ON ORIGINAL PLAN

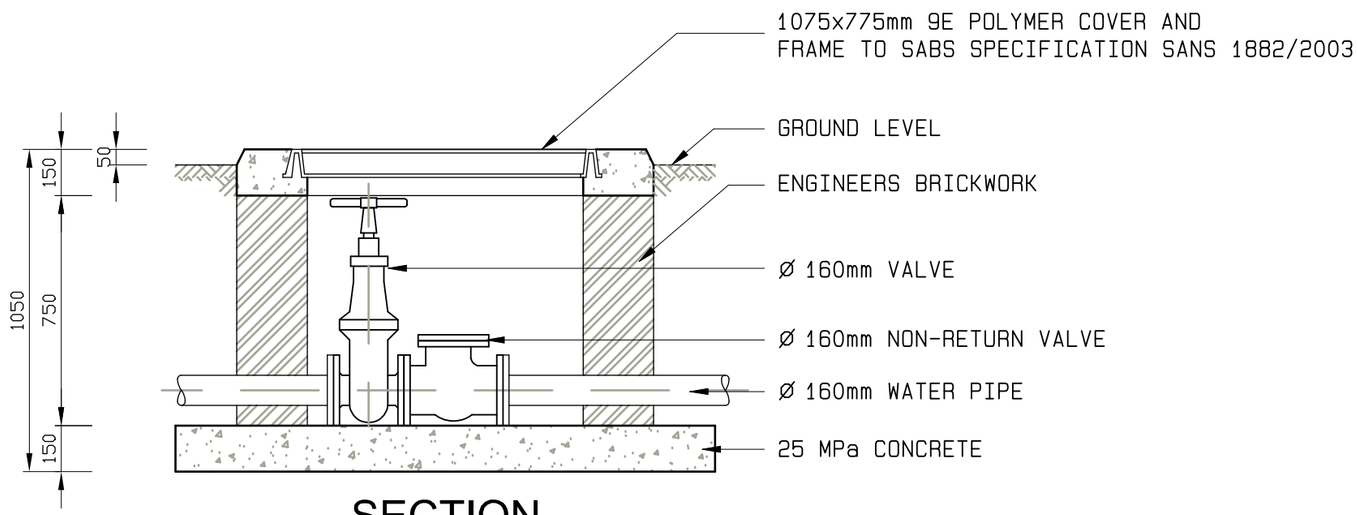
DATE	SCALE	ORIGINAL SIZE
2020/02/14	AS SHOWN	A0

DRAWING NUMBER: 301067/07

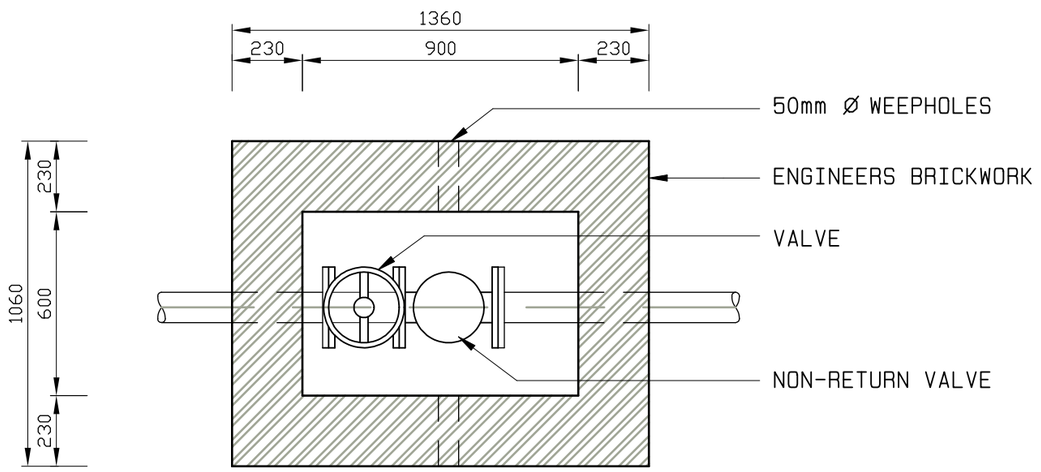
REV: B

P:\Proj_Active\301067 - MIG Ubuntu Municipality\9_Drawings\1_Active\2_Water\DWG\301067 - Reservoir Rev B.dwg

10/03/2020 11:40:24 Printed By: Wayne Faber (Kimberley)



SECTION
SCALE 1:20



PLAN
SCALE 1:20

VALVE CHAMBER

SCALE FOR REDUCED PLAN
0 5 10 20 30 40 50
50mm ON ORIGINAL A3 PLAN

REVISION SCHEDULE

No	DATE	DESCRIPTION
A	17/02/20	ISSUED FOR DISCUSSION
B	10/03/20	ISSUED FOR APPROVAL

CONSULTING ENGINEER

SIGNATURE _____ PR No _____ DATE _____

CLIENT

SIGNATURE _____ DATE _____

CLIENT: UBUNTU MUNICIPALITY

CONSULTANT

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PROJECT: VICTORIA WEST - UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION AND RESERVOIR

DRAWING DESCRIPTION: TYPICAL DETAIL OF VALVE CHAMBER

DESIGNED	DRAWN	CHECKED
E.Geldenhuys	W.Faber	A.Khumalo

DATE	SCALE
2020/02/17	AS SHOWN

DRAWING NUMBER	REV
301067/08	B

P:\D-Tlkata\Projekte\00-000 Standards & Details\Drawings Titlesheets (IX & WP)\iX Title Blocks.dwg

26/05/2017 12:01:19 Printed By: Wayne Faber (Kimberley)

P:\D-T\kdata\Projekte\06-000 Standards & Details\Drawings Titlesheets (IX & WP)\IX Title Blocks.dwg

26/05/2017 12:01:18 Printed By: Wayne Faber (Kimberley)

FOR APPROVAL

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	14/02/20	ISSUED FOR DISCUSSION	W.F.	A.K.
B	10/03/20	ISSUED FOR APPROVAL	W.F.	A.K.

CONSULTING ENGINEER

_____ SIGNATURE _____ PR No _____ DATE

CLIENT

_____ SIGNATURE _____ DATE

DESIGNED	DRAWN	CHECKED
E.Geldenhuys	W.Faber	A.Khumalo

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CLIENT

UBUNTU MUNICIPALITY

PROJECT

VICTORIA WEST - UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION AND RESERVOIR

DRAWING DESCRIPTION

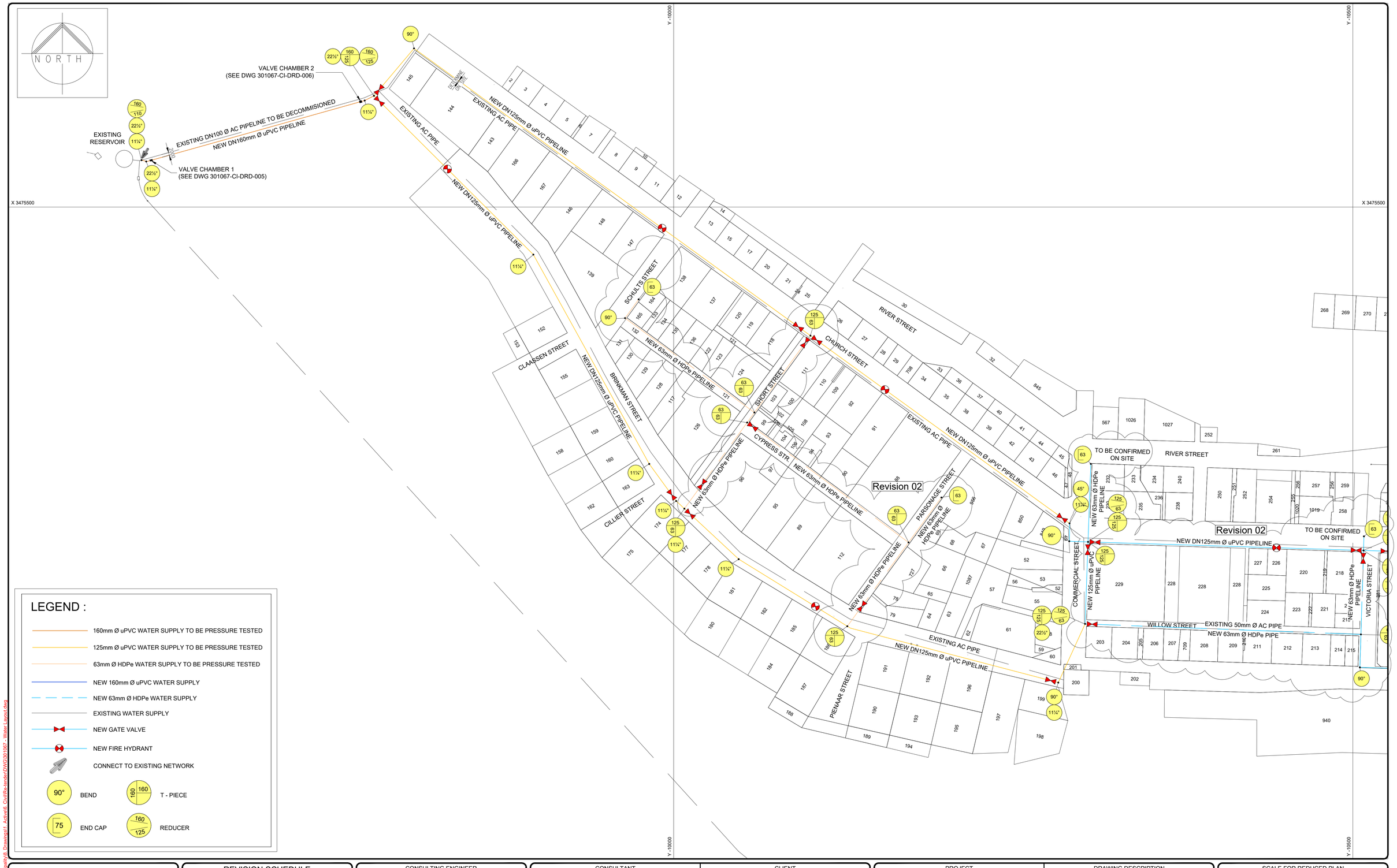
WATER LAYOUT (NEW RESERVOIR)

SCALE FOR REDUCED PLAN

0 5 10 20 30 40 50
50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2020/02/14	1 : 1000	A1

DRAWING NUMBER	REV
301067/02	B



LEGEND :

- 160mm Ø uPVC WATER SUPPLY TO BE PRESSURE TESTED
- 125mm Ø uPVC WATER SUPPLY TO BE PRESSURE TESTED
- 63mm Ø HDPe WATER SUPPLY TO BE PRESSURE TESTED
- NEW 160mm Ø uPVC WATER SUPPLY
- NEW 63mm Ø HDPe WATER SUPPLY
- EXISTING WATER SUPPLY
- NEW GATE VALVE
- NEW FIRE HYDRANT
- CONNECT TO EXISTING NETWORK
- 90° BEND
- 160 / 160 T - PIECE
- 75 END CAP
- 160 / 125 REDUCER

P:\Proj - Active\301067 - MIG Ubuntu Municipality\3 Drawings\1 Active\3 Civil\Re-tender\DWG\301067 - Water Layout.dwg

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REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	20/01/13	ISSUED FOR TENDER	W.F.	A.K.

CONSULTING ENGINEER

SIGNATURE _____ PR No _____ DATE _____

CLIENT

SIGNATURE _____ DATE _____

DESIGNED	DRAWN	CHECKED
A.Khumalo	W.Faber	A.Khumalo

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UBUNTU MUNICIPALITY

PROJECT

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

DRAWING DESCRIPTION

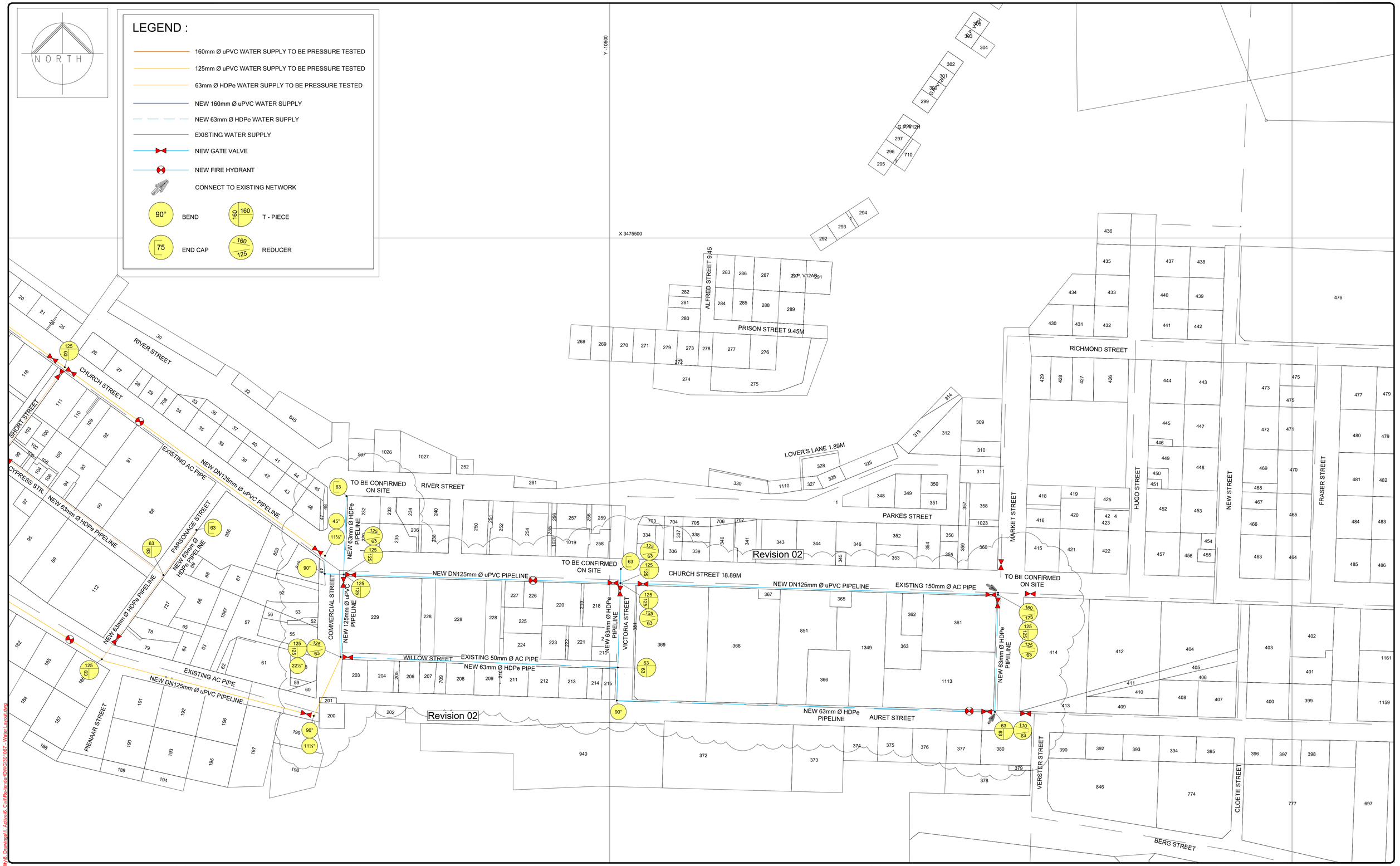
WATER LAYOUT (1 OF 2)

SCALE FOR REDUCED PLAN

0 5 10 20 30 40 50
50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2020/03/20	1 : 1250	A1

DRAWING NUMBER	REV
301067-CI-DAL-001	A



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FOR TENDER

All dimensions must be verified on site before the works commence. Refer any discrepancies to the Engineer.

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	20/01/13	ISSUED FOR TENDER	W.F.	A.K.

CONSULTING ENGINEER

SIGNATURE _____ PR No _____ DATE _____

CLIENT

SIGNATURE _____ DATE _____

DESIGNED	DRAWN	CHECKED
A.Khumalo	W.Faber	A.Khumalo

CONSULTANT

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UBUNTU MUNICIPALITY

PROJECT

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

DRAWING DESCRIPTION

WATER LAYOUT (2 OF 2)

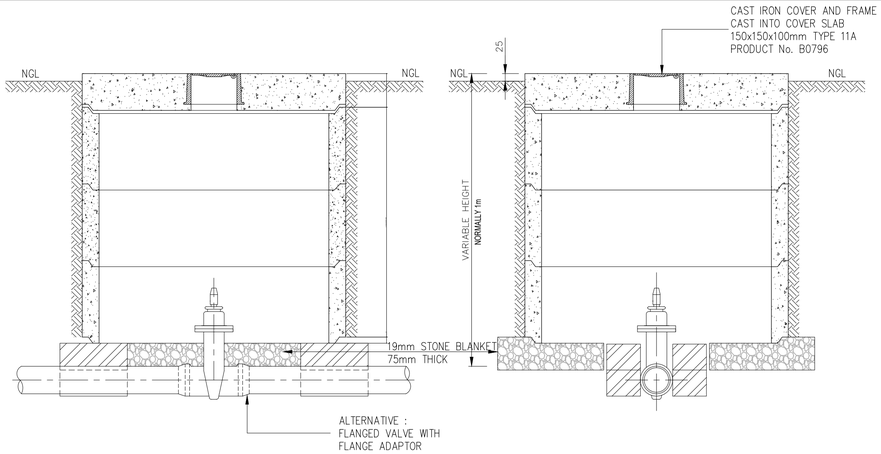
SCALE FOR REDUCED PLAN

0 5 10 20 30 40 50
50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2020/03/20	1 : 1250	A1

DRAWING NUMBER: 301067-CI-DAL-001A

REV: A

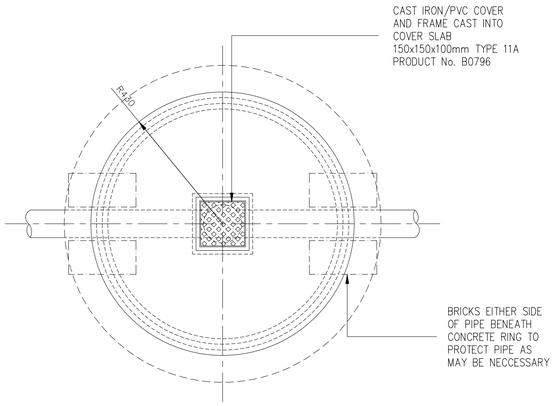


SECTION DETAIL OF VALVE BOX

SCALE 1:10

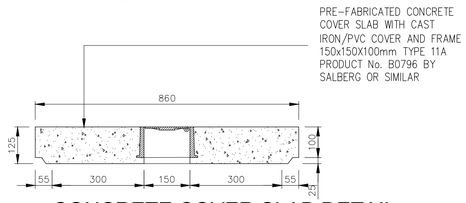
SECTION DETAIL OF VALVE BOX

SCALE 1:10



PLAN: CONCRETE VALVE BOX

SCALE 1:10



CONCRETE COVER SLAB DETAIL

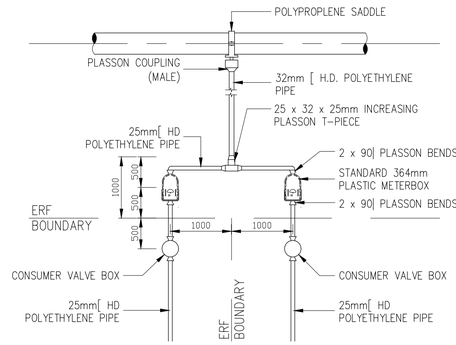
SCALE 1:10

PRECAST CONCRETE VALVE CHAMBER RINGS			
INNER [	EFFECTIVE LENGTH	WALL THICKNESS	OUTER [
mm	mm	mm	mm
750	250,500, 1000	55	860

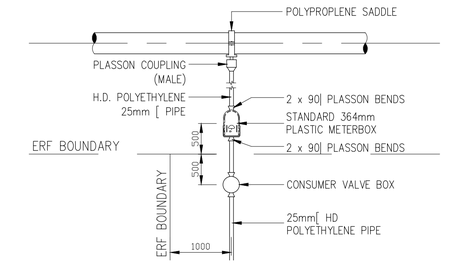
TO BE USED WITHIN SIDE WALKS
OR IF SPECIFIED BY ENGINEER

CONCRETE VALVE BOX

SCALE 1 : 10



PLAN: DOUBLE ERF CONNECTION

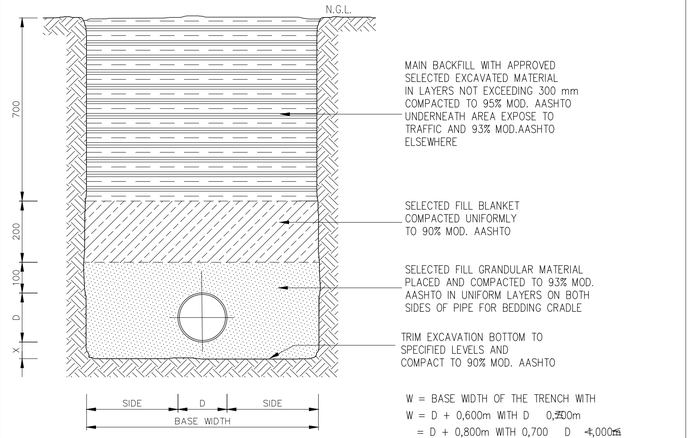


PLAN: SINGLE ERF CONNECTION

ERF CONNECTION DETAIL

SCALE 1 : 50

NOTE :
X = D/4 SUBJECT TO X BEING
NOT LESS THAN 100 mm AND
NOT MORE THAN 200 mm

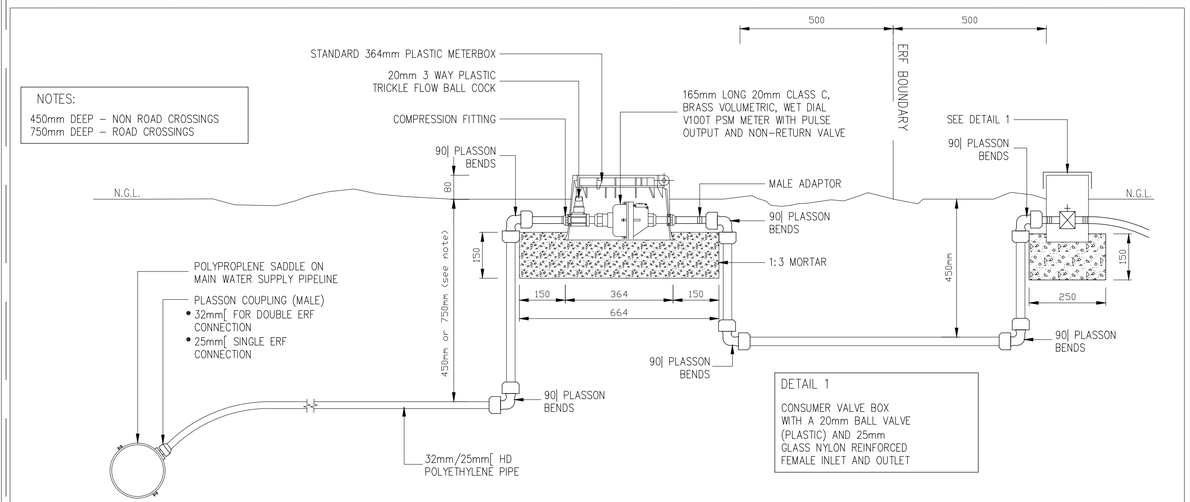


W = BASE WIDTH OF THE TRENCH WITH
W = D + 0,600m WITH D 0,500m
= D + 0,800m WITH 0,700 D 1,000m
= D + 1,000m WITH 1,000m D 2,000m
= D + 1,200m WITH D 2,000m

D = OUTSIDE DIAMETER OF PIPE

MEASUREMENT OF BACKFILL

N.T.S.



DETAIL OF 20mm BRASS WATER METER

SCALE 1 : 10

FOR TENDER

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	21/01/13	ISSUED FOR TENDER	W.F	A.K

CONSULTING ENGINEER

SIGNATURE _____ PR No _____ DATE _____

CLIENT

SIGNATURE _____ DATE _____

DESIGNED	DRAWN	CHECKED
A.Khumalo	W.Faber	A.Khumalo

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PROJECT

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

DRAWING DESCRIPTION

WATER DETAILS 1

SCALE FOR REDUCED PLAN

0 5 10 20 30 40 50

50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2021/01/13	AS SHOWN	A1

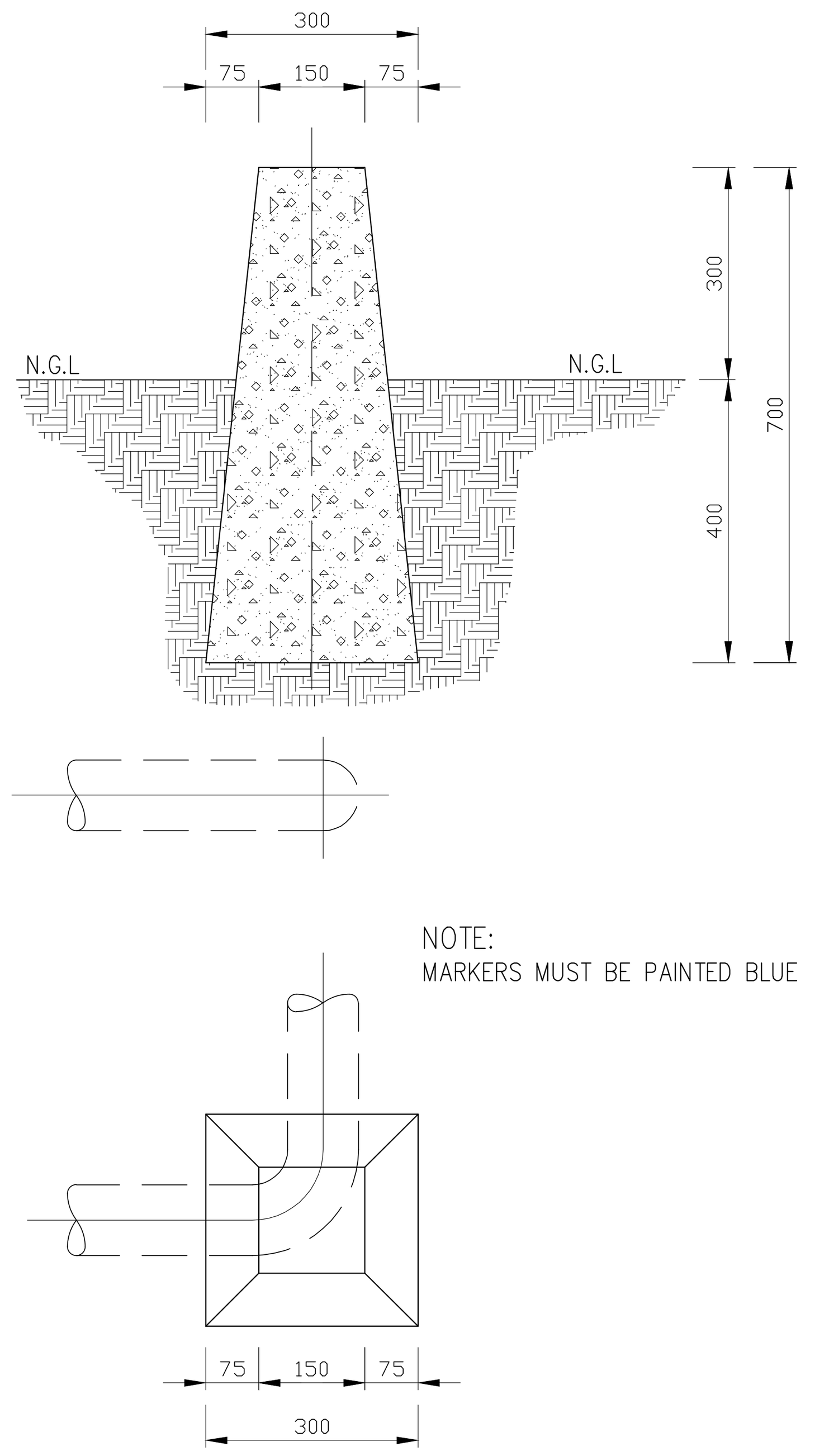
DRAWING NUMBER 301067-CI-DRD-001

REV A

P:\Proj - Active\301067 - MIG Ubuntu Municipality\8. Drawings\1. Active\6. Civil\Re-tender\DWG\301067 - Water Details.dwg

13/01/2021 3:44:19 Printed By: Ambrose Khumalo (Kimberley)

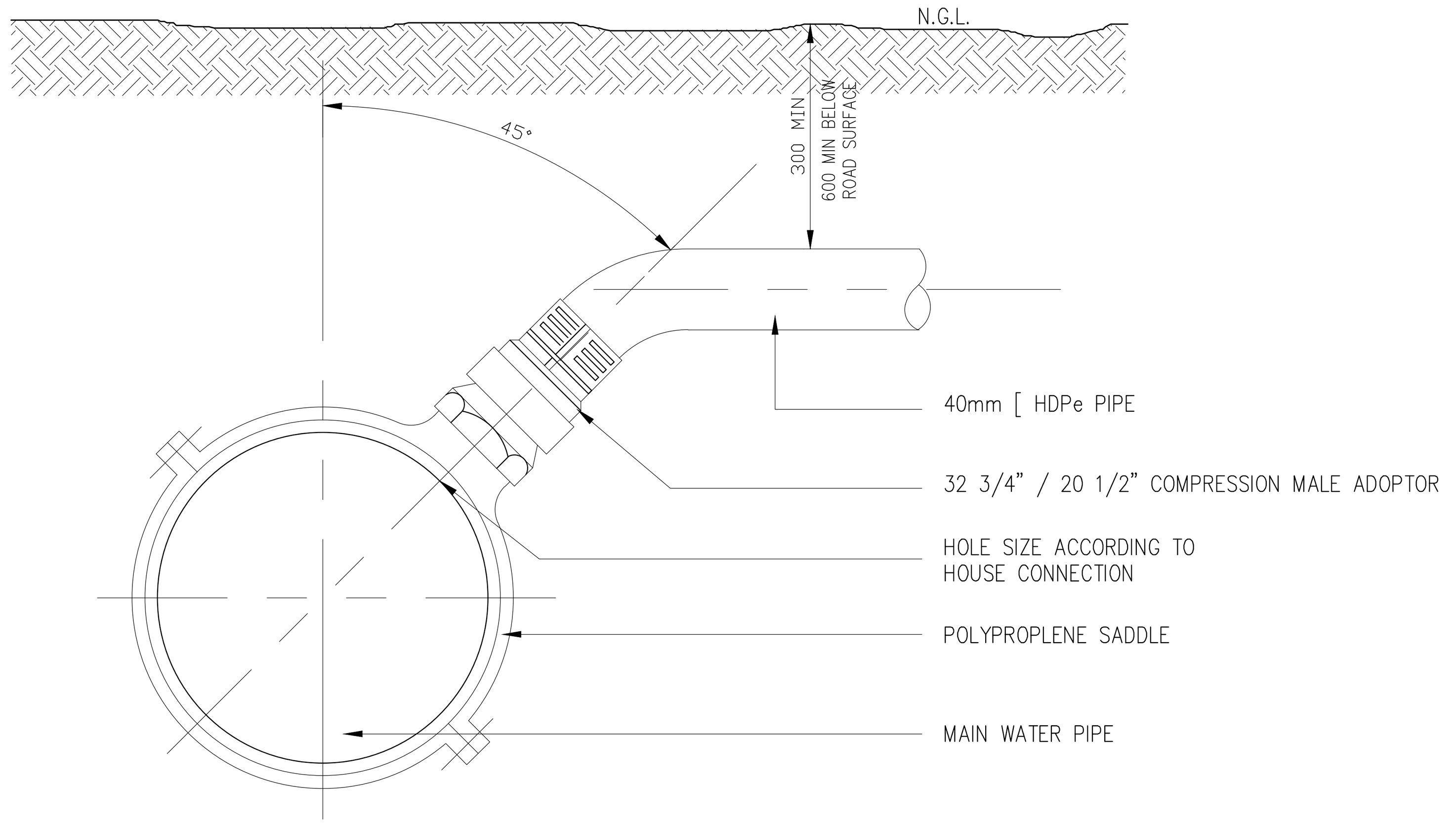
MARKING OF PIPES



PLAN

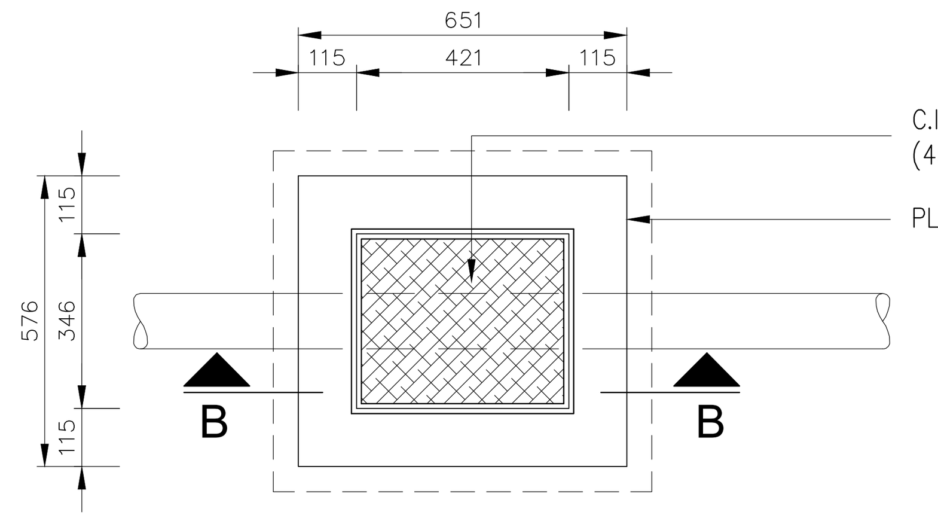
MARKING OF PIPES

SCALE 1 : 10



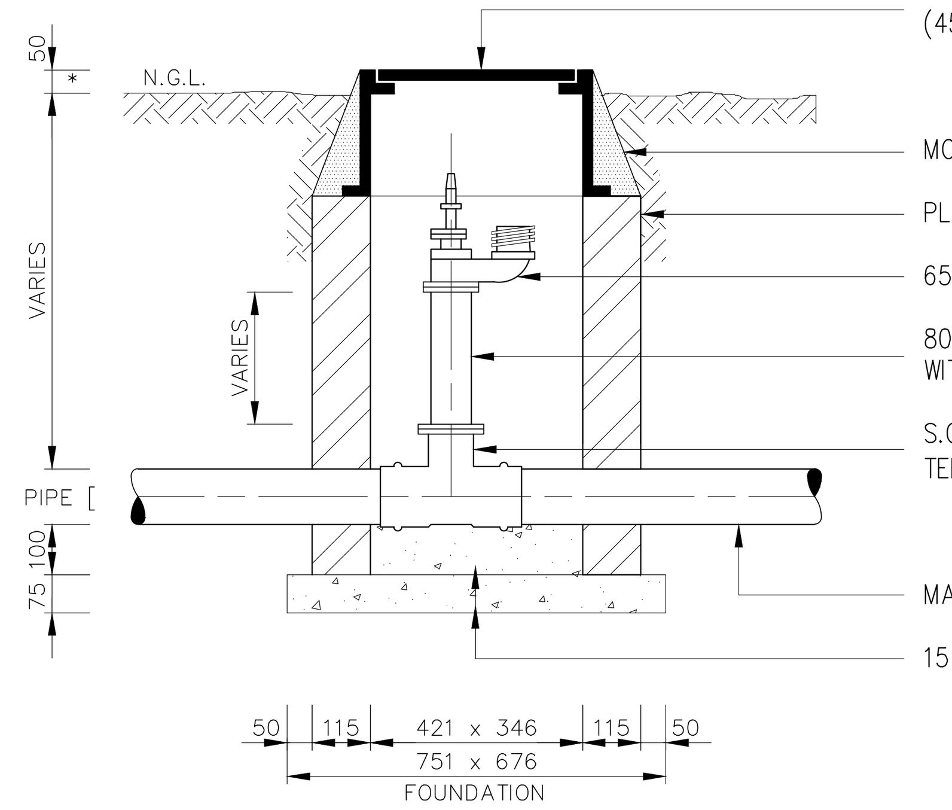
WATER CONNECTION

SCALE : N.T.S



PLAN VIEW

NOTE:
* = 0mm IN PAVED AREAS



SECTION B-B

HYDRANT DETAIL

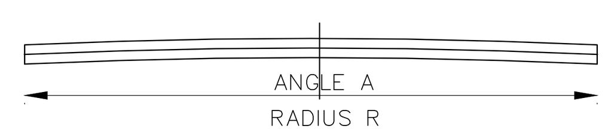
SCALE 1 : 15

TABLE SHOWING
ALLOWABLE LONGITUDINAL
BENDING (ANGLE A)
OVER 6m PIPE LENGTHS
(SEE DIAGRAM)

(INCLUDING ALLOWANCE FOR JOINT DEFLECTION)

PIPE SIZE — ALLOWABLE ANGLE (A) PER PIPE CLASS

PIPE SIZE	[redacted]				
[redacted]	35	35	30	30	30
	33	33	28	28	28
	27	27	23	23	23
	23	23	18	18	18
	16	16	12	12	12
	15	15	11	11	11
	14	14	10	10	10
	11	11	9	9	9
	8	8	7	7	7
	6	6	5	5	5
	3	3	3	3	3
	2	2	2	2	2



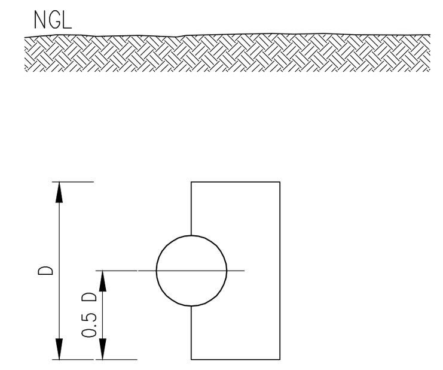
ALLOWABLE LONGITUDINAL
BENDING ANGLE DIAGRAM

ALLOWABLE BENDING ANGLES

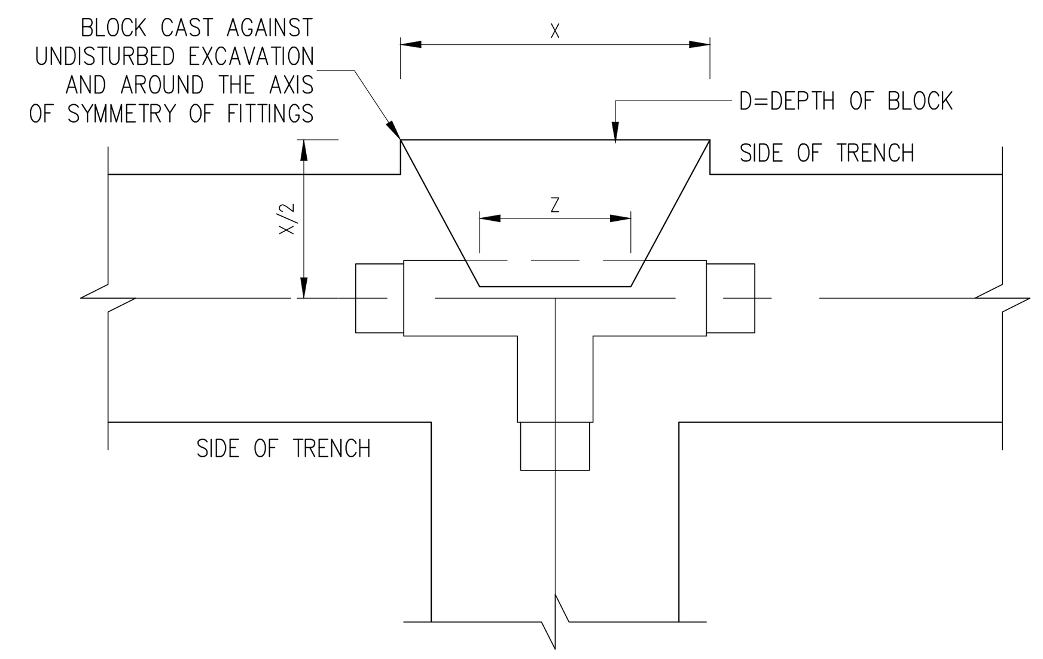
SCALE 1 : 20

NOTES :

1. THIS TABLE WAS CALCULATED FOR THRUST BLOCKS IN GRAVEL SOILS.
2. USE 10 MPa CONCRETE.
3. HALF THE DEPTH OF THE THRUST BLOCK NEEDS TO BE BELOW THE PIPE AXIS.
4. KEEP THE CONCRETE AWAY FROM THE COUPLINGS & THE PIPE JOINTS.
5. THRUST BLOCKS FOR PIPE ø LARGER THAN 300mm & HIGHER TEST PRESSURES THAN 18 BAR NEEDS TO BE DESIGNED BY THE ENGINEER.
6. THRUST BLOCKS AT PADDLE FLANGES NEEDS TO BE REINFORCED & DESIGNED BY THE ENGINEER.
7. IN CASES OF SOFT CLAY & SILTY SANDS, THE ANCOR BLOKS NEED TO BE DESIGNED BY THE ENGINEER.



SECTION

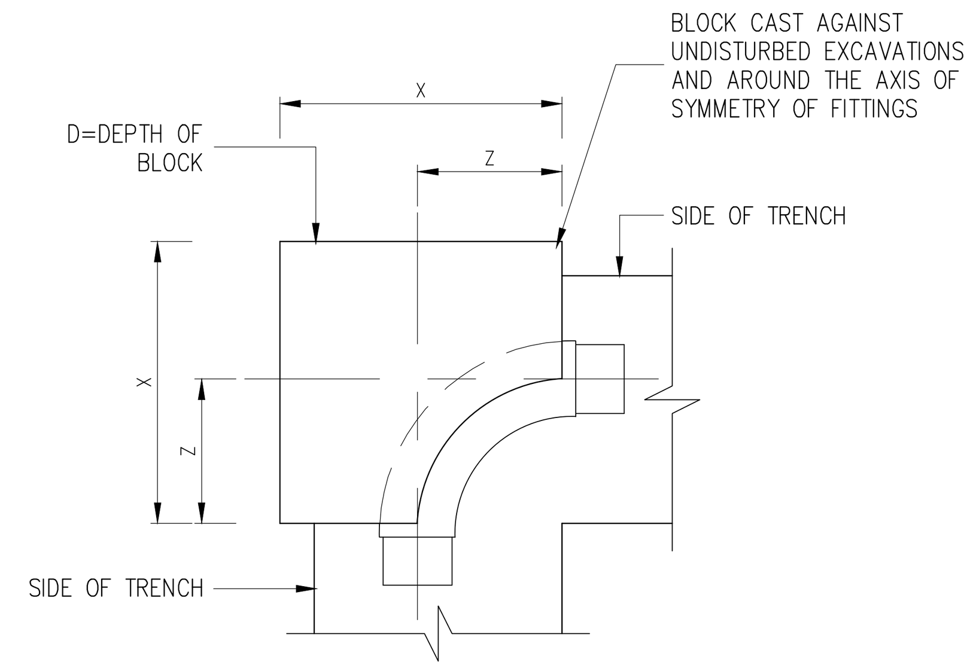


N.T.S

NOTE: COUPLINGS AND FLANGES MUST BE LEFT FREE OF CONCRETE

GRAVEL SOIL MIXTURE BEARING CAPACITY 400-500kPa			
PIPE	T-PIECE		
DIAM.	Xmm	Dmm	Zmm
75	210	150	150
100	300	180	200
150	400	300	280
200	500	410	350
250	650	500	450
300	750	610	550
350	1000	700	550

TYPICAL DETAIL OF
THRUST BLOCK FOR T-PIECE
IN PRESSURE PIPELINE

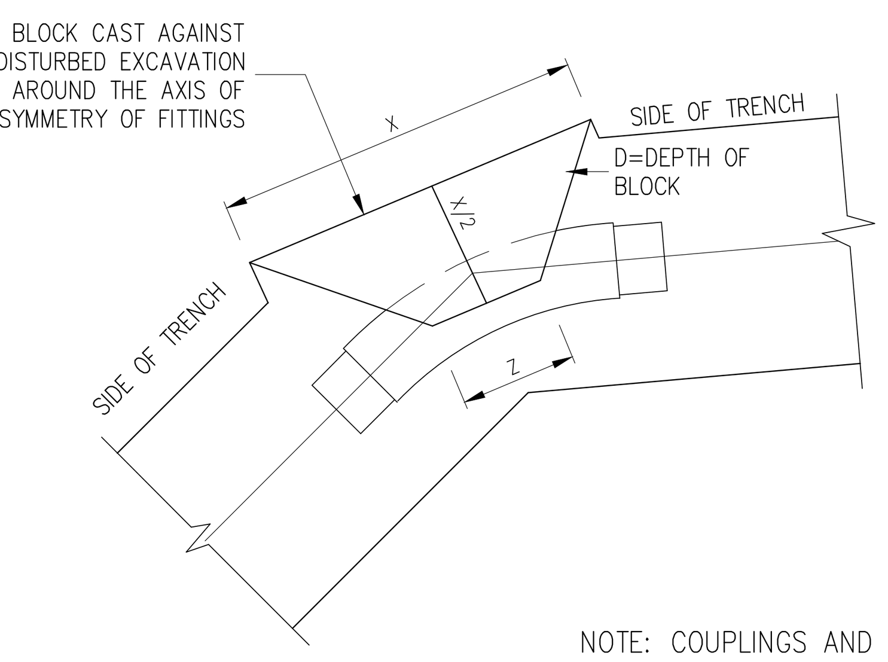


N.T.S

NOTE: COUPLINGS AND FLANGES MUST BE LEFT FREE OF CONCRETE

GRAVEL SOIL MIXTURE BEARING CAPACITY 400-500kPa			
PIPE	90° BEND		
DIAM.	Xmm	Dmm	Zmm
75	300	150	100
100	270	300	150
150	400	300	200
200	510	400	250
250	700	450	300
300	850	550	350
350	1180	650	400

TYPICAL DETAIL OF
THRUST BLOCK FOR 90° BEND
IN PRESSURE PIPELINE



N.T.S

NOTE: COUPLINGS AND FLANGES MUST BE LEFT FREE OF CONCRETE

GRAVEL SOIL MIXTURE BEARING CAPACITY 400-500kPa									
PIPE	11¼° BEND			22½° BEND			45° BEND		
DIAM.	Xmm	Dmm	Zmm	Xmm	Dmm	Zmm	Xmm	Dmm	Zmm
75	200	100	100	200	100	100	200	150	100
100	200	100	100	200	150	100	250	200	150
150	250	150	100	250	200	150	350	300	200
200	250	200	150	350	250	200	450	350	250
250	300	250	200	400	300	250	550	450	300
300	350	300	250	500	400	300	700	500	350
350	450	350	300	600	500	350	850	650	400

TYPICAL DETAIL OF
THRUST BLOCK FOR BENDS
IN PRESSURE PIPELINE

TYPICAL DETAIL OF THRUST BLOCKS

FOR TENDER

All dimensions must be verified on site before the works commence. Refer any discrepancies to the Engineer.

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	21/01/13	ISSUED FOR TENDER	W.F	A.K

CONSULTING ENGINEER

SIGNATURE — PR No — DATE

CLIENT

SIGNATURE — DATE

DESIGNED	DRAWN	CHECKED
A.Khumalo	W.Faber	A.Khumalo

CONSULTANT

iX engineers Infrastructure Excellence

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PROJECT

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

DRAWING DESCRIPTION

WATER DETAILS 2

SCALE FOR REDUCED PLAN

0 5 10 20 30 40 50
50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2021/01/13	AS SHOWN	A1

DRAWING NUMBER	REV
301067-CI-DRD-002	A

P:\Proj - Active\301067 - MIG Ubuntu Municipality\8. Drawings\1. Active\6. Civil\Re-tender\DWG\301067 - Water Details.dwg

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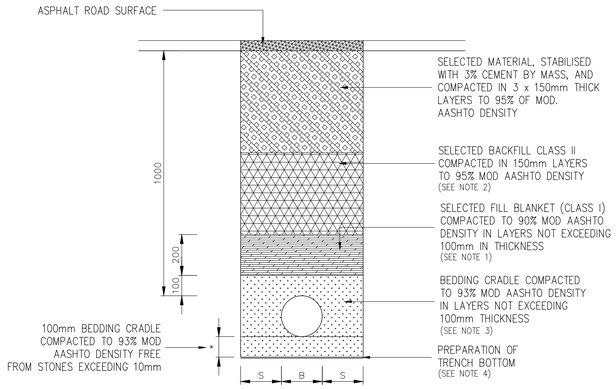
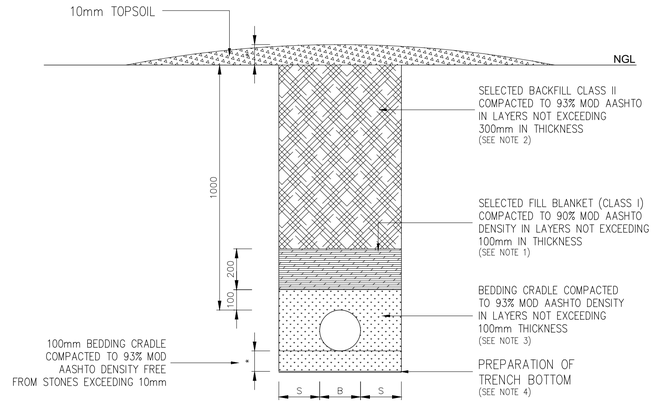


TRENCHING

B) SURFACED ROADS

TYPICAL BEDDING AND BACKFILL DETAILS FOR WATER PIPES - ROAD CROSSINGS

SCALE 1:15



TRENCHING

TYPICAL BEDDING AND BACKFILL DETAILS FOR WATER PIPES - SIDE WALKS

SCALE 1:15

BEDDING AND BACKFILL

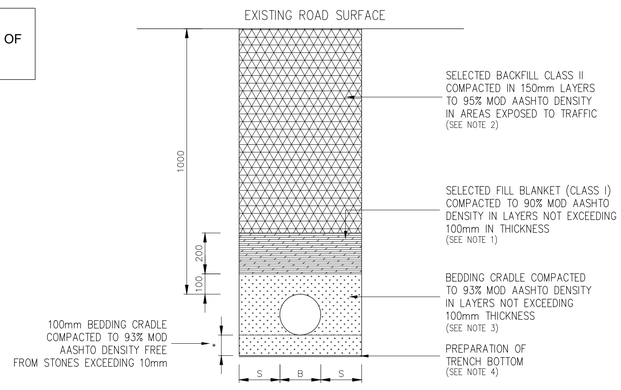
1) SELECTED BACKFILL CLASS I : IMPLIES APPROVED SELECTED EXCAVETED OR IMPORTED MATERIAL, FREE FROM STONES EXCEEDING 30mm IN DIAMETER WITH A PI NOT EXCEEDING 6, FREE FROM ORGANIC MATTER AND LUMPS OF CLAY.

2) SELECTED BACKFILL CLASS II : IMPLIES SELECTED BACKFILL, WHICH SHALL NOT CONTAIN ANY STONES LARGER THAN 150mm Ø. BACKFILL MUST BE FREE FROM ORGANIC MATERIAL AND MAY NOT CONSIST OF MORE THAN 10% ROCK MATERIAL EXCEEDING 50mm IN DIAMETER. MATERIAL MUST COMPLY WITH SABS 1200 DB 3.5

3) BEDDING CRADLE SHALL CONSIST OF AN APPROVED SELECTED GRAVEL MATERIAL WHICH IS NON-COHESIVE, FREE FROM STONES EXCEEDING 10mm, ORGANIC MATTER AND LUMPS OF CLAY. MATERIAL MUST COMPLY WITH SABS 1200 LB 3.1

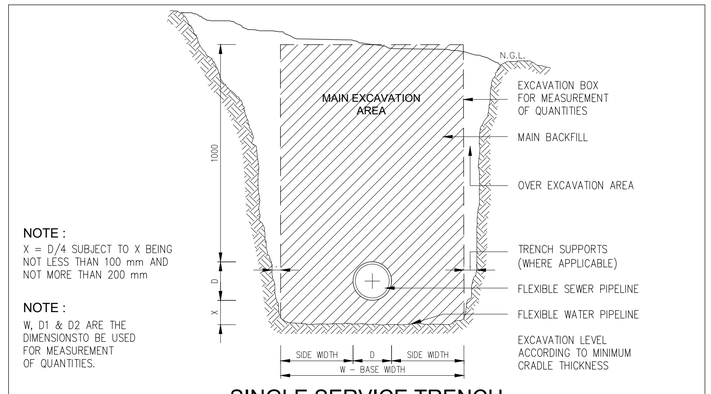
4) TRENCH BOTTOM MUST BE COMPACTED TO 90% MOD AASHTO DENSITY WHERE THE BOTTOM OF THE TRENCH HAS BEEN LOOSENED DURING EXCAVATION. BACKFILL OF TRENCH BOTTOM MUST BE DONE WITH APPROVED BACKFILL MATERIAL SABS 1200 DB 3.5 & 5.5

LEGEND:
S = WORKING SPACE EACH SIDE OF PIPE, MIN. 300mm
B = OD OF PIPE.



TRENCHING

A) GRAVEL ROADS



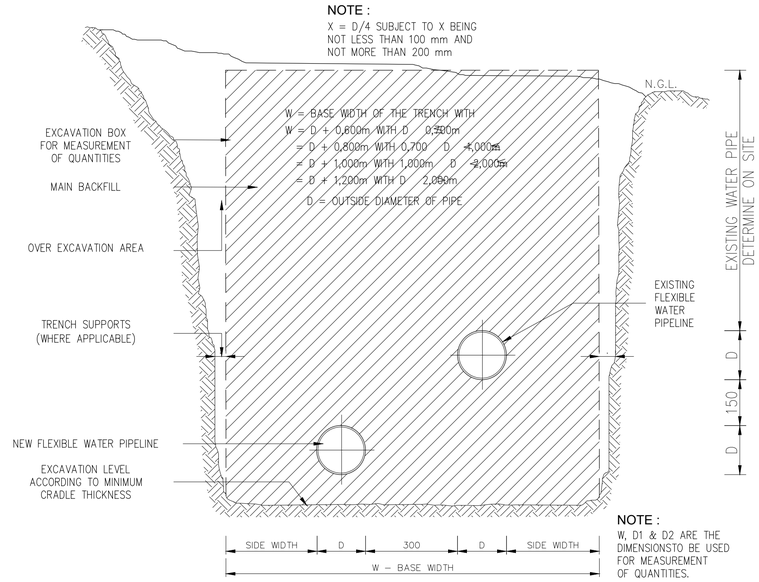
NOTE :
X = D/4 SUBJECT TO X BEING NOT LESS THAN 100 mm AND NOT MORE THAN 200 mm

NOTE :
W, D1 & D2 ARE THE DIMENSIONSTO BE USED FOR MEASUREMENT OF QUANTITIES.

SINGLE SERVICE TRENCH

MEASUREMENT OF EXCAVATION

SCALE 1 : 10



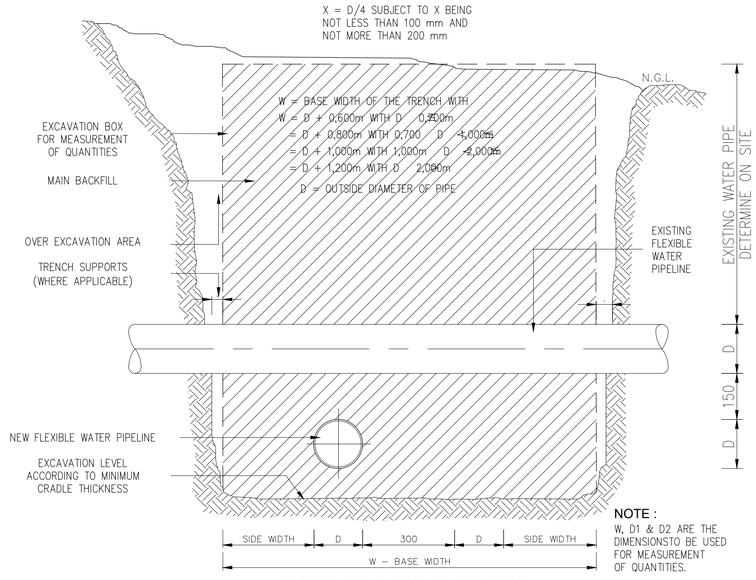
NOTE :
X = D/4 SUBJECT TO X BEING NOT LESS THAN 100 mm AND NOT MORE THAN 200 mm

NOTE :
W, D1 & D2 ARE THE DIMENSIONSTO BE USED FOR MEASUREMENT OF QUANTITIES.

DOUBLE SERVICE TRENCH

MEASUREMENT OF EXCAVATION

SCALE 1 : 10



NOTE :
X = D/4 SUBJECT TO X BEING NOT LESS THAN 100 mm AND NOT MORE THAN 200 mm

NOTE :
W, D1 & D2 ARE THE DIMENSIONSTO BE USED FOR MEASUREMENT OF QUANTITIES.

PIPE CROSSING DETAIL

MEASUREMENT OF EXCAVATION

SCALE 1 : 10

FOR TENDER

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	21/01/13	ISSUED FOR TENDER	W.F	A.K

CONSULTING ENGINEER

SIGNATURE | PR No | DATE

CLIENT

SIGNATURE | DATE

DESIGNED	DRAWN	CHECKED
A.Khumalo	W.Faber	A.Khumalo

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DRAWING DESCRIPTION

WATER DETAILS 3

SCALE FOR REDUCED PLAN

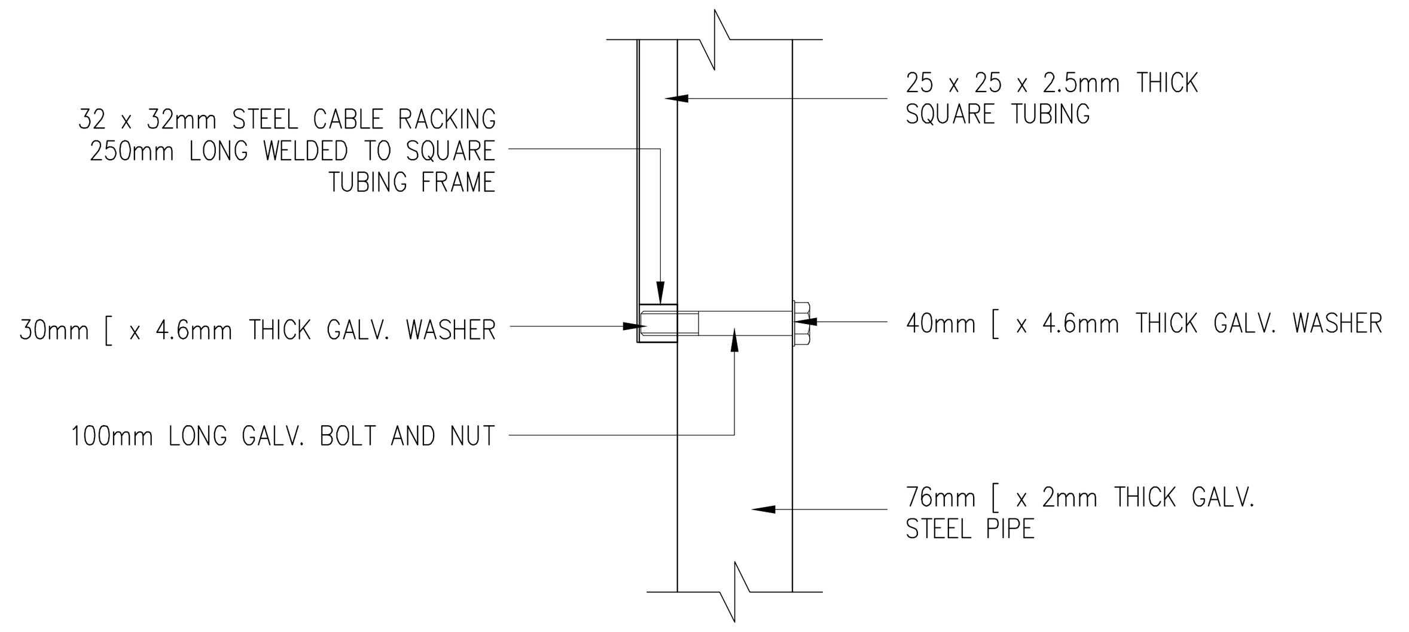
0 5 10 20 30 40 50

50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2021/01/13	AS SHOWN	A1

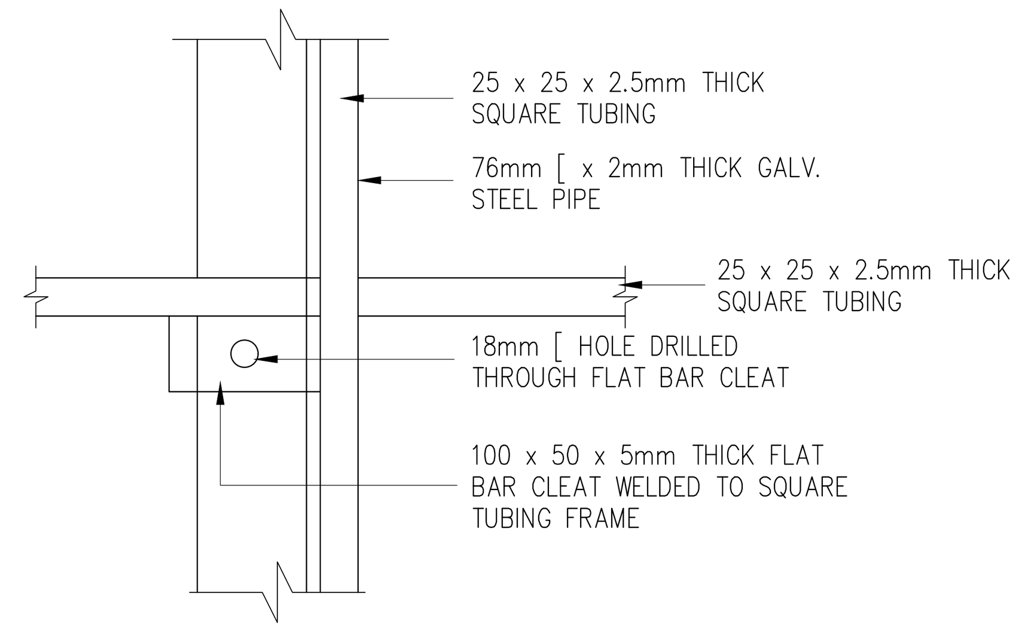
DRAWING NUMBER: 301067-CI-DRD-003

REV: A



FIXING DETAIL 1

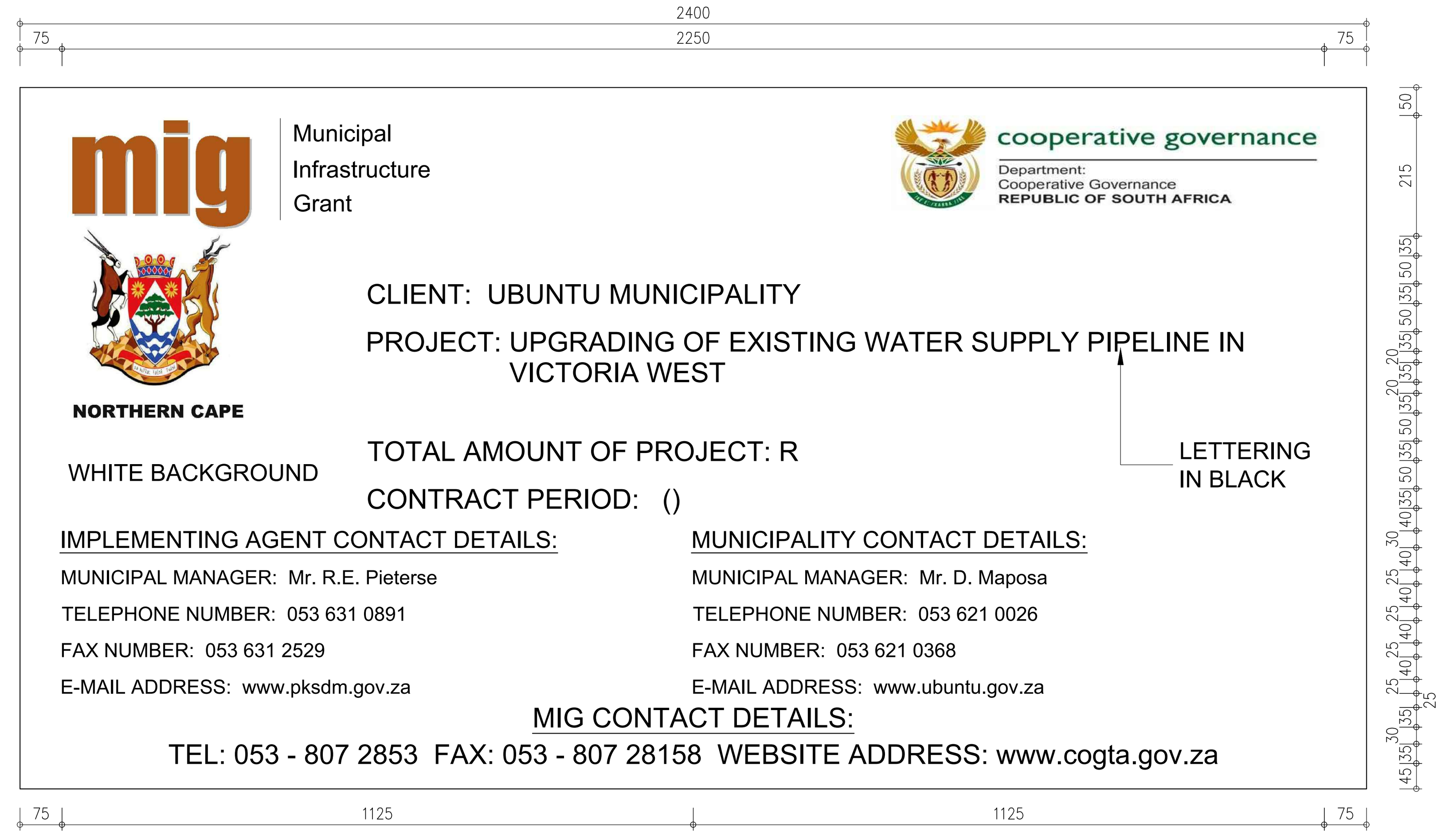
SCALE 1 : 5



FIXING DETAIL 2

ALTERNATIVE FIXING DETAILS

SCALE 1 : 5

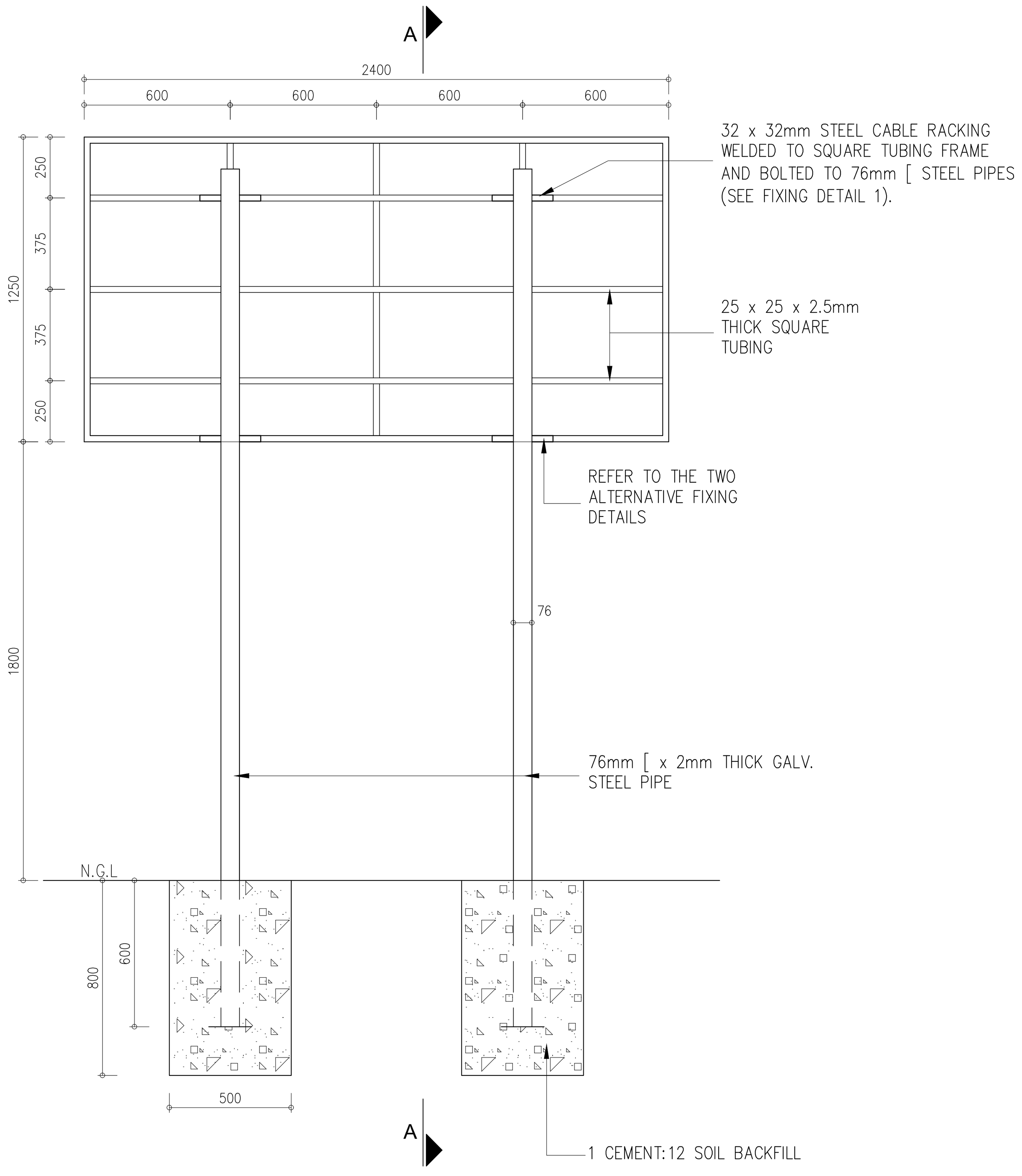


NAME BOARD : FRONT ELEVATION

SCALE 1 : 10

NOTES:

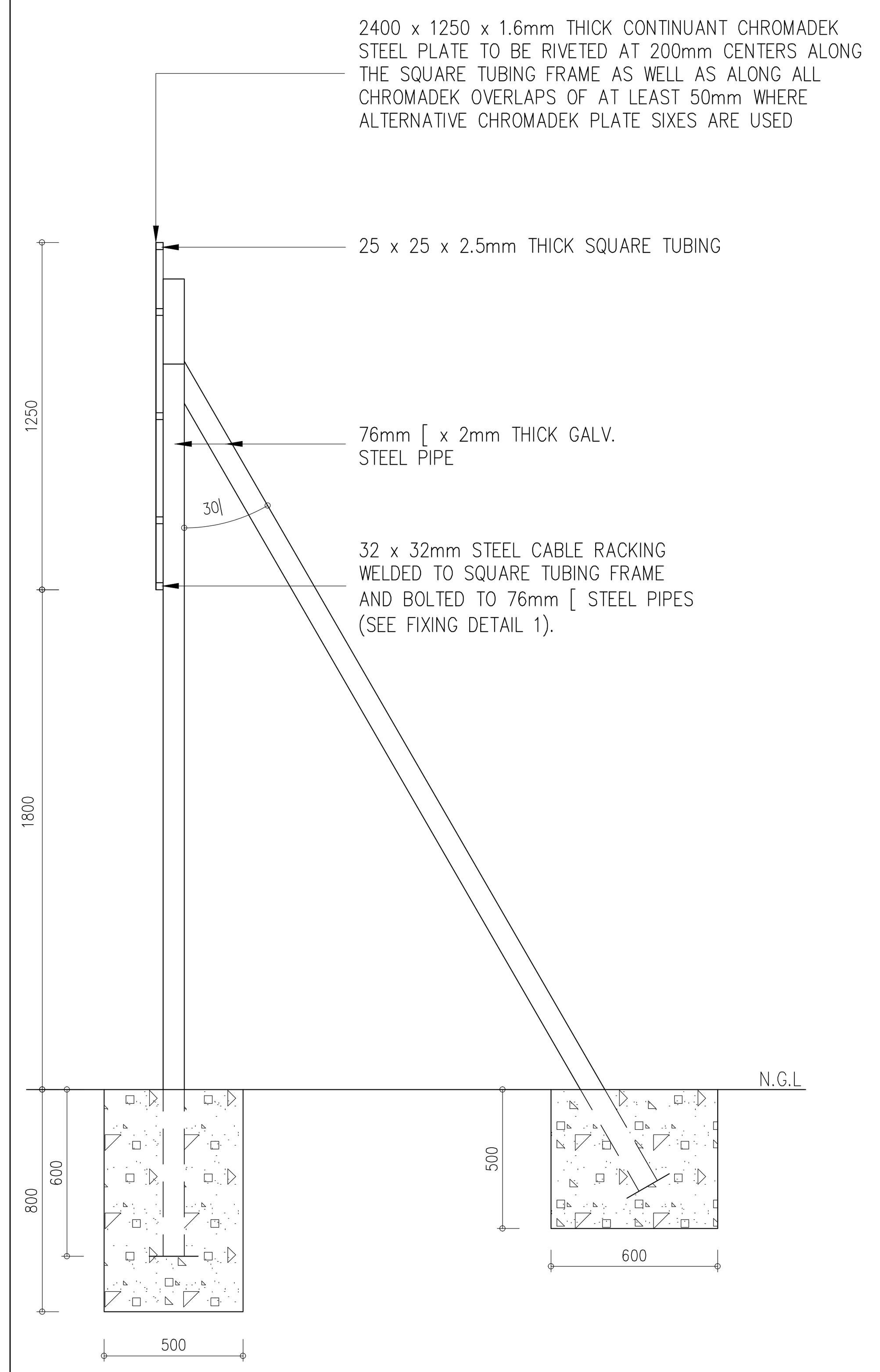
1. ALL EMBLEMS ARE TO BE OBSTAINED BY THE CONTRACTOR AND DISPLAYED IN FULL COLOUR.
2. M16 x 100mm GALV. BOLTS AND NUTS FOR FIXING OF NAME BOARD TO GALV. STEEL PIPES (FIXING DETAIL 1).
3. M16 x 100mm GALV. BOLTS AND NUTS FOR FIXING OF NAME BOARD TO GALV. STEEL PIPES (FIXING DETAIL 2).
4. LOCATION OF PROJECT NAME BOARD TO BE IN ACCORDANCE WITH THE ENGINEERS INSTRUCTION.
5. FOR FIXING DETAIL 2 THE CENTRE LINES OF THE 76mm [STEEL PIPES WILL BE 1200mm APART.



BACK ELEVATION

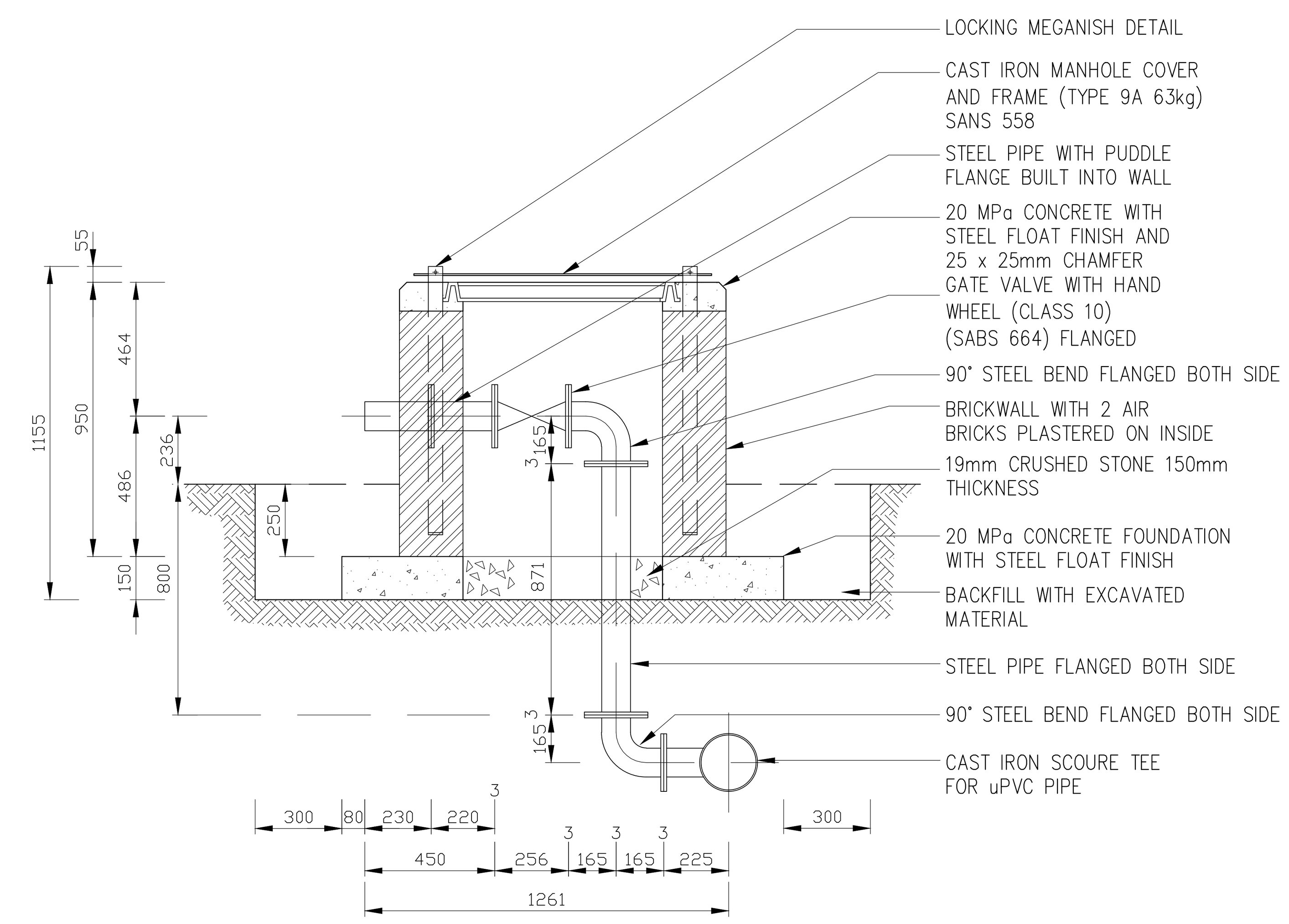
SCALE 1 : 20

ALL WELDING, RIVITING, FIXING AND PAINTING TO BE APPROVED BY THE ENGINEER ON SITE



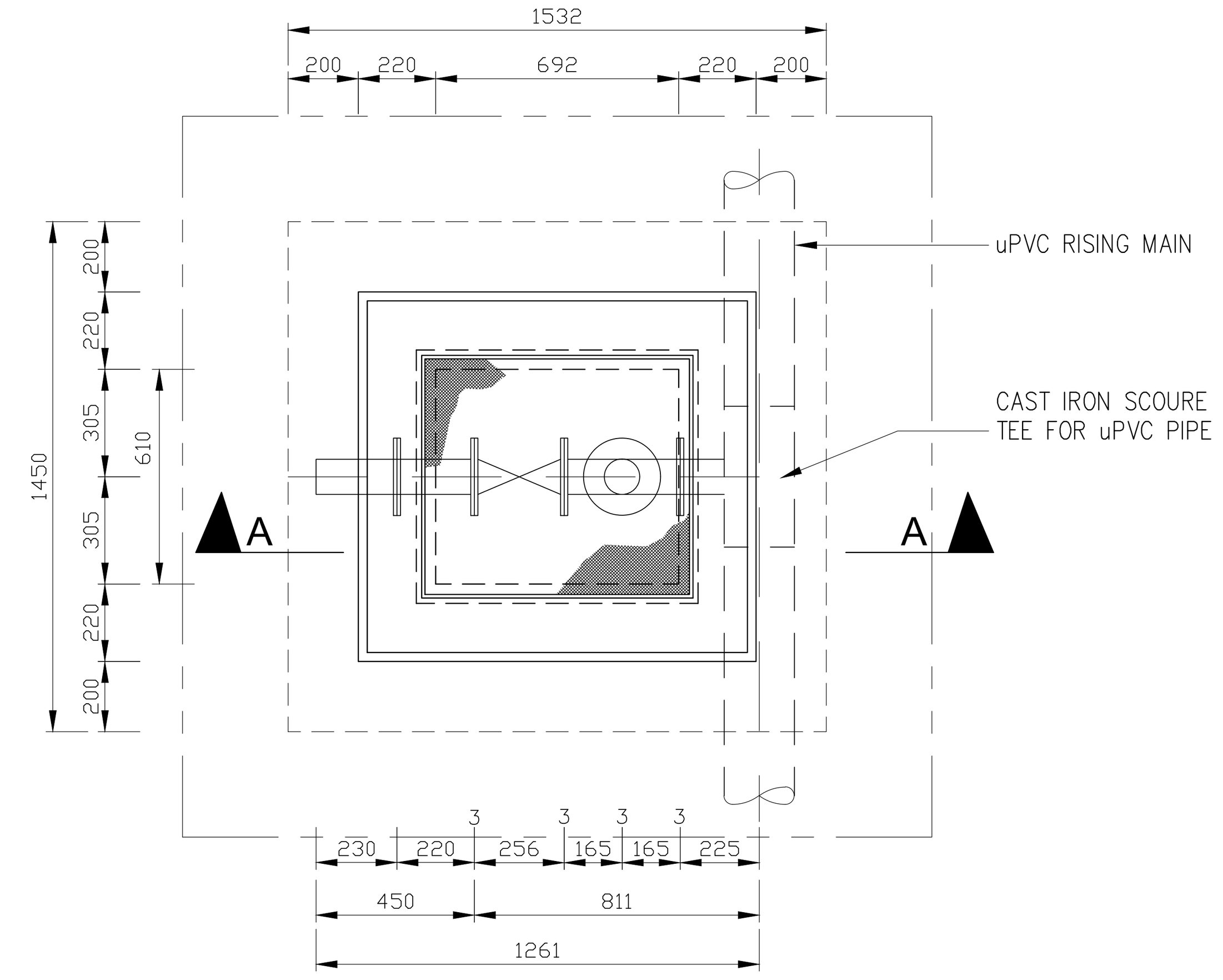
SECTION A-A

SCALE 1 : 20



SECTION A - A

SCALE 1:20



PLAN

SCALE 1:20

SCOURE VALVE

SCALE 1 : 20

FOR TENDER

All dimensions must be verified on site before the works commence. Refer any discrepancies to the Engineer.

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	21/01/13	ISSUED FOR TENDER	W.F	A.K

CONSULTING ENGINEER

SIGNATURE | PR No | DATE

CLIENT

SIGNATURE | DATE

DESIGNED	DRAWN	CHECKED
A.Khumalo	W.Faber	A.Khumalo

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CLIENT

UBUNTU MUNICIPALITY

PROJECT

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

DRAWING DESCRIPTION

WATER DETAILS 4

SCALE FOR REDUCED PLAN

0 5 10 20 30 40 50

50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2021/01/13	AS SHOWN	A1

DRAWING NUMBER	REV
301067-CI-DRD-004	A

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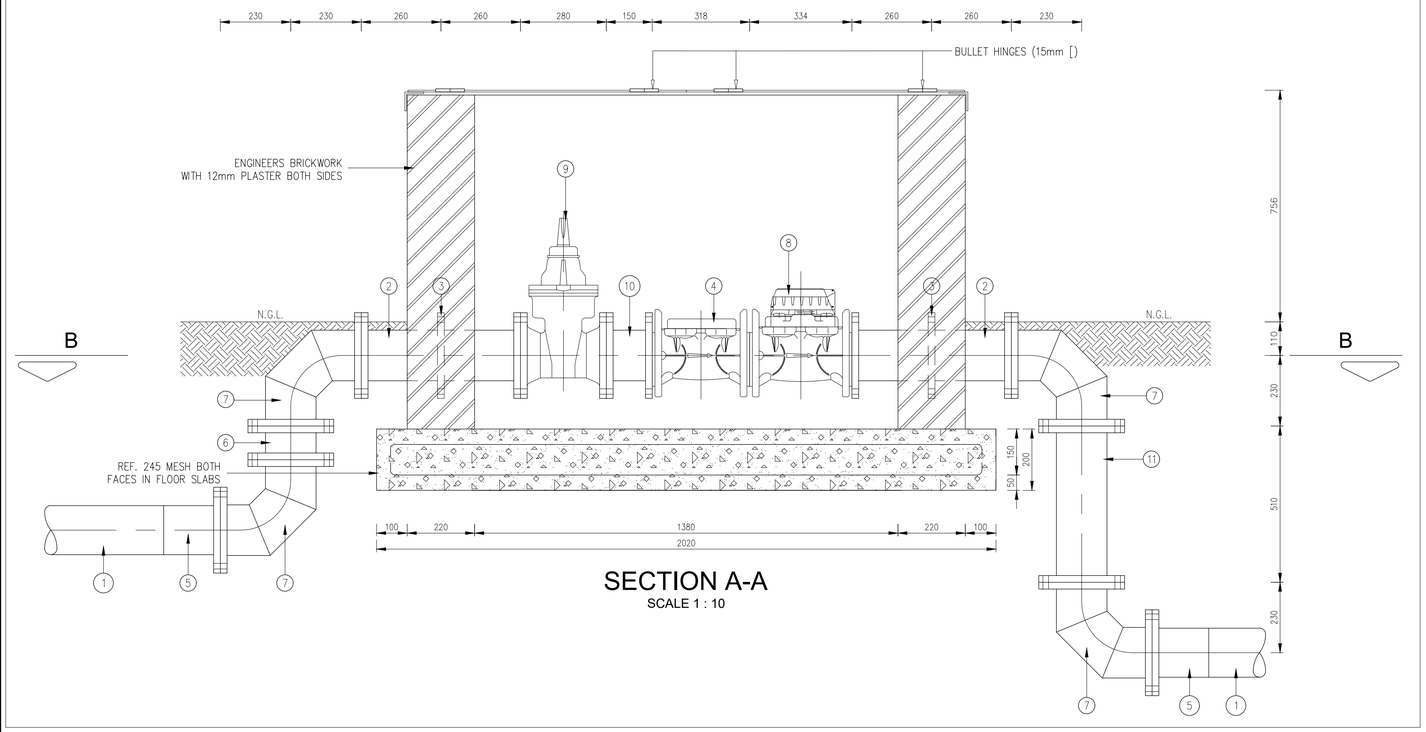
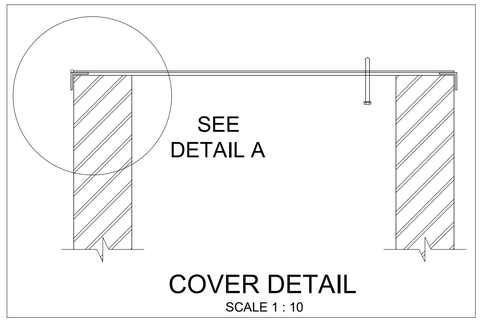
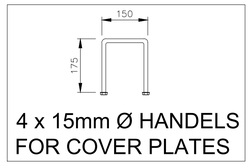


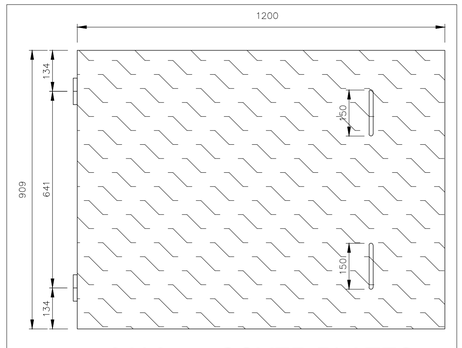
SECTION A-A
SCALE 1 : 10



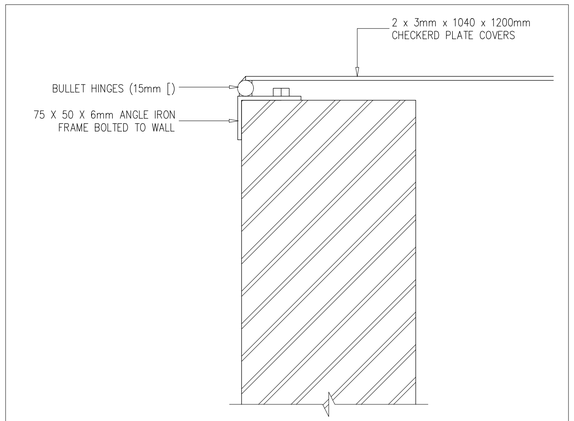
COVER DETAIL
SCALE 1 : 10



4 x 15mm Ø HANDELS FOR COVER PLATES

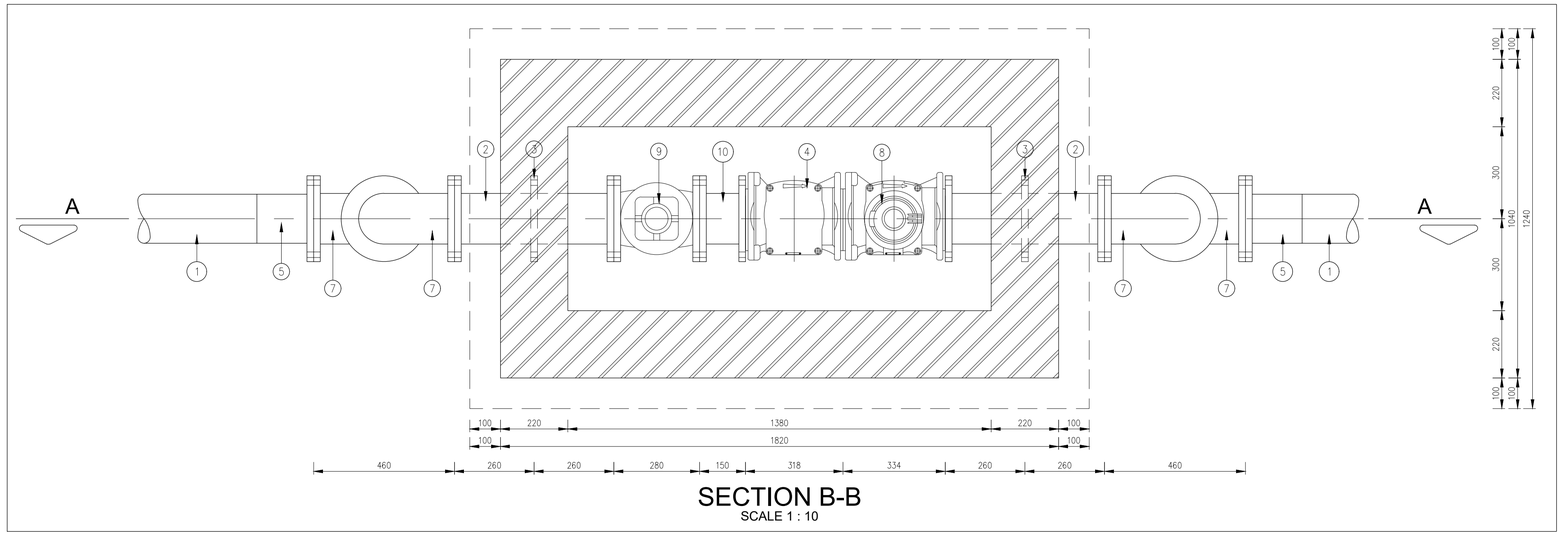


2 X 3mm COVER PLATES
SCALE 1 : 10



DETAIL A
SCALE 1 : 10

No.	No. OFF	DESCRIPTION
1		DN 160mm uPVC WATER PIPE
2	2	150mm FLANGED STEEL PIPE WITH PUDDLE FLANGE (520mm f.t.f.)
3	2	PUDDLE FLANGE
4	1	150mm H4010 ELSTER INLINE STRAINER
5	2	DN160mm uPVC FLANGED ADAPTOR
6	2	150mm FLANGED STEEL PIPE (110mm f.t.f.)
7	4	150mm STEEL PIPE ELBOW
8	1	150mm H4000 ELSTER BULK WATER METER
9	1	150mm AVK RSP VALVE
10	1	150mm FLANGED STEEL PIPE (150mm f.t.f.)
11	1	150mm FLANGED STEEL PIPE (510mm f.t.f.)



SECTION B-B
SCALE 1 : 10

FOR TENDER

All dimensions must be verified on site before the works commence. Refer any discrepancies to the Engineer.

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	21/01/13	ISSUED FOR TENDER	W.F.	A.K.

CONSULTING ENGINEER

SIGNATURE _____ PR No _____ DATE _____

CLIENT

SIGNATURE _____ DATE _____

DESIGNED	DRAWN	CHECKED
A.Khumalo	W.Faber	A.Khumalo
_____	_____	_____

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UBUNTU MUNICIPALITY

PROJECT

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

DRAWING DESCRIPTION

VALVE CHAMBER 1 : DETAIL OF BULK WATER METER CHAMBER

SCALE FOR REDUCED PLAN

0 5 10 20 30 40 50
50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2021/01/13	AS SHOWN	A1

DRAWING NUMBER: 301067-CI-DRD-005

REV: A

P:\Proj - Active\301067 - MIG Ubuntu Municipality\8. Drawings\1. Active\6. Civil\Re-tender\DWG\301067 - Detail of Bulk water meter chamber.dwg

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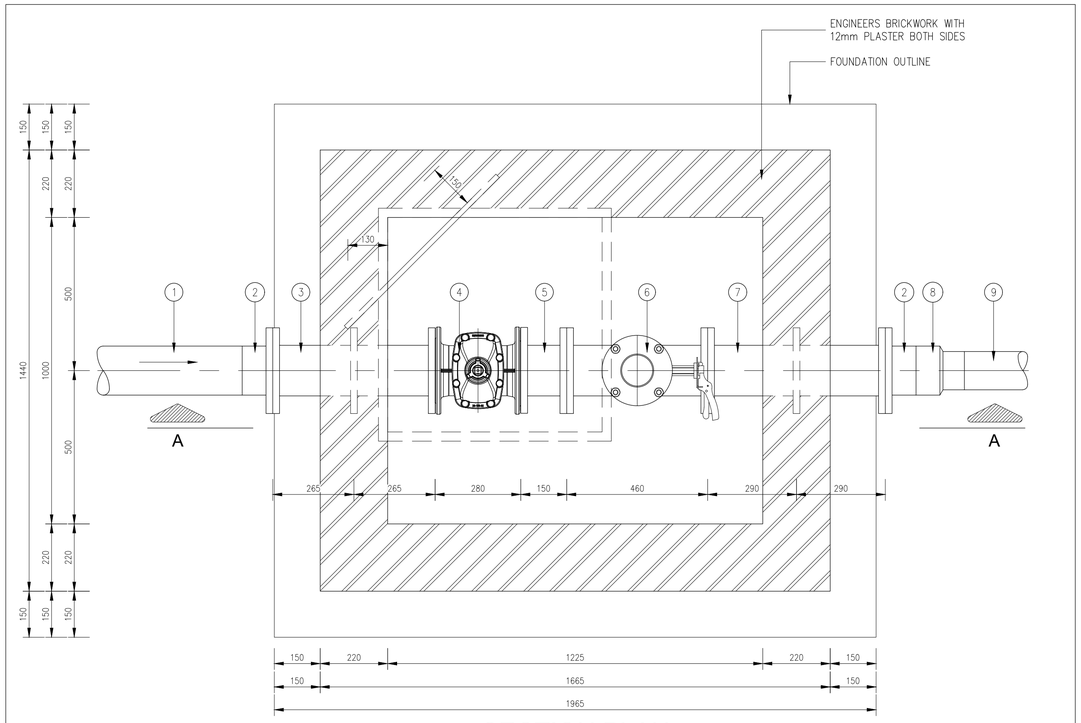
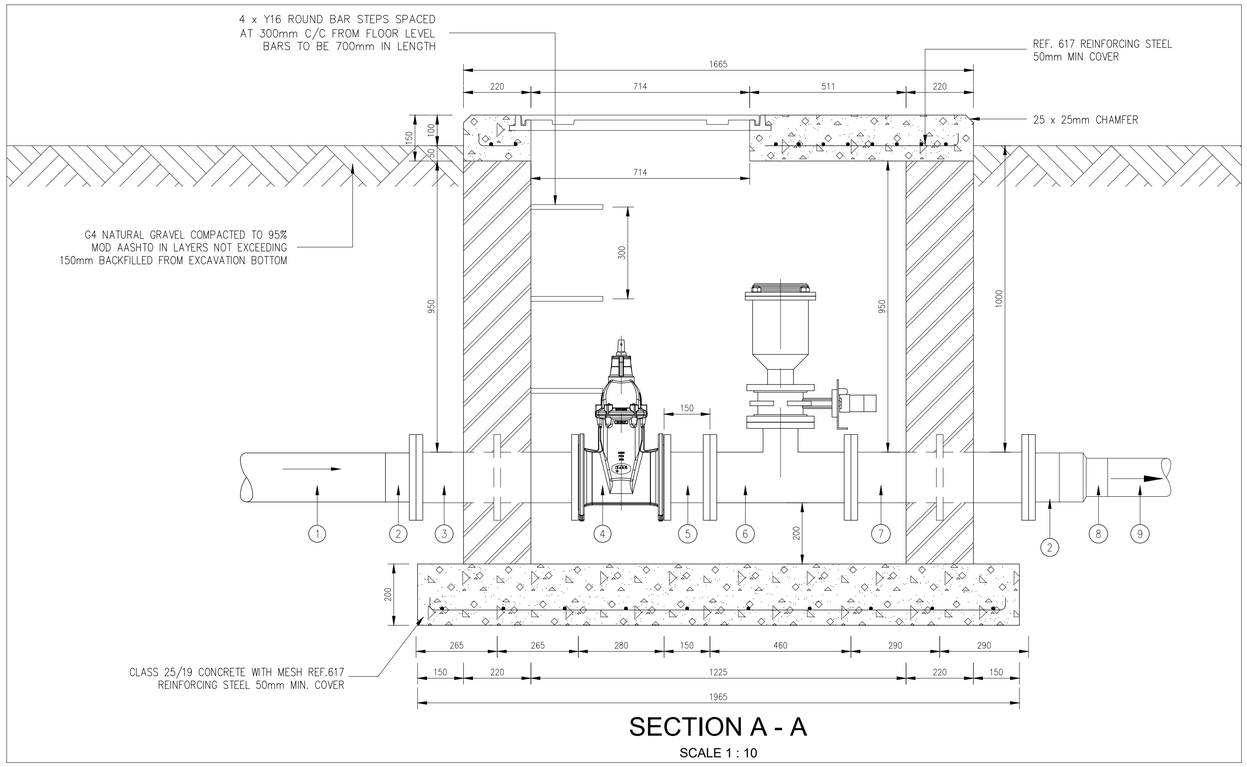


SECTION PLAN

SCALE 1 : 10

VALVE, BULK WATER METER & AIR RELEASE VALVE CHAMBER

No.	No. OFF	DESCRIPTION
1		DN 160mm uPVC WATER PIPE
2	3	DN 160mm uPVC FLANGED ADAPTOR
3	1	150mm FLANGED STEEL PIPE WITH PUDDLE FLANGE (530mm f.t.f)
4	1	150mm AVK RESILIENT SEAL RHC CAST IRON VALVE
5	1	150mm FLANGED STEEL PIPE (150mm f.t.f.)
6	1	100mm RBXC VENT-O-MAT PN25 AIR RELEASE VALVE ONTO 150x100mm FLANGED T-PIECE REDUCER WITH 100mm DIA. GATE VALVE
7	1	150mm FLANGED STEEL PIPE WITH PUDDLE FLANGE (580mm f.t.f)
8	2	160/125mm uPVC REDUCER
9		DN 125mm uPVC WATER PIPE



SECTION A - A

SCALE 1 : 10

FOR TENDER

REVISION SCHEDULE

No	DATE	DESCRIPTION	DRW	CHK
A	21/01/13	ISSUED FOR TENDER	W.F.	A.K.

CONSULTING ENGINEER

SIGNATURE _____ PR No _____ DATE _____

CLIENT

SIGNATURE _____ DATE _____

DESIGNED	DRAWN	CHECKED
A.Khumalo	W.Faber	A.Khumalo

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CLIENT

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PROJECT

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

DRAWING DESCRIPTION

VALVE CHAMBER 2: DETAIL OF VALVE AND AIR RELEASE VALVE CHAMBER

SCALE FOR REDUCED PLAN

0 5 10 20 30 40 50

50mm ON ORIGINAL PLAN

DATE	SCALE	ORIGINAL SIZE
2021/01/13	AS SHOWN	A1

DRAWING NUMBER	REV
301067-CI-DRD-006	A

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

C3.3: PROJECT SPECIFICATIONS

C3.3.1: MATTERS RELATING TO THE SANS 1200 STANDARD SPECIFICATIONS

C3.3.1 WORKS SPECIFICATION

C3.3.1.1 Applicable SANS Standards

No applicable.

C3.3.1.2 Applicable national and international standards

a) For the purpose of this Contract the latest issues of the following Standard Specifications for Civil Engineering Construction, applicable at the date of tender advertisement, shall apply -

SANS 1200 A	:	1986	General
SANS 1200 AB	:	1986	Engineer's Office
SANS 1200 C	:	1980	Site Clearance (Amendment 1, 1982)
SANS 1200 D	:	1988	Earthworks (Amendment 1, 1990)
SANS 1200 DB	:	1989	Earthworks (Pipe Trenches)
SANS 1200 DM	:	1981	Earthworks (Roads Subgrade)
SANS 1200 G	:	1982	Concrete (Structural)
SANS 1200 H	:	1990	Structural Steelwork
SANS 1200 HA	:	1990	Steel (Structural)
SANS 1200 HC	:	1988	Steelwork Corrosion
SANS 1200 L	:	1983	Medium-Pressure Pipelines
SANS 1200 LB	:	1983	Bedding (Pipes)
SANS 1200 M	:	1996	Roads (General)
SANS 1200 ME	:	1981	Subbase
SANS 1200 MF	:	1981	Base
SANS 1200 MJ	:	1984	Segmented Paving
SPECIAL	:	SA	Prestressed Steel Tank

b) The term project specifications appearing in any of the SANS 1200 standardised specifications must be replaced with the terms scope of work.

c) The variations and additions to the specifications listed in C3.3.1.2 are included in this section from pages C3.3-2 to C3.3-44

C3.3.1.2: PROJECT SPECIFICATIONS

SANS 1200 A: GENERAL

A 3 **MATERIALS**

PS A 3.1 **QUALITY**

Substitute the second sentence of the first paragraph of A 3.1 with the following:

Materials shall bear the official mark of the appropriate standard. (SABS Specifications)

Substitute the second paragraph with the following:

The Contractor is responsible for the cost of all testing to ascertain that the materials do comply with the specified minimum requirements of the relative materials and no additional payment will be made for such testing.

The Contractor shall inform the Engineer of any control testing to be done at least **5 working days** before such tests are required and must allow in his program for the time necessary for the tests and the processing of the results thereof.

The handling, storage, transport and erection of equipment, machinery and material shall strictly be in accordance with the requirements of the supplier and or manufacturer. No additional payment will be made for the handling, storage, transport and erection of equipment, machinery and material other than that provided for within the bill of quantities.

All materials shall be new and of the best quality available unless otherwise specified. It must function satisfactorily under prevailing climate and weather conditions at the place of installation.

PS A 3.3 **DELAY DUE TO SUPPLY OF MATERIALS**

Add new sub clause A 3.3:

The Contractor shall ensure that the work is not delayed, due to the lack of materials on the site of the Works, by placing orders with suppliers for the required materials timeously.

A 4 **PLANT**

PS A 4.2 **CONTRACTOR'S OFFICES, STORES AND SERVICE**

Add the following to A.4.2:

Areas occupied by the camp shall be fenced and gates provided. Rubbish shall not be allowed to accumulate and materials and plant and equipment shall be neatly arranged in a workmanlike manner.

The housing of the Contractor's employees on site is not allowed.

The Contractor shall make his own arrangements for housing his employees and transporting them to and from the site. The Contractor is responsible in all respects for the housing and transporting of his employees and for the arrangement thereof, and no extension of time due to any delays resulting from this will be granted.

Except for the necessary security personnel no person shall be allowed on the construction site after normal working hours.

The exact position of the construction camp will be determined by the client.

PS A 4.3 **HAND TOOLS**

Add new sub clause A 4.3:

The Contractor shall provide and maintain all hand tools required for the execution of the Works and all such costs shall be deemed to be included in the tendered rates and no separate payment will be made for it.

PS A 4.4 **MEDICAL FACILITIES AND SAFETY EQUIPMENT**

Add new sub clause A 4.4:

In addition to the requirements stipulated within the Contract, the Contractor shall provide a First Aid cabinet fully equipped and maintained with the minimum contents as listed in the Annexure (Regulation 3) to the General Safety Regulations of the Occupational Health and Safety Act (Act 85 of 1993), to deal with accidents and ailments which are likely to occur during the construction period.

The Contractor shall provide personal safety equipment and facilities as required by Regulation 2 of the General Safety Regulations of the Occupational Health and Safety Act (Act 85 of 1993) and the specific safety requirements of the client as required in terms of the contract.

The Contractor shall designate his Safety Officer and Qualified First Aider. The Contractor shall give copies of the minutes of the site safety meetings to the Engineer.

A 5 **CONSTRUCTION**

A 5.1 **SURVEY**

PS A 5.1.1 **Setting Out of Works**

Substitute the first sentence in A 5.1.1 with the following:

Setting out of the works must be done by a registered land surveyor and provision must be made to stake pegs for excavation and placement of services within excavations. Setting out of the works is the sole responsibility of the Contractor and shall be checked against survey pegs along erf reserve boundaries and from benchmarks being placed by a registered land surveyor. The Contractor shall, within two (2) weeks after all the drawings are in their possession or the site has been handed over to him, ascertain himself of the correctness of all pegs and benchmarks. Any discrepancy shall immediately be reported in writing to the Engineer. Any costs or subsequent costs arising from discrepancies, which had not been reported to the Engineer within the aforementioned period, shall be the sole responsibility of the Contractor.

The Engineer may alter any part of the Works to suit local conditions. The Contractor must therefore contact the Engineer immediately after the preliminary setting out of any part of the Works before starting with detail setting out, or construction. Only after the Engineer has approved a specific site or part of the Works may the detail setting out and construction commence.

PS A 5.2 **WATCHING, BARRICADING, LIGHTING AND TRAFFIC CROSSINGS**

Add the following to A 5.2:

The crossing of main streets must be done in half widths while the total traffic is accommodated on the other lane.

Road traffic signs shall comply with the requirements of the “South African Road Traffic Signs Manual” and shall be approved by the Engineer before construction commences.

PS A 5.4 **PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES**

Add the following to A 5.4:

It can be expected that existing services will be encountered. The Contractor must determine as far as is possible in conjunction with the relevant authorities the location of the various services. Special care must be taken to avoid disrupting these services. The cost of locating and protecting the services shall be deemed to have been included in the rates. The approximate locations of known services are indicated on the drawings. Electricity, Telkom, water and sewerage services can be expected.

The Contractor shall as soon as possible after handing over of the site, commence with the detection of existing services, continue with it without interruption and finalise it at least 7 days before excavation starts at that particular section.

Detected services must be indicated on the As Built drawings.

PS A 5.8 **GROUND AND ACCESS TO WORKS**

Add the following to A 5.8:

The Contractor shall maintain adequate access to all public and private property at all times unless otherwise sanctioned by the Engineer. Details of the proposed methods of providing access shall be submitted to the Engineer for approval before such access is restricted. Any claims arising from impeded accesses shall be wholly the responsibility of the Contractor.

PS A 5.9 **DISRUPTION OF BASIC WATER SUPPLY**

When the water supply to a specific area must be disrupted due to execution of works, the Contractor must give a written notice to the Employer and the involved users at least 48 hours before the water will be shut down. The Contractor must also give a clear indication of the duration of the water supply disruption.

A 7 **TESTING**

PS A 7.4 **STATISTICAL ANALYSIS OF CONTROL TESTS**

Substitute A7.4 with the following:

Test results shall not be evaluated by statistical methods. All results shall comply with the specified minimum requirements of the materials concerned and the tendered rates for the individual items shall include the tests to prove that the item complies with the requirements.

A 8 **MEASUREMENT AND PAYMENT**

A 8.2 **PAYMENT**

PS A 8.2.1 **Fixed charge and value - related items**

The sums tendered for fixed charge and value related items would not be increased should extension of time be allowed for completion of the Contract.

PS A 8.2.2 **Time related items**

The tendered amount for a time related item will be increased if an extension of time for the completion of the works is awarded on the condition that the activity related to the item tendered for must be sustained during the extended period.

The ratio between the increased amount for a time related item and the tendered amount must be the same as the ratio between the extension of the time period for the completion of the works and the original time period allowed for completion of the works.

If the works is completed before the end of the original time period allowed for completion of the works, the tendered amount of a time related item that is influenced by the earlier completion will be reduced similarly.

The payment to the Contractor for time-related items shall be adjusted in accordance with the following formula in the event of the contract being extended.

PS A 8.2.5 **Adjusted Payment for Time-related Items**

The payment to the Contractor for time-related items shall be adjusted in accordance with the following formula in the event of the contract being extended by means of a variation order:

$$\text{Sum of Tendered amounts for time-related items} \times \frac{\text{Extended contract period as authorised by variation order}}{\text{Tendered contract period}}$$

The above-mentioned adjustment of the payment for time-related items shall be made in the Completion Payment Certificate and shall be the only payment for additional time-related costs.

PS A 8.3.6 **Compliance with Environmental Management Programme…….....Unit: Sum**

Add new payment clause A 8.3.6:

The tendered rates shall include full compensation to the Contractor for compliance with all the requirements of the Environmental Management programme.

PS A 8.4 **SCHEDULED TIME-RELATED ITEMS**

PS A 8.4.5 **Other Time-Related Obligations**

Add the following to A 8.4.5:

(a) Additional material testing by commercial laboratories required by the Engineer……Unit: Provisional Sum

If the Engineer should require additional quality control tests to be carried out by any other independent institution payment thereof will take place under this item. The costs for control tests instructed by the Engineer and of which the results do not comply with the minimum requirements shall be for the Contractor's account.

In addition to the above amount, provision is made in the Bill of Quantities for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in Clause 6.6 of the General Conditions of Contract for Construction Works (Third Edition, 2015)

PS A 8.4.6 **Standing Time Costs**

a) **plant …….. Unit : Sum per working day**

b) **labour ……Unit : Sum per working day**

c) **other resources (to be specified by Contractor) ……. Unit : Sum per working day**

The tendered sum for each item shall include full compensation for all standing time costs of the specified resource of whatever nature and approved by the Engineer, which are not recoverable by way of the provision made in PS A 8.2.5 for the adjusted payment of time-related items.

For the purposes of calculating the total standing time cost, a working week shall be held to consist of five working days and a working day of 8 hours.

Payment for the partial standing of any of the scheduled resources for a day or part thereof, or the standing of a complete resource for a part day, will be made pro rata in proportion to an appropriate factor assessed by the Engineer.

The amount by which the standing time costs is adjusted shall be subject to the contract price adjustment formula as defined in the conditions of contract.

The Contractor shall take note that this payment item shall only apply to delays which, **in the opinion of the Engineer**, are incurred as a result of riot, commotion, politically motivated sabotage and acts of terrorism or disorder outside the Contractor's control. This item shall also apply to standing time incurred as a result of labour boycotts, except that only sub-items (a) and (c), as applicable, will be paid where the Contractor did not pay his labour for the time boycotted. Costs for delays incurred for all other circumstances shall be treated as provided for in the conditions of contract.

The provision of this clause shall in no way prejudice the right of either the Employer or the Contractor to determine the contract in terms of the provisions of clause 9.3, 10.2 and 10.3 of the general conditions of contract.

The Contractor shall take note that no payment will be considered for additional cost or time lost for any daily removal of plant and equipment from the site, any additional costs incurred in protecting his plant and site establishment, or loss incurred in respect of damage to construction plant, equipment and materials supplied and the Works.

In the event that GCC clause 5.13.1 becomes applicable, the time on which such penalties are calculated shall be reduced by the total standing time approved by the Engineer.

PS A 8.5 **SUM STATED PROVISIONALLY BY ENGINEER**

Add new payment clauses:

(a) Remuneration of Community Liaison Officer

A provisional sum has been included in the Bill of Quantities for a salary to be paid to the Community Liaison Officer.

In addition to the above amount, provision is made in the Bill of Quantities for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in Clause 6.6 of the General Conditions of Contract for Construction Works (Third Edition, 2015)

(b) Overhead Charges

A provisional sum has been included in the Bill of Quantities for a salary to be paid to the Community Liaison Officer.

In addition to the above amount, provision is made in the Bill of Quantities for a mark-up on the amount to be paid. The mark-up shall be regarded as full compensation for overheads, charges and profits as provided for in Clause 6.6 of the General Conditions of Contract for Construction Works (Third Edition, 2015)

PS A 8.7 **DAYWORK**

Replace A 8.7 with the following:

Day work will be paid according to the percentage allowance method. For calculating the total remuneration the General Conditions of Contract for Construction Works, second edition (2010) shall apply, with the amendments as in the appropriate special conditions of contract which is bound into this document. A day work schedule will be provided for filling in the necessary information.

PS A 8.8 **TEMPORARY WORKS**

PS A 8.8.2 **Accommodation of Traffic ..... Unit: Sum**

Add the following to A 8.8.2:

The rate shall cover all costs pertaining to the provision, erection, moving, re-erection and maintenance of all temporary barricades, road signs, lights, flagmen, etc. as required, for the guarding and protection of the works, for the construction, gravelling and maintenance of access roads, borrow pits or spoil sites. The rate will also cover the later removal or the cleaning and tidying up thereof, for making the necessary traffic arrangements and arrangements with regard to the moving and/or re-erection of existing traffic signs, as well as all other costs to accommodate the traffic during construction.

PS A 8.8.4 **Existing Services ..... Unit: Sum**

Add the following to A 8.8.4:

Where the Contractor is responsible for the cost of repairs carried out by the Employer or others, the costs will be recovered by means of a deduction from the Contractor's monthly payment certificate. The Employer will attend to the payment of monies due to others, and compilation of a list, all in accordance with the requirements as set out in clause A 5.1.2.

PS A 8.9 **COMPLIANCE WITH OHS ACT AND CONSTRUCTION REGULATIONS 2014**

PS A 8.9.1 **Adhere to Health and Safety Measures …….. Unit: Sum**

The rate shall cover all costs pertaining to the provision and maintenance for the duration of the contract of the health and safety measures required in terms of Clause 5 (Principle Contractor and Contractor) of the Construction Regulations (2003) of the Occupational Health and Safety Act as well as specific safety requirements by the client contained within the contract document. No other sum shall be paid in this respect and Tenderers must therefore ensure that adequate provision has been allowed for including allowance for internal audits.

PS A 8.9.2 **Compilation and Maintenance Health and Safety Plan ..... Unit: Sum**

The rate shall cover all costs pertaining to the provision and maintenance for the duration of the contract of the health and safety plan as required in the Construction Regulations (2003). The rate shall include for all risk assessments required as well as for the development and implementation of safe work procedures and method statements. No other sum shall be paid in this respect and Tenderers must therefore ensure that adequate provision has been allowed for.

PS A 8.9.3 **Compilation and Maintenance Health and Safety File ..... Unit: Sum**

The rate shall cover all costs pertaining to the provision and/or collection of data (drawings, design, materials, operation and maintenance manuals etc.) to be contained in the file, co-operation with other parties, compilation and maintenance of the file during the duration of the contract and the handing over of the file to the Client on completion of the contract. No other sum shall be paid in this respect and Tenderers must therefore ensure that adequate provision has been allowed for.

PS A 8.10 **Overhaul and Additional Transport**

Add new payment clause A 8.10:

Notwithstanding any clause in any standardized specification in respect of the definition, no payment will be made for overhaul and all transport shall be regarded as free haul and the costs thereof shall be covered by the relevant tendered rates in the Schedule of Quantities.

SANS 1200 AB: ENGINEER'S OFFICE

AB 3 MATERIALS

PS AB 3.1 NAMEBOARDS

Substitute "South African Institution of Civil Engineers" in the first paragraph of AB 3.1 with "South African Association of Consulting Engineers".

Two name boards, manufactured as specified in AB 3.1 and as shown on tender drawings, shall be provided, and shall be erected, plumb and level, in the position as directed by the Engineer.

PS AB 3.2 OFFICE BUILDINGS

Add the following to AB 3.2:

The contractor shall provide one board room with a table and chairs to accommodate at least 5 persons for the exclusive use of the Engineer and Client. The board room must be well ventilated and must be provided with electrical power and air conditioning.

AB 4 PLANT

PS AB 4.1 TELEPHONE

Substitute AB 4.1 with the following:

The Contractor's site agent must have a cellular phone available as contact between him and the engineer.

AB 5 CONSTRUCTION

PS AB 5.1 NAMEBOARDS

Add the following to AB 5.1:

The name boards shall be erected within one month after receipt of the letter of acceptance and shall be placed at the position indicated by the Engineer, and kept in good repair for the duration of the contract. Any damage to these boards shall be repaired within fourteen days of a written instruction issued by the Engineer. No payment shall be made in terms of the contract prior to the erection of the name boards.

PS AB 9.1 SITE INSTRUCTION & SITE DIARY BOOKS

The Contractor shall provide the following record books on site for the duration of the contract:

a) A4 size triplicate site instruction book for exclusive use by the Engineer;

b) Site diary book, in triplicate, to be used by the Contractor to record daily activities and contractual decisions taken for the day. The diary must be signed off by the contractor and presented at each site meeting.

PS AB 9.2 QUALITY ASSURANCE AND CONTROL

The Contractor will be required to manage construction activities according to a Quality Control Plan to ensure compliance of construction work and construction material to specifications.

The Engineer will provide the Contractor with example documentation to be used to record quality of material and construction activities associated with the scope of work. The QCP documentation must be signed by both the Contractor or the Contractor's site agent and the Engineer or the Engineer's representative. The Engineer will not be represented on site at a fulltime basis and the Contractor must schedule work according to hold points.

SANS 1200 C: SITE CLEARANCE

C 3 MATERIALS

PS C 3.1 DISPOSAL OF MATERIAL

Substitute the first sentence of C 3.1 with the following:

Material obtained from clearing and grubbing and demolition structures shall be disposed of at the dumpsite as arranged with the Municipality by the Contractor.

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be covered by the relevant tendered rates in the Schedule of Quantities.

C 5 CONSTRUCTION

PS C 5.1 AREAS TO BE CLEARED AND GRUBBED

Substitute the first sentence of C 5.1 with the following:

Unless otherwise indicated by the engineer, clearing and grubbing are limited to the street reserve width only where required and a 2.5m wide strip for trench excavations outside the street reserve.

The Contractor may proceed with clearing and grubbing after the handing over of the site. It is essential that the contractor protect all reference pegs and site boundary pegs before commencing with clearance. Measurement and payment for clearing and grubbing shall only occur for areas as requested in writing by the Engineer.

Substitute the last paragraph with the following:

The Contractor shall schedule his work in such a manner that re-clearing will not be necessary. The cost of re-clearing shall be for the Contractor's account.

PS C 5.2 CUTTING OF TREES

Add the following to C 5.2.3.2:

Trees outside pipeline routes and more than 1m from the outside of the edge beam must be left standing and undamaged, except where otherwise ordered in writing by the Engineer. Authorization and a permit must be obtained from Department of Forestry for the removal of any endangered and / or protected trees (especially Camel thorn trees).

A penalty of R5 000.00 (five thousand rand) per tree for trees damaged and/or removed will be charged.

PS C 5.9 EXISTING FENCING

Existing fencing will only be removed and/or re-erected upon written instruction from the Engineer and paid under the appropriate measured items.

Damage to any other fencing must be repaired immediately at the Contractor's expense.

C 8 MEASUREMENT AND PAYMENT

C 8.2 SCHEDULED ITEMS

PS C 8.2.1 **Clear and Grub ..... Unit: m2**

Add the following to C 8.2.1:

The removal of all rocks and boulders on site over 0,15 m³ will be paid under subclause D 8.3.2(b).

The removal of hard rock other than boulders will be paid under subclause DB 8.3.2(b).

PS C 8.2.2 **Remove trees and cutting of large branches ..... Unit: No**

Replace C 8.2.2.a to c with the following:

a) The removal of any size tree with a trunk circumference larger than 1m

b) The cutting of tree branches as requested by the engineer

PS C 8.2.8 **Demolish and Remove Structures/Buildings and Dismantle Steelwork, etc… Unit: Sum**

Replace C 8.2.8 with the following:

The rate shall cover the cost of the removal of all structures on the site, channel- and/or sewer mainline routes, the disposal thereof at the dumping site, the levelling and shaping of the site and the backfilling of any holes with material of at least the same quality as that of the in situ material. The rate shall also cover the cost of removing cleaning and handing over of all usable material to the Employer.

Payment for the removal of individual structures will be made pro rata in the relation of the area thereof to the total area of structures that has to be demolished and removed.

PS C 8.2.11 **Remove and re-erect existing fences ..... Unit: m**

Add new payment clause C 8.2.11:

The rate shall cover the cost of removal and stacking of fencing material, including all gates, as well as the re-erection thereof with the existing material. No payment will be made for the replacement of fencing material that has been damaged by the Contractor and all costs for this are deemed to be covered by the rate for the appropriate items.

Material that is unsuitable for re-erection must be viewed by the Engineer before it is removed. Only by written approval from the Engineer can the Contractor claim advance compensation for such material.

SANS 1200 D: EARTHWORKS

D 2 INTERPRETATIONS

PS D 2.3 DEFINITIONS

Add the following to D 2.3:

Sand (cohesionless and non-cohesive)

For the purposes of the compaction requirements, a non-plastic material of which not less than 95 % by mass passes a sieve of nominal aperture size 4,75 mm, and not more than 10 % passes a sieve of nominal aperture size 0,075 mm.

D 3 MATERIALS

D 3.1 CLASSIFICATION OF CUTTINGS

PS D 3.1.2 Cutting classes

Add the following to D 3.1.2

Soft and intermediate cuttings will be measured under this contract as “soft”. Hard rock and boulder excavations will be measured as “hard”.

D 3.3 SELECTION

PS D 3.3.1 General

Substitute the second paragraph of D 3.3.1 with the following:

The Contractor shall deal selectively with material from general excavation. Any imported material in road reserves that do not comply with the minimum requirements for the respective layers, shall be removed and replaced with suitable material, all at the Contractor's expense.

The Contractor shall deal in such a way with materials from all excavations for streets, channels or pipe trenches to ensure that usable material is not contaminated with unsuitable material. If usable material is contaminated, such contaminated material shall be removed and replaced with suitable material, all at the Contractor's expense. No additional payment shall be made in respect of this and all relevant costs shall be deemed to be included in the tendered rates.

All unsuitable material shall be removed prior to importing fill material to such areas.

D 5 CONSTRUCTION

D 5.1 PRECAUTIONS

PS D 5.1.2 Existing Services

PS D 5.1.2.2 Detection, location and exposure

Add the following to D 5.1.2.2:

If existing services are not shown on the drawings but the existence thereof can be reasonably expected, the Contractor shall, in conjunction with all relevant authorities, determine the exact depth and location of such services before the commencement of construction. After locating the exact position of services, whether indicated on the drawings or not, such services shall be deemed to be known services and the Contractor shall be liable for all costs and subsequent

costs arising from the damage thereof as a result of the Contractor's activities. These services must also be indicated on the "As Built" drawings. Postal and Telecommunication Services have to be contacted in advance to clarify all relevant cable positions before any excavations can commence.

All services must be located and opened for inspection by the Engineer before commencing trench excavation. Any costs or losses suffered by the Contractor as a result of not abiding by this specification will be for the Contractor's account.

PS D 5.1.2.3 **Protection of Cables**

Substitute "estimated position" in the second sentence of D 5.1.2.3 with "actual or exposed position".

PS D 5.1.4 **Nuisance**

PS D 5.1.4.1 **Dust nuisance**

Add the following to D 5.1.4.1:

The Contractor is responsible for dust control and is liable for all claims that may result from dust nuisance on all parts of the site and at all times from the date of handing over of the site to the completion date of the contract. No payment regarding the above-mentioned will be made and all costs shall be deemed to be covered by the tendered rates.

PS D 5.1.6 **Road Traffic Control**

Add the following to D 5.1.6:

a) Sufficient road signs must be erected in such a way that motorists will be warned in time of works, eg. at the closing of a street sufficient signs to direct traffic must be erected at the preceding intersection.

b) Bypasses and/or road signs shall be provided and/or erected at all locations where the free flow of traffic is obstructed and shall be approved by the Engineer before the commencement of construction. Where main roads are crossed, detours and temporary traffic signs must be provided as shown on the attached drawings.

c) Where a trench crosses a street or any place where a trench crosses the direction of traffic flow, drums must be placed in the street and not just along the sides of the street with danger tape in between.

d) Danger tape must be put up between drums and tied around the drums.

e) Drums may not be filled with stones. The spacing of drums must be in such a way (maximum 5 m) that they are visible from all directions.

f) Sufficient safety measures must be utilised for pedestrians.

g) Road traffic signs shall comply with the requirements of the “South African Road Traffic Signs Manual” and shall be approved by the Engineer before construction commences.

No additional payment for compliance with the abovementioned conditions will be made and all costs (labour, road traffic signs, etc.) shall be included under PS A 8.8.2.

D 5.2 METHODS AND PROCEDURES

D 5.2.1 Site Preparation

PS D 5.2.1.2 Conservation of topsoil

Add the following to D 5.2.1.2:

Removal of topsoil shall only occur in areas as approved, in writing, by the Engineer. The topsoil shall be conserved for use elsewhere.

D 5.2.2 Excavation

PS D 5.2.2.3 Disposal

Substitute the second sentence of D 5.2.2.3 with the following:

All surplus and unsuitable material shall be dumped and neatly finished off at a commercial dump site of the Contractors choice. No payment will be made for overhaul and all transport shall be regarded as free haul and the costs thereof shall be included in the tendered rate.

PS D 5.2.2.4 Excavation by hand around existing services

Add new sub clause D 5.2.2.4:

Where hand excavation is required around existing services it shall be done within 3,0 m above and on both sides of cables and within 300 mm above and on both sides of pipes, as well as underneath the services.

PS D 5.2.2.5 Utilisation of excavated material

Excavated material and material recovered from temporary work shall, in so far as it is suitable, be utilised for backfill. Material unsuitable for use as backfill or in excess of the quantity required to complete the backfill shall be spoiled and neatly finished off at a commercial dump site of the Contractors choice. No payment will be made for overhaul and all transport shall be regarded as free haul and the costs thereof shall be included in the tendered rate.

PS D 5.2.3 Fill and compaction

PS D 5.2.3.1 Embankments

Add the following to D 5.2.3.1:

Embankments and terraces shall be constructed of approved material from excavations and shall be compacted to 95 % of MAASHTO density, in layers not exceeding 150 mm in depth.

PS D 5.2.3.2 Back filling of trenches and back filling against structures

Add the following to D 5.2.3.2:

Back filling around structures shall be compacted to 95 % (100 % for sand) of MAASHTO density.

When specified or ordered by the Engineer the back filling against structures shall be done using a mixture of soil cement. The mixture shall contain 12 % cement and just sufficient water for it to be placed and compacted like ordinary back filling material.

D 5.2.4 **Finishing**

PS D 5.2.4.1 **Final grading**

Add the following to D 5.2.4.1:

Embankments shall be trimmed to an even grade of 1 in 2, and all other terraces to an even grade on 1 in 1,5 unless shown otherwise on construction drawings.

PS D 5.2.4.2 **Topsoiling**

Add the following to D 5.2.4.2:

Topsoil shall be placed on the sides and on the tops of embankments and other terraces where no paving is specified, or in areas where directed by the Engineer. All conserved topsoil must be spread evenly over disturbed areas.

D 5.2.5 **TRANSPORT FOR EARTHWORKS**

PS D 5.2.5.1 **Freehaul**

Substitute D 5.2.5.1 with the following:

Notwithstanding any clause in any standardized specification in respect of the definition, no payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be covered by the relevant tendered rates in the Schedule of Quantities.

PS D 5.2.5.2 **Overhaul**

Substitute D 5.2.5.2 with the following:

Notwithstanding any clause in any standardized specification in respect of the definition, no payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be covered by the relevant tendered rates in the Schedule of Quantities.

D 8 **MEASUREMENTS AND PAYMENT**

D 8.3 **SCHEDULED ITEMS**

PS D 8.3.8 **Existing Services**

PS D 8.3.8.1 **Location**

PS D 8.3.8.1(c) **Excavate by hand in soft material to expose services ..... Unit: m^3**

Add the following to D 8.3.8.1(c):

Excavation by hand to expose existing services shall only be measured and paid for if so ordered in writing by the Engineer. After the excavation of trial holes to determine the exact position and depth of existing services, at intervals as required by the Engineer, the excavation to a level of 300 mm above such services shall be measured and paid for as normal excavation, independent of the depth of such excavation. Only excavation within 300 mm of the existing services will be measured and paid for as excavation by hand and then only if ordered in writing by the Engineer.

If such services are damaged or removed, it has to be repaired or replaced immediately to its original position and condition, which is acceptable for the Engineer.

DB 3 MATERIALS

PS DB 3.1 CLASSES OF EXCAVATION

Substitute DB 3.1 with the following:

The excavation of materials shall be classified as follows:

a) Soft excavation shall be all excavations which are not classified as hard rock in (b) underneath.

b) Hard rock is solid rock present in mass, banks or bands for which the use of explosives would be the normal practical method of excavation or boulders over 0,52 m^3 in volume.

If the Contractor chooses to drill through material other than rock to underlying rock before excavating the trench, then the volume of rock, as defined above, will be measured after the excavations have been completed.

No intermediate material will be paid under this contract. Only soft or hard material will be paid.

PS DB 3.5 BACKFILL MATERIALS

a) Substitute "from trenches" in DB 3.5(a) with "from trenches, channels or other excavations".

Add the following to DB 3.5(b):

c) All pipe trenches in street reserves shall be classified as areas subject to loads from road traffic.

d) All pipe trenches underlying or adjacent to the carriageway shall be backfilled with sand complying with the requirements for A3 materials.

DB 3.6 MATERIALS FOR REINSTATEMENT OF ROADS AND PAVED AREAS

PS DB 3.6.1 Sub-base and Base

Substitute DB 3.6.1 with the following:

Where trenches cross or run adjacent to surfaced roads and paved areas of which the surfaces are scheduled to be reinstated, the material excavated from the existing base and/or* sub-base pavement layer(s) shall be set aside and used in the reconstruction of the sub-base layer. Where applicable, new material complying with the requirements of SABS 1200 MF shall be used in the re-construction of the base layer. Any shortfall in material for the reconstruction of the sub-base layer shall be made up by the use of material complying with the requirements of SABS 1200 ME.

PS DB 3.7 **SELECTION OF MATERIAL FOR REPAIR WORK**

Add the following to DB 3.7:

If the excavation of a pipeline damages an existing road surface, the Contractor must stockpile material from the top 200 mm of such a road surface in order to re-use it as sub-base for the repairing of the road crossing.

If necessary gravel material that is suitable for the reparation of road surfaces must be imported.

The Contractor must make provision in his tariffs for compaction in road reserves and for the selection of excavated material as specified above.

DB 4 **PLANT**

PS DB 4.1 **EXCAVATION EQUIPMENT**

Add the following to DB 4.1:

An adequate number of suitable tools, including hand stampers, wheelbarrows and hose pipes shall be provided by the Contractor. The Contractor will supply mechanical compaction equipment and when required pneumatic and rock breaking equipment.

All excavations exceeding the specified widths shall be back filled with approved selected material. No payment shall be made for this and all relevant costs shall be deemed to be included in the tendered rates.

PS DB 4.4 **DEWATERING EQUIPMENT**

One set of dewatering equipment shall consist of pumps, pipes, well points and other equipment necessary for dewatering excavations up to 7 m depth and a trench length of 45 m for either sides or 70 m on one side.

DB 5 **CONSTRUCTION**

DB 5.1 **PRECAUTIONS**

PS DB 5.1.1 **Water in trenches**

Water in pipe trenches may cause movement of the pipe due to flotation and backfilling must be completed as soon as possible. If there was any movement, the contractor must remove and relay the pipes at his own cost and to the satisfaction of the Engineer.

PS DB 5.1.2 **Stormwater, Seepage and Dewatering of Excavations**

The costs of dealing with water shall be deemed to be included in the tendered rates for excavation and no additional payment shall be made in this respect.

PS DB 5.1.3 **Provision for traffic and access to properties**

Add the following to DB 5.1.3

Construction must be done in half widths back filled completely and the surface reinstated before the next half is done in order to accommodate the traffic flow at all times.

PS DB 5.1.4 **Existing services alongside or crossing excavations.**

Add the following to DB 5.1.4

The conditions of PSA 5.4 shall apply mutatis mutandis.

PS DB 5.2 **MINIMUM BASE WIDTHS SPECIFIED**

Substitute paragraph (b) of DB 5.2 with the following:

The minimum base width for all pipes shall be 600 mm plus the outside diameter of the pipes, irrespective of the depth at which they are laid.

PS DB 5.4 **EXCAVATION**

Add the following to DB 5.4:

Excavation and backfilling of pipe trenches on sidewalks in the residential area shall be done in such a way as to ensure the least possible disruption to the public and entrances to properties. No additional payment shall be made for this and all relevant costs shall be deemed to be included in the tendered rates. Electric cable trenches shall be dug in lengths as requested by the Electrical Contractor.

The provisions of PS D 5.2.2.4 shall apply mutatis mutandis for hand excavation.

PS DB 5.5 **TRENCH BOTTOM**

Substitute "90 %" in the second paragraph of DB 5.5 with "93 % (100 % for sand)".

PS DB 5.5.1 **Over-Excavation of Trenches**

Add new subclause DB 5.5.1:

Where pipe trenches are excavated wider and deeper than specified or shown on the drawings, these excavations must be backfilled with suitable approved selected material in layers of not more than 150 mm un-compacted thickness and must be compacted to the thickness of the adjoining in-situ material or as prescribed by the Engineer.

Where the Engineer views these backfilling methods as not sufficient he may require that the over excavation or part thereof be filled with mass concrete of a prescribed grade. All backfilling as a result of over-excavation will be at the own cost of the Contractor.

DB 5.6 **BACKFILLING**

PS DB 5.6.1 **General**

Add the following to DB 5.6.1:

Backfilling in road reserves must be compacted in 100 mm layers up to natural ground level.

Where prescribed by the Engineer all surplus material must be neatly piled over the real trench width to a height not more than 150 mm higher than the adjoining level.

PS DB 5.6.2 **Material for Backfilling**

Substitute "from trench excavations" in the first paragraph of DB 5.6.2 with "from trench, channel or street excavations".

PS DB 5.6.3 **Disposal of Soft Excavation Material**

Add the following to DB 5.6.3:

All surplus and unsuitable material as described in DB 5.6.3 shall be disposed of at the spoil site, (as described in PS D 5.2.2.3) and levelled. No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

DB 5.7 **COMPACTION**

PS DB 5.7.2 **Areas Subject To Traffic Loads**

Add the following to DB 5.7.2:

All pipe trenches within street reserves, road crossings, accesses to services, farms and camps that fall within the road reserve, will be regarded as areas subject to traffic loads.

Backfilling of trenches that are subject to traffic loads will be executed in layers of 100 mm as follows:

Main backfill up to road layers:	93% Mod AASHTO
Selected backfill material:	93% Mod AASHTO (final thickness of layer — 200 mm)
Sub-base:	95% Mod AASHTO (final thickness of layer — 200 mm)
Base:	98% Mod AASHTO (final thickness of layer — 175 mm)

Sand backfilling shall be compacted to 100% of MOD ASSHTO density.

DB 5.9 **REINSTATEMENT OF SURFACE**

PS DB 5.9.2 **Private Property and Commonage**

Add the following to DB 5.9.2:

Brick and concrete pavement, gardens and lawns shall be repaired to the original standard where they were crossed. Grass and plants shall be taken out of the ground, temporarily stocked, watered during construction and replanted after backfilling.

Brick paving will be carefully taken out by hand and stored. All the brick paving will then be done with the original bricks.

PS DB 5.9.4 **Bitumen Roads: Sub-base And Base**

Add the following to DB 5.9.4:

Any additional imported material required for the reinstatement of selected layers, sub base or base shall comply with the requirements of the relevant standardised and/or project specifications.

PS DB 5.9.5.1 **Bitumen Roads: Surfacing**

Add the following to DB 5.9.5.1:

The re-sealing shall be executed with a 19mm Aggregate and two layers of slurry (19mm Cape seal) for all streets except if specified otherwise.

DB 7 **TESTING**

Add new subclause DB 7.2:

Density test results must be submitted for every section on which tests have been performed. A minimum of two tests per section is required but not less than one per 50 metre. Test results must be submitted for every layer (maximum layer thickness – 300 mm) and approval by the Engineer is necessary prior to construction of the following layer. Density testing methods that should be employed should be by means of sand displacement.

DB 8 **MEASUREMENT AND PAYMENT**

PS DB 8.1 **BASIC PRINCIPLES**

Delete “along the route of the pipeline” in DB 8.1.1.

DB 8.2 **COMPUTATION OF QUANTITIES**

PS DB 8.2.4 **Shoring**

Add the following to DB 8.2.4:

Shoring will be measured under items PS DB 8.3.2(a1) and PS DB 8.3.2(a2).

DB 8.3 **SCHEDULED ITEMS**

PS DB 8.3.2 **Excavation**

Replace “excavate in all materials for trenches, backfill, compact and dispose of surplus material” with:

PS DB 8.3.2 **(a1) Machine excavation in all materials for trenches, select, backfill, compact and dispose of surplus material including shoring ..... Unit: m / m^3**

Add the following to D 8.3.2(a):

The depth of excavation in street reserves shall be measured from the final finished level.

Excavation volumes where applicable within tendered rates will be measured according to excavation profile as shown on detail drawings and no additional payment will be made for over excavation due to excavation methods used or excavation material properties.

In cases where services lay parallel to steep slopes, the depth of the excavation will be measured along the centre of the trench (on the route of the service).

The rate shall also provide for the fact that the excavation width in sand and hard rock will be wider than normal and that fast excavation and backfill will reduce ground water seepage.

This rate shall include full compensation for the provision of all labour, plant and equipment for shoring measures.

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

PS DB 8.3.2 **a2) Hand excavation in all materials for trenches, backfill, compact and dispose of surplus material (including shoring) ..... Unit : m**

The rate shall include full compensation for the provision of all labour, plant and equipment to complete hand excavation and backfilling where ordered by the Engineer, as if in soft material, as well as for backfilling and the disposal of surplus material. The backfilling must be compacted in layers not exceeding 150 mm from 300 mm above the top of the barrel of the pipe up to ground level to 93% Mod AASHTO.

This rate shall include full compensation for the provision of all labour, plant and equipment for shoring measures.

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

PS DB 8.3.2 **b) Extra-over items (a1) and (a2) for:**

Add the following to DB 8.3.2(b)

Hard rock and boulder excavation type A and B will be measured under one extra-over tariff and the Contractor must provide for this in his tariff for hard rock excavation. Boulders types A and B will only be measured as hard rock excavations when the material cannot be removed using machinery as listed in DB 3.1(b) otherwise it will be measured as soft excavation.

The disposal of the surplus material will not be measured separately, but will be included in the tendered rate. Payment for this item will only be done, once the finishing of the trenches is to the Engineers satisfaction.

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

PS DB 8.3.2 **e) Extra-over PS DB 8.3.2(a) for temporary stockpiling of material ..... Unit : m^3**

Temporary stockpiling of material will only be measured and paid for if ordered so in writing by the Engineer and if it is not contaminated with unsuitable material.

The rate shall provide for the handling and stockpiling of the material within the free haul distance.

DB 8.3.3 **Excavation Ancillaries**

PS DB 8.3.3.1 **Make up deficiency in backfill material (provisional)**

Add the following to BD 8.3.3.1

a) From other necessary excavations on site .....Unit: m^3

The rate shall include stockpile and handling of material within construction site area. The price shall be all inclusive of plant and labour required to process material. No payment will be made for the transport of material and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

c) By importation from commercial / off-site sources selected by Contractor ...Unit: m^3

Add the following to the last paragraph of DB 8.3.3.1:

No payment will be made for the transport of material from commercial sources or sources outside the site that the Contractor has selected and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

PS DB 8.3.3.3 **Compaction in road reserves ..... Unit: m³**

Add the following to DB 8.3.3.3:

This item is only applicable to the backfill above the bedding and fill blanket and require 95% Mod AASHTO compaction of material as supposed to 93% Mod AASHTO elsewhere.

PS DB 8.3.4 **Particular Items**

Add the following to DB 8.3.4:

b) Control of groundwater …….…….. Unit: m

The tendered rate for the effective control of ground water shall cover for all equipment, plant, material as well as the labour involved to use the well points, pumps and pipes, etc. to control the groundwater before and during excavation. The rate shall also cover the maintenance of the equipment for the total contract period. Payment for this item will only be made if the Contractor used well points and pumps to control ground water before or during excavation and measurement will be done on the length of pipe laid in trenches where ground water control had been applied.

DB 8.3.5 **Existing Services That Intersect or Adjoin A Pipe Trench**

PS DB 8.3.5 **a) Services that intersect a trench ..... Unit: No**

Add the following to DB 8.3.5(a):

Existing services with a depth of cover exceeding 300 mm, measured from the bottom of excavation to the top of the existing service shall not be measured and paid for. There will be distinguished between existing trunk services and existing erf connection.

The rate shall also allow for the following costs:

i) Sufficient photo's have to be taken of existing services and handed over to the Engineer before they are being crossed, if there is a possibility of a difference in opinion over the condition of those services, especially on private property.

ii) If such a service is damaged, it has to be repaired to its original condition or if possible, to a standard agreed to in writing with the relevant owner. This agreement has to be approved by the Engineer.

iii) If such a service is removed, it has to be replaced as per original.

PS DB 8.3.5 **b) Services that adjoin a trench ..... Unit: No or m**

Add the following to DB 8.3.5 (b):

The unit "number" will only be used for services such as poles and trees.

The cost for shoring shall be deemed as covered by the listed items and no additional payment will be made for this.

No payment will be made for overhead services that do not rest directly on the ground except where allowance is made for this in the schedule of quantities.

Existing services that rest directly on the ground e.g. poles, trees, walls and structures are handled in the same way as underground services, but the axis of the service will be determined as follows:

The vertical axis is defined as the nearest side or corner of the existing structure to the excavation, measured at the point where the structure and natural ground level intersect.

The horizontal axis will be at the point where the structure and the natural ground level intersect. In this instance, where the excavation falls above the 45° line but within 1,0 meter horizontally from the structure, the service will also be measured as adjoining.

If the structure, according to the above-mentioned, does not qualify as an adjoining service but the foundation of the structure is such that if a 45° line drawn from the nearest bottom corner thereof cuts through the excavation, the structure will be measured as an adjoining service **if approved by the Engineer**.

If there is more than one service adjoining the same trench and such a service is on the same side of the trench, payment will only be made for the nearest service to the trench, or if they are the same distance from the trench for the top one. The maximum number of services that will be paid for, is therefore one on each side.

There will be distinguished between existing trunk services and existing erf connection.

DB 8.3.6 **Finishing**

PS DB 8.3.6.1 **Reinstate road surfaces complete with all courses ..... Unit: m²**

Replace DB 8.3.6.1 with the following :

a) Gravel……..... .Unit: m²

b) 19mm Cape seal (Surfaced Road).....Unit : m²

The area will be calculated from the length of finished road or paved surfaces as applicable and with the trench width taken as 1,0 m. Payment for finishing will be additional to that for excavation covered by 8.3.2.

The rate shall cover the cost of temporary accommodation of traffic (including the signs and bypasses), selective excavation (including the equipment that is required to break up, remove and, if necessary, stockpile the original surface material), and subsequently of reinstating and compaction and shall include the cost of delays and the cost of any risk of having to repair damage as specified in DB 5.10. Compaction must be according to PS DB 5.7.2.

PS DB 8.3.6.2 **Extra Over DB 8.3.6.1 for imported material .....Unit : m³**

Add new payment clause DB 8.3.6.2:

The quantity will be calculated according to the actual volume of material placed in the final position according to the specified dimension.

The rate is an “extra-over” PS DB 8.3.6.1 and includes all costs of supplying and placing of imported material in the final position with material from commercial sources.

DM 3 **MATERIALS**

PS DM 3.1 **CLASSIFICATION FOR EXCAVATION PURPOSES**

Add the following to DM 3.1:

All in situ pavement material other than hard rock or boulder excavation shall be classified as soft material for excavation purposes.

DM 3.2 **CLASSIFICATION FOR PLACING PURPOSES**

PS DM 3.2.3 **Selected Layers**

Substitute DM 3.2.3 with the following:

Materials used for selected layers shall comply with the following:

DESCRIPTION	**LOWER SELECTED LAYER (G8 – TRH 14)**	**UPPER SELECTED LAYER (G6 – TRH 14)**
Minimum CBR at 93% / 95% MAASHTO density	10	25
Maximum CBR swell at 100% MAASHTO density	1,5%	1,0%
Maximum size of aggregate after compaction	80 mm	63 mm
Minimum Grading Modules (GM)	0,5	0,75
Maximum Plasticity Index (PI)	12 (3xGM+10)	12 GM
Maximum Group Index	-	1

All imported material underlying the sub-base or base of the final road prism, whichever may be applicable, that does not comply with the requirements for lower selected layer or upper selected layer in the respective depth categories, shall be removed and replaced with material complying with the requirements of selected layers, all at the Contractor's expense.

DM 4 **PLANT**

PS DM 4.2 **PLANT FOR TREATMENT BELOW SELECTED LAYER**

PS DM 4.2.1 **Pneumatic-tyre Roller**

A pneumatic-tyre roller is compulsory for compaction purposes. Pneumatic-tyre rollers shall be of the self-propelled type that is equipped with smooth pneumatic-tyre wheels of the same diameter. The mass of the roller shall be at least 10 tons. Wheels must bear the same mass.

The rollers must be equipped with devices that will be able to keep the wheels wet and clean during operation.

The wheels of the roller shall be arranged in such a way that one pass with the roller will cover the whole width of the machine. The roller must be able to take a tyre pressure of 600 kPa and the minimum allowed working tyre pressure should be 450 kPa. The maximum difference in pressure between any two wheels shall not be greater than 35 kPa.

DM 5 **CONSTRUCTION**

DM 5.1 **PRECAUTIONS**

PS DM 5.1.2 **Accommodation of Traffic**

Add the following to DM 5.1.2:

Bypasses shall be constructed and road signs erected where the free flow of public traffic is restricted. Such bypasses and road signs shall be in accordance with the "CSRA-CUTA : Road Traffic Signs Sub-committee; Road Signs Note no 13, the SA Road Traffic Signs Manual" and shall be approved by the Engineer before the commencement of construction.

DM 5.2 **METHODS AND PROCEDURES**

DM 5.2.2 **Cut And Borrow**

PS DM 5.2.2.2 **Dimensions of cuts**

Substitute "sub-base" in the second paragraph of DM 5.2.2.2 with "sub-base or selected layer, whichever may be applicable", and

Substitute "CBR of at least 7" with "CBR as applicable according to the provisions of PS DM 3.2.3".

PS DM 5.2.2.3 **b) Cut to spoil**

Substitute DM 5.2.2.3(b) with the following:

All surplus and/or unsuitable material shall be removed from the site and disposed of at the spoil site (as described in PS D 5.2.2.3) and shall be shaped to establish a free draining surface.

PS DM 5.2.2.4 **Temporary stockpiling of materials**

Add the following to DM 5.2.2.4:

The Contractor shall program the works in such a manner that suitable excavated material shall, if practically possible, be placed directly in the appropriate position to ensure that temporary stockpiling is limited to an absolute minimum. No payment shall be made for the temporary stockpiling of material where such material is to be used for backfilling of pipe trenches, except when so ordered in writing by the Engineer.

PS DM 5.2.3.3 **Treatment of road bed**

a) Preparation and compaction of road bed.

Substitute the first paragraph of DM 5.2.3.3(a) with the following:

The road-bed (at least class G8 for use as lower selected) shall be scarified to a depth of 75mm. Import 75mm coarse material from borrow pit, spread, mix with the 67.5mm in-situ material, water, shape and compact to 93% MAASHTO density except where otherwise ordered by the Engineer.

Measurement and payment shall be made under item PS DM 8.3.3(b).

Add the following sub-clause:

(c) In situ preparation of roadbed with eight roller passes.

Any part of the roadbed that lies within the selected layer and which, regardless of its density, is suitable according to the Engineers opinion can be used in situ if so instructed by the Engineer.

If due to the nature of material, the degree of compaction cannot be controlled by means of in situ density tests, the Engineer may instruct compaction to be done by eight roller passes as specified in PS DM 4.2. The Engineer may further request that the compaction effort be altered by increasing or reducing the number of passes and that payment be amended accordingly.

The surface of the roadbed shall be shaped true in respect of line and level within the tolerances as specified in clause 6. During the shaping of the road bed, all material that has to be removed and cannot be re-used, shall be disposed of and will be paid for under item PS DM 8.3.7. If necessary, additional material that has been approved by the Engineer shall be imported to meet the required levels.

The engineer will apply no strict measurements about soil moisture content during compaction. The Contractor must however convince the Engineer that all possible efforts have been made to use favourable soil moisture conditions. Compaction must be done during periods when the roadbed is not to wet or to dry. The Engineer has full authority to decide whenever conditions are favourable for compaction, and may at any stage instruct the Contractor to water the road-bed at the Contractors expense if he, in the Engineer's opinion, neglected to satisfy the above-mentioned requirements.

PS DM 5.2.5 **Selected Layer**

Add the following to DM 5.2.5:

The Engineer may, depending on the quality of the in situ material, order the omission of one or both of the selected layers. To determine the amount of selected layers, if any, the Engineer may order the Contractor to dig test holes with maximum dimensions of 1,5 m x 1,5 m and 1,0 m deep at positions indicated by the Engineer, before construction commences.

The Contractor shall backfill all test holes with selected material and compact it to 95% of MAASHTO density, after the Engineer has taken samples and profiled the holes.

PS DM 5.2.7 **Stabilization**

The sub-base course shall be stabilized to C4 standards and the initial cement demand to comply with the specifications shall be included in the rates for stabilization of the layer. UCS and ITS strength tests for each stabilized section shall be included in the tendered rate and these tests have to be performed within the prescribed period for lime or cement.

PS DM 5.2.9 **Shaping and Compacting Below Selected Layer**

Each portion of the road-bed below the selected layer which, by virtue of its inadequate natural density, is directed by the Engineer to be compacted by means of a pneumatic-tyred roller, shall be prepared by shaping where necessary, and each such portion shall be compacted by means of at least eight complete passes by a pneumatic-tyred roller. One pass shall consist of the complete area being systematically passed in the longitudinal direction so that each pass overlaps the previous by half.

DM 6 **TOLERANCES**

PS DM 6.5 **DIMENSIONS AND LEVEL CONTROL**

The Contractor shall submit to the Engineer, in a form acceptable to the Engineer, records of dimension and level control, before requesting the Engineer to carry out any routine inspections.

DM 7 **TESTING**

PS DM 7.2 **PROCESS CONTROL**

Amend table 1 of DM 7.2 as follows:

Substitute "2 000 m^2" with "1 500 m^2", "1 500 m^2" with "1 200 m^2 and "5 000 m^2" with "3 000 m^2".

DM 7.3 **ROUTINE INSPECTION AND TESTING**

Substitute DM 7.3.2 with the following:

No density shall be less than the specified minimum density for the relevant layer.

The cost of all routine testing done by the Engineer, and of which the results do not comply with the specified minimum requirement for the material, shall be borne by the Contractor and will be subtracted from the monthly payment certificates.

DM 8 **MEASUREMENT AND PAYMENT**

DM 8.3 **SCHEDULED ITEMS**

PS DM 8.3.3 **Preparation of Road Bed**

Substitute DM 8.3.3(b with the following:

c) The in-situ sand must be modified mechanically by mixing the top 75mm with 75mm imported coarse material. This layer will serve as the selected layer and has to be compacted to 93% MAASHTO density.

PS DM 8.3.5 **Selected Layer Compacted To 95 % Of MAASHTO Density ..... Unit : m^3**

Substitute "93 % of MAASHTO density" in the heading of DM 8.3.5 with "95 % (100 % for sand) of MAASHTO density for lower selected layer and 95% (100% for sand) of MAASHTO density for upper selected layer".

Add the following to DM 8.3.5:

The rate for selected layers from commercial sources shall, in addition to the provisions of DM 8.3.5, allow for locating the source, complying with all the applicable precautions as set out in DM 5.1, obtaining the material, selection and transport from the source to the point on the road where it is going to be used. No payment shall be made for the removal and replacement of unsuitable imported material.

PS DM 8.3.7 **Cut to Spoil or Stockpile From ..... Unit : m3**

Add the following to DM 8.3.7:

Payment for temporary stockpiling shall be made under DM 8.3.11, only if so instructed in writing by the Engineer.

PS DM 8.3.11 **Extra-over for temporary stockpiling of material ..... Unit : m3**

Add the following to DM 8.3.11:

The rate will be extra over the rate for item 8.3.7. Payment for temporary stockpiling shall be made only if so instructed in writing by the Engineer. Rate to include for re-use, compaction and levelling of stock pile material on site as instructed by engineer.

PS DM 8.3.12 **Overhaul.....Unit: m3 or m3.km**

Substitute DM 8.3.12 with the following:

The provisions of clause D 8.3.6 shall apply mutatis mutandis. There will be no overhaul for the removal and spoiling of surplus or unsuited materials to the dumping site. The cost thereof shall be included in the rates for the "cut to spoil" operation.

PS DM 8.3.17 **Trim, Shape and Compact Sidewalks ..... Unit : m^3**

The area to be trimmed is the area from the back side of the kerbs to the boundary of the road reserve, or such wider area necessitated by the road prism.

Measurement and payment for the above shall be restricted to areas ordered in writing by the Engineer.

The rate shall cover the cost of trimming and shaping the sidewalks to the lines, levels and dimensions as shown on the drawings, of acquiring additional material to compensate for any material lost due to weather or other reasons, and of the compaction of any loose or disturbed material to 93 % of MAASHTO density (100 % for sand).

PS DM 8.3.21 **Existing Services That Adjoin Excavation for Streets ..... Unit : m**

The provision of items DB 8.3.5(a) and DB 8.3.5(b) shall apply mutatis mutandis.

PS DM 8.3.22 **Existing Services Intersecting Excavation for Streets ..... Unit : No**

The quantity is the number of each service, as indicated in the schedule of quantities, which intersects the excavation for streets.

Separate items will be provided for the depth increments as scheduled.

The rate for the crossing of services below the level of the road-bed, measured to the top of the service, covers all additional costs in respect of excavation, irrespective of the method, the protection and ensuring of the continuous functioning thereof and the cost of all repair work and/or subsequent costs arising from damage to the service.

The rate for services that are not fully covered by the road-bed shall, in addition to the above-mentioned requirements, cover all additional costs in respect of excavation and back filling with material as required for the relevant pavement layer as well as for compacting to the specified minimum density of the relevant pavement layer.

Services with a depth of cover of more than 500 mm shall not be measured and paid for.

G 3 MATERIAL

PS G 3.2.1 Applicable Specifications

Substitute G 3.2.1 with the following:

All cement types shall comply with the requirements of SANS EN 197-1.

For this contract CEM I portland cement shall be used.

Where Malmesbury hornfels (shale) is used as aggregate in concrete, a blend (by mass) of 50 % CEM I 42,5 or CEM I 42,5R and 50 % milled granulated blast-furnace slag shall be used in the concrete mix.

PS G 3.2.3 Storage Of Cement

Add the following to G 3.2.3:

Consignments of cement shall be used in the same sequence as that in which they are delivered to site. No cement shall be used which has been stored on site for a longer period than 6 (six) weeks. All cement so stored for a longer period than 6 (six) weeks, all cement damaged in any way, and all cement which does not comply with the specification, shall be removed immediately and permanently from the site.

PS G 3.5.2 Air-entraining Agents

Substitute G 3.5.2 with the following:

Air-entraining agents shall not be used in concrete.

G 4 PLANT

PS G 4.5.3 Ties

Add the following to G 4.5.3:

Permanent metal ties shall have a minimum concrete cover of 40 mm after formwork has been removed.

Tie holes shall be filled with an approved expansive cementitious grout similar to "Durabed" of ABE. The product shall be prepared to a non-slump consistency, but where no cracking occurs when pressed into a firm ball. Trial mixes shall be made to arrive at the required working consistency.

G 5 CONSTRUCTION

G 5.1 REINFORCEMENT

PS G 5.1.3 Cover

Substitute G 5.1.3 with the following:

The cover of concrete over reinforcement, unless otherwise indicated on the drawings, shall in no case be less than 40 mm.

PS G 5.2.1 **Classification Of Finishes**

Add the following to G 5.2.1:

The following surface conditions are required on the various portions of the finished concrete:

(a) **Rough**

Concealed surfaces and surfaces more than 150 mm below final ground level.

(b) **Smooth**

All surface finishes not classified as "rough" in paragraph (a) shall be classified as "smooth". All exposed arrises (i.e. where the angle between adjacent sides is 110° or less) unless otherwise indicated on the drawings, shall be chamfered 20 mm x 20 mm by means of triangular fillets fixed to the formwork.

PS G 5.2.5 **Removal of formwork**

In Table 2 of G 5.2.5.2, substitute “portland cement and portland cement 15” in columns 2, 3 and 4 with “CEM 1 portland cement, delete columns 5, 6 and 7 and substitute “portland blast-furnace cement” in columns 8, 9 and 10 with “CEM III blast-furnace cement or blends of CEM I portland cement with milled granulated blast-furnace slag”.

PS G 5.4 **PIPES AND CONDUITS**

Add the following to G 5.4:

All pipes and specials which must be installed in the floors and walls of structures shall be embedded in the concrete during the casting of such concrete. No holes shall be left for the later installation of pipes and specials, without the written approval of the Engineer.

Where such holes have been approved by the Engineer, the Contractor shall be responsible for the grouting-in of such pipes or specials with an approved expansive cementitious grout as specified in PS G 4.5.3, regardless of whether or not these have been supplied by himself. The Contractor shall provide a smooth, dense and waterproof finish around the pipes or specials.

The clear space between pipes of any kind embedded in reinforced concrete and the clear space between such pipes and reinforcement shall at any point be not less than -

(a) 40 mm, or

(b) 5 mm plus the maximum size of coarse aggregate,

Whichever is the greater.

G 5.5 **CONCRETE**

PS G 5.5.1.5 **Durability**

Substitute G 5.5.1.5 with the following:

Concrete shall be so proportioned to ensure that the water/cement ratio does not exceed 0,5 and, to ensure workability, water-reducing admixtures of approved manufacture shall be used in preference to increasing the cement content.

PS G 5.5.1.7 **Strength concrete**

Add the following to G 5.5.1.7:

The grade of strength concrete and the maximum nominal size of coarse aggregate for each portion of the works, unless otherwise indicated on the drawings, shall be as follows:

(a) Mass concrete under floors and foundations ..... 20 MPa/19 mm

(b) Blinding layers ..... 10 MPa/19 mm

(c) Encasing of pipes ..... 20 MPa/19 mm

(d) Strip foundations ..... 30 MPa/19 mm

(e) Benching and screeds ..... 25 MPa/10 mm

(f) All reinforced concrete ..... 30 MPa/19 mm

PS G 5.5.7 **Construction Joints**

Add the following to G 5.5.7.1:

Construction joints shall be limited to the minimum and shall only be made in positions as shown on the drawings or in positions as specifically approved by the Engineer. Construction joints between tank bottoms, floors, or wall bases, and the walls standing on them shall not be made flush with the supporting surface, but shall be made in the wall 150 mm above the base. The 150 mm high riser wall shall be cast as an integral part of the bottom, floor or base, i.e. the concrete in the riser shall be deposited simultaneously with the concrete in the bottom, floor or base adjacent to it. Where there is a fillet at the bottom of a wall, the construction joint shall be made 150 mm above the fillet.

A PVC waterstop without centre bulb shall be installed at all construction joints in walls of water-retaining structures. The size of the waterstops shall be 150 mm in walls thinner than 200 mm and 200 mm in walls of 200 mm thickness and more.

PS G 5.5.7.4 **Expansion joints**

Expansion joints shall be formed in positions and in accordance with details as shown on the drawings. All expansion joints shall be formed with an approved closed cell polyethylene fill material similar to "SPV 120" as supplied by Sondor, with a single part polyurethane sealant similar to Silkaflex – PRO 2HP as supplied by Sika. Rearguard S-type PVC waterstops with centre bulbs shall be installed under floors and Hydrofoil PVC waterstops with centre bulbs in walls, as shown on the drawings.

All sealants, fill material and waterstops shall be installed strictly in accordance with the specification of the manufacturers and to the satisfaction of the Engineer. The sealant shall be installed in one operation and jointing to already hardened sealant will not be permitted.

PS G 5.5.7.6 **Bond breaker under floor**

A 500 micrometre polyethylene bond breaker shall be installed between the blinding layer and the floor, where indicated on the drawings.

PS G 5.5.9 **Adverse Weather Conditions**

Add the following to G 5.5.9.1:

No material having a temperature of below 5 °C shall be used for concrete, and no concrete shall be deposited when the ground or air temperature is below 2 °C. Furthermore, if the air or ground temperature is likely to fall below 2 °C within twelve (12) hours after depositing of concrete, no concreting shall be done without the written consent of the Engineer. If such consent is given the Contractor shall heat the aggregate stockpiles and mixing water, and defrost the formwork and reinforcement.

PS G 5.5.10 **Concrete Surfaces**

Add the following to G 5.5.10.1:

Concrete surfaces under screeds, granolithic floor finishes or benching, and surfaces of strip foundations and footings shall be brought up to a plane, uniform surface with a suitable screed board.

PS G 5.5.10.4 **Wood-floated finish**

Where wood floating is specified or scheduled, the surface shall first be given a finish as specified in G 5.5.10.1 and after the concrete has hardened sufficiently, it shall be floated to a uniform surface free from trowel marks. The screeded surface shall be wood-floated, either by hand or machine, only sufficiently to produce a uniform surface free from screed marks.

PS G 5.5.10.5 **Steel-floated finish**

Where steel floating is specified or scheduled, the surface shall be treated as specified in PS G 5.5.10.4 except that, when the moisture film has disappeared and the concrete has 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.

PS G 5.5.11 **Watertight Concrete**

Substitute G 5.5.11 with the following:

PS G 5.5.11.1 **General**

All structures that are designed to retain water or to keep water out, shall be regarded as watertight structures.

PS G 5.5.11.2 **Requirements and tests for watertightness of structures**

The completed structure shall be watertight, and the quality and finish of the work shall be such that no after-treatment of the work such as plastering or cement wash is necessary to ensure compliance with this requirement.

The works will not be certified complete until the structures enumerated in PS G 5.5.11 has been proved by testing to be watertight.

Upon completion of construction and when so agreed by the Engineer, the structure shall be filled by the gradual admission of water until, the water level reaches the designed maximum level. The water level shall 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 two (2) weeks or such longer time as may be required to permit complete saturation of the concrete. During this period, readings will be taken by the Engineer and the results so obtained will be available for the information of the Contractor.

At the end of this period more water shall be added, if necessary, to bring the water level back to the designed maximum level and the water shall be left undisturbed for a period of at least four (4) days during which time the level shall again be recorded by the Engineer at regular intervals. The structure shall be considered to be watertight if the drop in water level does not exceed 6 mm in 96 (ninety six) hours in the case of a roofed structure and if no leakage is apparent.

The acceptable drop in level in the case of an unroofed structure shall be such that it allows for normal evaporation during the time of the test.

If appreciable leakage is evident at any stage of the filling or testing or if, in the opinion of the Engineer, the degree of watertightness is unsatisfactory, the Contractor shall, when so ordered by the Engineer, discontinue the test immediately and at his own expense take approved steps to rectify the work. The work of rectification shall be continued assiduously until, on repetition of the test procedure, a satisfactory test result is obtained and the degree of watertightness is acceptable.

The Engineer shall have the right to retest the structure before the expiry of the period of maintenance and the results of these tests will be made available to the Contractor. If these tests indicate to the Engineer that the degree of watertightness is unsatisfactory, the Engineer (before issuing the final certificate) will be entitled to order the Contractor to rectify the work at his own expense in such a manner as will cause least interruption to the running of the works and will ensure that the degree of watertightness of the structure is satisfactory.

Backfilling around structures shall not commence until a satisfactory test result has been obtained.

The watertightness of the dry well of the pump station shall be monitored visually until the end of the defects liability period. If any damp penetration from the outside is noticed, the Contractor shall take immediate remedial steps.

The Engineer shall have the right to retest the structure before the expiry of the period of maintenance, and the results of these tests will be made available to the Contractor. If these tests indicate to the Engineer that the degree of watertightness is unsatisfactory, the Engineer (before issuing the final certificate) will be entitled to order the Contractor to rectify the work at his own expense in such a manner as will cause least interruption of the water supply to consumers and will ensure that the degree of watertightness of the structure is satisfactory.

PS G 5.9 JOINING NEW CONCRETE TO EXISTING

Where partial demolition is required for extension work to existing structures, the contact face shall be cut to predetermined line and level, and any loose and fragmented material shall be removed, and projecting steel cleaned and bent as directed by the Engineer. Where partial demolition is not required but extension work only, the contact surface shall be scabbled and cleaned of all dirt and loose particles.

If dowels are required, they shall be installed in holes drilled into the existing structure, in accordance with the details shown on the drawings, and secured by means of an approved type of epoxy bonding compound such as EPIDERMIX 372 or similar.

Fresh concrete shall be bonded to the old concrete with an approved type of epoxy bonding compound, such as EPIDERMIX 344 or similar.

G 8 MEASUREMENT AND PAYMENT

G 8.1 MEASUREMENT AND RATES

PS G 8.1.1 Formwork

Delete the following in G 8.1.1.3(c):

"and for different prop heights for beams and slabs".

PS G 8.1.3 Concrete

Add the following to PS G 8.1.3.1(d):

Strip foundations and encasement of pipes shall be cast directly against the sides and bottoms of excavations. No payment shall be made for additional concrete in overbreak.

Delete the full stop at the end of G 8.1.3.3(a) and add the following:

"and special steps necessary before depositing concrete during cold weather, as prescribed in PS G 5.5.9".

G 8.4 SCHEDULED CONCRETE ITEMS

PS G 8.4.4 Unformed Surface Finishes ..... Unit: m^2

Add the following to G 8.4.4:

The concrete surface finishes under screeds, granolithic finishes or benching as prescribed in PS G 5.5.10 shall not be measured separately. The rates for the related concrete items shall also cover the cost of these surface finishes.

PS G 8.4.8 Concrete complete with formwork and/or trowel finish ..... Sum or m^3

The rate shall cover the cost of the provision of concrete (made from ordinary Portland cement, unless otherwise scheduled), mixing, testing, placing, compacting, the forming of stop-ends and unforeseen construction joints, striking-off or levelling as applicable, trowelling and curing and repairing where necessary, together with the cost of all parts of formwork in contact with the concrete and the necessary bearers, struts, and other supports, plus the layout and plant necessary to erect and strike such formwork.

SANS 1200 L: MEDIUM PRESSURE PIPELINES

PS L 3.1 GENERAL

Substitute the first sentence of L 3.1 with the following:

Types and classes of pipes shall be as scheduled.

Pipes and jointing systems suitable for the pressures must be offered.

All valves must be able to open or close under full differential pressure.

PS L 3.8 JOINTING MATERIALS

PS L 3.8.4 Loose Flanges

Substitute the first sentence of the last paragraph of L 3.8.4 with the following:

Bolts and nuts shall comply with the requirements of SABS 135.

PS L 3.9.5 Joints, Bolts, Nuts and Washers

Substitute L 3.9.5 with the following:

All joints, bolts, nuts and washers shall be cadmium-plated or stainless steel.

PS L 3.10 VALVES

PS L 3.10.1 Gate Valves

All gate valves shall comply with the requirements of SABS 664 and shall be suitable for a maximum working pressure of 5 MPa. All gate valves must be supplied with a square spindle nut, suitable to be used with a valve key.

Gate valves shall have flanged unless shown differently on the drawings and shall open anti-clockwise. The direction for opening and closing shall be permanently displayed on the valves. Valves shall have rising spindles.

Compression shut-off valves with rubber protected gate and smooth finish without recess inside, may be used.

All flanged gate valves shall be drilled according to SABS 1123 Table 1600/3. Pipes shall not be tested against a closed valve. Thrust blocks for test sections shall be approved by the Engineer prior to testing of pipes.

L 3.11 MANHOLES AND SURFACE BOXES

PS L 3.11.4 Step Irons

Substitute L 3.11.4 with the following:

Step irons shall consist of polypropylene coated 12 mm high tensile steel such as Calcamite or similar. The installation of the step irons shall be in accordance with the specification of the manufacturer.

PS L 3.11.6 Surface Boxes

Add the following to L 3.11.6:

The type of cast iron boxes shall be as specified on the drawings.

L 4 **PLANT**

PS L 4.3 **TESTING**

Add the following to L 4.3

The Contractor must ensure that the test equipment is in good order and that it is calibrated.

L 5 **CONSTRUCTION**

L 5.1 **LAYING**

PSL 5.5 **ANCHOR BLOCKS**

Measurements for anchor blocks will be determined on site by the Engineer after each position has been inspected.

L 5.6 **VALVE AND HYDRANT CHAMBERS**

PS L 5.6.1 **General**

Substitute the first sentence of L 5.6.1 with the following:

The drawings of valve and hydrant chambers, which are bound into the document, shall supersede the corresponding drawings in the standard specification.

PS L 5.9 **LIFTING AND RELAYING OF EXISTING PIPES**

Add the following to L 5.9:

Existing water pipes at certain points shall be lifted and relayed deeper in the same position. The Contractor must make timeous arrangements with the local authority.

PS L 7 **TESTING**

PS L 7.3 **STANDARD HYDRAULIC PIPE TEST**

PS L 7.3.1 **Test pressure and time of test**

Add the following to L 7.3.1.1:

Pipes shall not be tested against isolating valves. Special blank flanges or end caps, fully anchored, shall be provided for testing.

Substitute L 7.3.1.2 with the following:

The test pressure for field-testing shall be 1,5 times the rated maximum working pressure of the pipe e.g. class 9-mPVC pipe to 1,35 MPa.

Substitute L 7.3.1.3 with the following:

The test pressure applied according to L 7.3.1.2, must, with allowance for any level differences along the pipeline, be such that the pressure at any point in the pipeline will be at least 1,25 times and not more than 1,5 times the rated working pressure of the pipe.

PS L 8 **MEASUREMENT AND PAYMENT**

PS L 8.2 **SCHEDULED ITEMS**

PS L 8.2.3 **Extra-over 8.2.1 for the Supplying, Fixing and Bedding Of Valves ..... Unit: No**

Add the following to L 8.2.3:

Valves are measured and paid for per item, complete with the inclusion of the cutting of pipes, couplings, extra excavation and all extra material and labour that is required, including tees, fittings, isolating valves (e.g. under air valves), complete as shown on the drawings. Flanged distance pieces shall be included in the rate for fire hydrants.

PS L 8.2.11 **Anchor/Thrust Blocks and Pedestals ..... Unit: m³**

Anchor and thrust blocks shall be measured per cubic metre concrete and the tendered rate shall include for all formwork and reinforcement (where specified) for the required dimensions.

PS L 8.2.14 **Manholes ..... Unit: No**

Add the following to L 8.2.14:

Overflow boxes and pipe outlets shall, as in the case of manholes, be measured and paid for per number and shall be all inclusive as shown on the drawings.

PS L 8.2.16 **Cut Into and Connect To Existing Mains** .....**Unit: No**

The tendered rate shall include full compensation for all arrangements with the relevant authorities, isolating the main, cutting into the main to accommodate the connecting fitting, dewatering, excavating, backfilling, removing of excess material, taking steps to prevent the ingress of soil, stones and other material into the main as well as all material and labour to connect the pipe.

SANS 1200 LB : BEDDING (PIPES)

LB 3 MATERIALS

PS LB 3.1 SELECTED GRANULAR MATERIAL

Substitute LB 3.1 with the following:

Selected granular material shall be an aggregate, sand or granular material, all of a non-cohesive nature and free from any organic material, of which the grading analysis shows 100 % passing a 13,2 mm sieve and not more than 5 % passing a 0,075 mm sieve.

Only if approved by the engineer may sand from the trench excavations be used as selected material.

PS LB 3.2 SELECTED FILL MATERIAL

Substitute LB 3.2 with the following:

The requirements of PS LB 3.1 shall apply mutatis mutandis.

PS LB 3.3 BEDDING

Add the following to LB 3.3:

All pipes shall be classified as flexible pipes and shall be laid on flexible pipe bedding class including erf connections, which shall also be classified as flexible pipes. Cable bedding is specified separately.

LB 3.4 SELECTION

PS LB 3.4.1 Suitable Material Available from Trench Excavation

Replace the first sentence of LB 3.4.1 with the following:

Notwithstanding the requirements DB 3.7 and LB 3.4.1 relating selected excavation methods, the Contractor must follow selected excavation methods and provide or use plant that will prevent material that is suitable and necessary for bedding being contaminated.

PS LB 3.4.2 Suitable Material not Available from Trench Excavation

Add the following to LB 3.4.2:

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

LB 5 CONSTRUCTION

LB 5.1 GENERAL

PS LB 5.1.4 Compacting

Substitute "90 % of MAASHTO" in LB 5.1.4 with "93 % of MAASHTO (100 % for sand)".

LB 8 MEASUREMENT AND PAYMENT

LB 8.1 PRINCIPLES

PS LB 8.1.1 Supply Of Bedding Materials Measured Separately

Add the following to LB 8.1.1:

Payment for bedding material and selected fill material is only made if the selected trench-excavation material cannot be used in the same position as bedding material but has to be obtained from another part of the site of works or designated borrow pits, or from commercial sources.

PS LB 8.1.4 Separate Items For Cradle and Blanket

Substitute LB 8.1.4 with the following:

No distinction shall be made as with regard to material for the bedding cradle and selected fill blanket, and the material shall comply with the requirements for material for bedding cradle.

PS LB 8.1.5 Disposal Of Displaced Material

Add the following to LB 8.1.5:

Surplus displaced material shall be dumped and levelled at the spoil site.

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

PS LB 8.1.6 Freehaul

Substitute LB 8.1.6 with the following:

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

LB 8.2 SCHEDULED ITEMS

LB 8.2.2 Supply Only Of Bedding by Importation

PS LB 8.2.2.2 From Borrow Pits (provisional)

Add the following to LB 8.2.2.2:

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

PS LB 8.2.2.3 From commercial sources

Add the following to LB 8.2.2.3:

The rate shall cover the cost of obtaining, handling and transport regardless the distance, of the required bedding material from the Contractors supplier, the delivery thereof at positions that are spaced along the trench in such a way as suits the working method of the Contractor, as well as the removal of material displaced by this importation to the commercial dump site of the Contractors choice.

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

LB 8.2.2.4 **From stockpile (provisional)**

a) Selected granular material ..... Unit : m³

b) Selected fill material ..... Unit : m³

The rate shall cover the cost of obtaining, handling and transport regardless the distance, of the required bedding material from the stockpile, the delivery thereof at positions that are spaced along the trench in such a way as suits the working method of the Contractor, as well as the removal of material displaced by this importation to the dump site which will be indicated during the site inspection.

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

PS LB 8.2.5 **Overhaul Of Material For Bedding Cradle And Selected**

Substitute LB 8.2.5 with the following:

No payment will be made for overhaul and all transport shall be regarded as freehaul and the costs thereof shall be included in the tendered rate.

SANS 1200 ME : SUBBASE

ME 3 MATERIALS

ME 3.2 PHYSICAL PROPERTIES

PS ME 3.2.1 **Subbase Material**

Substitute ME 3.2.1 with the following:

a) Materials of G5 and G6 quality for use in the unstabilised subbase shall comply with the requirements of SANS 1200 M 3.3.3.

b) Materials of G7 quality for use in the unstabilised subbase shall comply with the requirements as specified in SABS 1200 M 3.3.3, except that the maximum aggregate size after compaction shall not exceed 63 mm.

ME 3.3 STABILISING AGENT

PS ME 3.3.1 **General**

Substitute ME 3.3.1 with the following:

Where ionic stabilisation is required, the stabilising agent shall be approved by the Engineer, and the rate of application shall be 0,03 ℓ/m^2 for layer thickness of 150 mm and 0,02 ℓ/m^2 for layer thicknesses of 100 mm.

ME 5 CONSTRUCTION

ME 5.4 PLACING AND COMPACTION

PS ME 5.4.1 **Placing**

Substitute "the project specification" in the second paragraph of ME 5.4.1 with "ME 6.1.4".

PS ME 5.4.5 **Work In Restricted Areas**

No additional payment shall be made for work in restricted areas and any relevant costs shall be deemed to be included in the tendered rates.

PS ME 5.5.6 **Curing**

Substitute ME 5.5.6 with the following:

Stabilised layers will be protected against desiccation during the first 7 days after construction, by lightly watering the layer to ensure the surface is always damp. Only light water sprinklers must be used seeing that heavy sprinklers will damage the layer. Any negligence to ensure above mentioned is implemented, may result into the disapproval of the layer. In that case, the Contractor will on his own costs, break up the layer, re-stabilise and compact. Compaction and

indicator tests will be done on the first day after completion of construction. No other traffic, except the vehicles that water the layer, will be allowed on the layer within 7 days after stabilising have been completed.

ME 5.7 TRANSPORT

PS ME 5.7.1 Free-haul

Substitute ME 5.7.1 with the following:

An unlimited free-haul distance shall apply to subbase material.

ME 7 TESTING

ME 7.2 PROCESS CONTROL AND ROUTINE INSPECTION AND TESTING

PS ME 7.2.1 Process Control

Substitute "1 500 m^2" with "1 200 m^2" and "5 000 m^2" with "3 000 m^2" in Table 2 of ME 7.2.1.

PS ME 7.2.2 Routine Inspection And Testing

Substitute the second sentence of ME 7.2.2 with the following:

No density shall be less than the specified minimum density for the relevant layer.

ME 8 MEASUREMENT AND PAYMENT

PS ME 8.2 COMPUTATION OF QUANTITIES

Substitute ME 8.2 with the following:

Measurement and payment shall be to the exact dimensions as shown on the drawings.

ME 8.3 SCHEDULED ITEMS

PS ME 8.3.11 Preparation of Road bed to a depth of 150 mm as subbase compacted to 95 % of MAASHTO density ..... Unit : m^3

The rate covers the cost of crust breaking up to a minimum depth of 150 mm, watering, shaping, building and compaction of subbase, final scraping, compliance with the tolerances and testing.

PS ME 8.3.12 Connect to Existing Subbase ..... Unit : m

The tendered rate shall be all inclusive for labour, materials and equipment required to cut the existing roadway in straight lines without damage to the existing road, to connect to the new subbase.

The Contractor shall be responsible for all necessary repairs of damage to existing layers and bituminous surfaces and must allow for such repairs in the rate.

SECTION MJ: SEGMENTED PAVING

MJ 3 **MATERIAL**

MJ 3.1 **UNITS**

PS MJ 3.1.2 **Class, Strength, And Type**

Add The following to MJ 3.1.2

Street surfacing as indicated in drawings shall be paved with 60 mm thick Type S-A Class 25 precast concrete blocks (interlocking type). Sidewalks shall be paved with 50 mm thick type S-C Class 25 Pre-cast concrete blocks. Colour of paving will be determined on site.

MJ 5 **CONSTRUCTION**

PS MJ 5.7 **JOINT FILLING**

Joint filling shall be done with sand (A3 Specification).

MJ 6 **TOLERANCES**

PS MJ 6.2 **PERMISSIBLE DEVIATIONS**

Add the following to MJ 6.2:

The degree of accuracy shall be degree I.

MJ 8 **MEASURED AND PAYMENT**

MJ 8.2 **SCHEDULED ITEMS**

PS MJ 8.2.2 **Construction of Paving Complete ..... Unit ; m²**

Add the following to MJ 8.2.2

The rate shall also cover the cost of the joint filling as specified in PS MJ 5.7.

PS MJ 8.2.6 **Connection to Existing Road Surface ..... Unit ; m**

The tendered rate shall be all inclusive for labour, materials and equipment required to cut the existing road surface in straight lines without damage to the existing road, to connect to the new road surface.

The Contractor shall be responsible for all necessary repairs of damage to existing road surface and must allow for such repairs in the rate.

SPECIAL SPECIFICATIONS

SA - PRESSED STEEL TANK

SA 1 PRESSED STEEL WATER TANK AND SPECIALS

SA 1.1 Description pressed steel tank and specials

The pressed steel tank must comply with specification SABS – CKS 114. Approved Engineering drawings to be supplied by the contractor (supplier).

The bottom and first row of panels in the walls must be 6mm thick. The second and third row of panels in the walls must be 4,5mm thick.

Connections must be of the flanged bolted type according to SABS 1123. Bolts must have a minimum diameter of 14mm for the tank panels and supports and 12mm diameter for the roof panels.

The tank must be supplied with two ventilated manhole covers with minimum dimensions of 450 x 450 mm.

The tank must also be supplied with ladders on the inside and outside. The outside ladder must be supplied with a safety rung every 900mm. Step spacing not more than 300mm.

Roof panels to have a minimum thickness of 2,5mm.

The tank must be supplied with an approved level indicator.

Provision must be made for two 80mm Ø inlets at the top with blank flanges, an 150mm Ø outlet at the bottom with blank flanges, a 100 mm Ø overflow and a 100 mm Ø scour outlet.

Details of the foundation must be supplied to the Engineer for approval.

All steelwork including ladders, bolts, nuts, pipes, etc. must be hot dipped after manufacturing.

SA 1.2 Tank footings

The tank must comply with specification SABS – CKS 114. Approved Engineering drawings for the footings will be supplied to the contractor.

SA 1.3 MEASUREMENT AND PAYMENT – PRESSED STEEL TANK

The pressed steel tank is measured as a sum that will include the pressed steel tank, ladders, ventilated manhole covers, manhole opening, water level indicator, roof covering, etc., rate will include delivery, storage and erection on site, etc.

Watertight testing and disinfection of the tank must be included in the tendered sum.

Pipework and specials such as valves, bends, reducers, etc is measured separately.

SA 1.4 MEASUREMENT AND PAYMENT - TANK FOOTINGS

Excavations for the footings are measured per m^3, etc. All quantities in the schedule have been measured provisionally.

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

C3.4 : CONSTRUCTION MANAGEMENT

C3.4 MANAGEMENT OF THE WORKS

C3.4.1 Applicable SANS and SABS standards

The provisions of these SANS 1200 take precedent over the provisions of any part of SANS 2001 that is applicable to the contract. The variations and additions to these specifications are described in the section “Applicable SANS 1200 standardised specifications.”

The SANS 1200 Standardised Specifications for civil engineering construction applicable to this contract are stated in Section C3 : Construction.

C3.4.2 Particular / Generic specifications

The following particular and generic specifications are applicable to this contract :

i) Environmental Management Plan

ii) Occupational Health and Safety Specifications

C3.4.3 Planning and programming

It is a prerequisite of this contract that minimal disruption of the public is ensured during construction. The Contractor shall draw up his programme to ensure that no delays are experienced on contract.

The Contractor shall indicate in his construction programme the number of construction teams he envisage will be required including the date when each team will start, chainage where each team will commence from and the estimated period for which each team will be engaged.

Construction methods must be of such nature that no property or life on site or adjacent to the works is endangered. The Employer accepts no responsibility for work that is done outside the site boundaries without the Engineer's approval.

All open excavations on site must be clearly demarcated and safeguarded before it is left overnight, during weekends and on public holidays. All excavations shall be backfilled and finished to the complete satisfaction of the Engineer.

The Contractor shall program separately for the detection, exposing and modification of existing services at the start of the contract at least fourteen (14) days prior to the proposed crossings. The position and levels thereof must be recorded and forwarded to the Engineer so that any adjustments to the design can be made if necessary. No extension of time arising out of any delay in completing this work will be considered.

The Contractor shall submit within two (2) weeks after site-handover to the Engineer an updated construction program indicating all construction activities, phasing, handing over of sections, resources, timelines, monthly expenditure and critical path with specific reference to criteria in C3.5.1 for the duration of the construction period indicated for approval. The Contractor will not be allowed to commence with any work before this program has been agreed upon and approved by the Engineer.

The Contractor himself is responsible for liaison and the necessary arrangements with property owners, relevant local and road authorities, Eskom, Telkom and Neotel in respect of service crossings and the finalisation and approval of the works program.

The compilation of the construction program and any amendments thereto during the course of construction shall be at the cost of the Contractor and shall not be measured elsewhere in this contract.

The Contractor shall record progress against the program. The Contractor shall draw the Engineer's attention immediately to any activities that fall behind program and shall inform the Engineer how he proposes to get back on program. Progress meetings shall be held monthly on site. Failure to comply with these requirements will entitle the Engineer to use a programme based on his own assumptions for the purpose of evaluating claims for extension of time or additional payments.

The Contractor himself is responsible for liaison with property owners with regards to the programming of construction activities through private properties and the crossing of access ways to properties at least fourteen (14) days before such construction activities commence. No additional payment will be made in this regard.

The Contractor shall be responsible to inform all property and business owners by written confirmation of any road closures and the arrangements must be completed at least seven (7) days in advance. No additional payment will be made in this regard and it shall be deemed to be covered by the relevant items.

However both vehicle and pedestrian access to businesses, commercial properties and municipal and state institutions i.e. SAPS buildings, provincial clinics, traffic departments and schools must be provided at all times and arrangements for temporarily alternative parking must be discussed and arranged with the relevant businesses or institutions.

Sufficient photos of existing structures, walls and areas that have to be crossed must be taken by the Contractor and handed over to the Engineer before such operations commence. No payment will be made in this regard and it shall be deemed to be covered in the preliminary and general items.

A Mechanical and electrical contractor will be on site during the contract period. The Contractor must note that no additional payment is applicable for re-programming of the works and/or any delays that may be caused by bad co-ordination, unless otherwise agreed by the Engineer. All costs associated with liaison with the Mechanical and electrical contractor and the accommodation of the main contractor's activities on the site must be allowed for in the schedule of quantities.

Existing services shall remain in operation throughout the duration of the contract.

C3.4.4 Methods and procedures

C3.4.4.1 Maintenance of accesses and streets

The operation of construction vehicles on existing roads or streets, or on streets which have been completed to the level of sub-base or base or bituminous surface treatment, shall be limited to traffic with an axle load not exceeding that allowed by the Road Traffic Ordinance of the authority concerned, or any amendment thereof. Hauling is strictly forbidden on sections of streets that have been completed as described above. The Contractor shall make use of temporary haul roads, or where not practically possible, programme his work in such a manner that the haulage of materials shall be restricted to that required for the particular section of street. No additional payment shall be made for the use of temporary haul roads and all relevant costs shall be deemed to be covered by the appropriate rates.

The Contractor must note that no additional payment will be made for the construction of temporary access roads to the construction site, borrow areas or to the spoil sites, except for payment made under payment item A 8.3.2.2 of SANS 1200 A.

If the Contractor does make use of existing streets for the hauling of materials to or from the site, he shall be held responsible to clear any spillage caused by his activities on or near the roads by whatever means necessary, within one (1) day after such spillage has occurred. No additional payment will be made for the clearance of spillage and all relevant costs will be deemed to be covered under the relevant items.

C3.4.4.2 Blasting operation

Any blasting required shall be carried out by a competent, registered blaster. All permits required to purchase, transport, use and dispose of unused, blasting material shall be obtained and copies given to the Engineer before any blasting may take place. The commander of the local South African Police Services (SAPS) shall be informed of the time and date that blasting operations will take place at least 6 hours before blasting.

No blasting operations may take place on weekends or holidays or after 17:00 on week days.

The Contractor shall ensure that sufficient suitable cover material, to the satisfaction of the blaster, is available and in place before a blast is initiated.

C3.4.4.3 Normal working hours

Normal working hours shall be between 07:00 and 17:00 on weekdays from Mondays to Fridays and between 07:00 and 13:00 on Saturdays, should the Contractor choose to work on Saturdays, excluding Public holidays.

C3.4.4.4 Quality plans and control

The Contractor shall have a well-documented Quality Assurance system depicting his approach to guarantee quality control and the procedures for preventative and corrective actions in order to ensure compliance with the specified standards and requirements of this contract.

The Contractor is required to carry out his own control testing, but if he so wishes, and agrees to abide by the results of the Engineer's check test, he may dispense with his own tests. However, should the Contractor wish to use the Engineer's testing facilities, he will be charged for the various tests at the rates ruling at the time.

Any additional tests requested by the Contractor or any retests required, due to failure of the initial tests, will be charged to the Contractor at the rates ruling at the time.

C3.4.4.5 Interference with Municipal staff and operations

N/A.

C3.4.4.6 Access for other Contractors

The Contractor shall provide reasonable access to other Contractors carrying out work on the site from time to time, as and when such access is required. The Contractor is entitled to request reasonable notification of at least 24 hrs before access by others is required.

C3.4.4.7 Giving notice of work to be covered up

The Contractor shall give the Engineer reasonable time to accommodate examinations in his program, in which case times for inspections can be agreed on. Requests for examination of work shall be made with an inspection request form 72 hrs before the examination is required.

If the Engineer attends with the purpose of examining any part or materials of the works at the time and date as agreed upon with the Contractor, and it is found that the works or materials are not yet ready for inspection, the Contractor shall be responsible for the costs of such a visit by the Engineer.

C3.4.4.8 Cost of test specimens and tests

It is deemed that the Contractor has made provision in his tender for all such services and tests that are required from him. It is the duty of the Contractor, at his own cost and by means of the necessary tests, to prove to the Engineer that the works and compaction where prescribed, comply with the specification.

C3.4.5 Sequence of the works

Sequencing of the works shall be agreed to between the Contractor, the Engineer and the client.

C3.4.6 Quality plans and control (Testing)

Refer SANS 1200 A : General

C3.4.7 Environmental Management Plan

C3.4.7.1 Demarcation of the site

For the purpose of the EMP, the site shall be divided into two areas identified by the Engineer and the Contractor:

(i) The construction camp comprising all buildings, hostels, offices, lay down yards, vehicle wash areas, fuel and material storage areas, batching areas and other infrastructure that is required for the running of the job.

(ii) The working area in which construction activity is permitted to take place. No infrastructure, permanent lay down or storage areas shall be established in this working area unless specified in the project specification or prior approval is obtained from the Engineer.

C3.4.7.2 Construction camp

The Contractor shall provide the Engineer with a plan showing the positions of all buildings, yards, vehicle wash areas, batching areas and other infrastructure for approval by the Engineer at least ten (10) days prior to the commencement date. The construction camp shall be planned in such a way so as to affect as small an area as practically possible. The Engineer shall approve the location and layout of the construction camp prior to establishment.

C3.4.7.3 Fencing of the site

If a temporary fence is required, the Contractor shall erect and maintain such a fence (demarcating the boundary of the working area, construction camp and access roads) to the satisfaction of the Engineer. The erection of this fence shall be one of the first tasks undertaken by the Contractor after the commencement date. The boundaries between the construction camp area and the working area within the site shall also be fenced. The Contractor shall ensure that the erection of the fencing causes minimal disturbance to flora, fauna, natural, historical and cultural features. A method statement shall be submitted to the Engineer prior to erection to ensure proper positioning of the fence.

All material left over from fencing operations shall be collected after the fence has been erected and removed from site. Fences shall not be moved or removed without the written consent of the Engineer. The Contractor throughout the construction period shall maintain fences.

C3.4.7.4 Workshops

Any workshops shall be located inside the demarcated construction camp area. The exact location and design of the workshop shall be as approved by the Engineer prior to establishment. The workshop shall have a smooth impermeable (concrete) floor. The floor shall be bunded and sloped towards an oil trap or sump to contain any spillages of substances (e.g. oil). When servicing equipment, drip trays shall be used to collect the waste oil and other lubricants. All

waste material shall be disposed of in accordance with national, regional and local laws, regulations and by-laws. This waste material shall be regularly removed off site and disposed of at an approved waste site.

C3.4.7.5 Eating areas

The Contractor's employees shall eat in the designated eating area indicated on the Contractor's drawing of the construction camp that has been approved by the Engineer. No changes to the eating area shall be made without the approval of the Engineer. The Contractor shall provide shade and adequate scavenger-proof and weatherproof refuse bins in this area. Any cooking on site shall only be undertaken in the eating area and be done on well maintained gas cookers with fire extinguishers present. No cooking shall be done anywhere else on site and no fires are permitted.

C3.4.7.6 Watchmen

The Contractor shall ensure that a watchman is present on site during all non-working hours, including public holidays unless otherwise agreed with the Engineer to ensure the safety of sensitive areas.

C3.4.7.7 Ablution facilities

The exact location of the toilets shall be as approved by the Engineer. The Contractor shall provide toilets and shall be responsible for their maintenance and servicing on a daily basis. The contractor shall ensure that no spillage occurs when the toilets are cleaned or emptied. Burial of waste from toilets on site is strictly prohibited. The toilets shall be maintained in a clean state. Performing ablutions anywhere other than in toilets is strictly prohibited. Leaking toilets shall be repaired immediately or removed from site.

C3.4.7.8 Solid waste collection areas

"Solid waste" refers to all solid waste, including construction debris, chemical waste, excess cement/concrete, wrapping materials, timber, tins and cans, drums, wire, nails, food and domestic waste (e.g. plastic packets and wrappers).

The Contractor shall set up a waste control and removal system. The Contractor shall submit a method statement for waste control and removal to the Engineer for approval prior to commencement. Bins shall be closed, weatherproof and scavenger-proof.

Waste shall be collected from these bins on a daily basis and shall be stored in a central collection area prior to removal off-site. This central collection area shall have appropriate storage containers (closed and weatherproof) bunded and lined with plastic or concrete. The waste from this central collection area shall be disposed of off-site at an approved waste site. Waste shall be removed from site on a regular basis as approved by the Engineer. Waste shall not be burnt or buried on site or in the surrounding area. Where possible, appropriate material shall be reused or recycled.

C3.4.7.9 Wastewater

Water shall be used sparingly on site and where possible wastewater shall be recycled. A wastewater management plan shall be submitted to the Engineer for approval 10 days prior to commencement date. This management plan shall detail the expected extent of contamination of each wastewater stream and how the Contractor plans to deal with each wastewater stream.

C3.4.7.10 Fuel storage areas

Fuels required for use during construction shall be stored in a depot at the construction camp at a location as agreed upon by the Engineer. The Contractor shall ensure that all liquid fuels (petrol and diesel) are stored in tanks with lids, which are kept firmly shut. The tanks shall be situated on a smooth impermeable (plastic or concrete) base with an earth bund. The impermeable lining shall extend to the crest of the bund and the volume inside the bund shall be 1,5 x the total

capacity of the storage tanks. The bunded area shall be emptied of water following rainfall events. The floor of the bund shall be sloped towards an oil trap or sump to enable any spilled fuel and / or fuel-soaked water to be removed.

The Contractor shall keep fuel under lock and key at all times.

C3.4.7.11 Concrete batching area

Cement and concrete are regarded as hazardous to the environment due to the high pH of the material and the chemicals it contains.

The Contractor shall submit a method statement for mixing of concrete for approval by the Engineer indicating where the mixing will take place and the methods to ensure that waste water and materials are contained in the batching area and disposed of correctly. Concrete shall not be mixed directly on the ground.

C3.4.7.12 Equipment maintenance and storage

All vehicles and equipment shall be kept in good working order and serviced regularly. Leaking equipment shall be repaired immediately or removed from the site. Where possible, all maintenance of equipment and vehicles shall be performed in the workshop. If it is necessary to do maintenance outside of the workshop area, the Contractor shall obtain agreement from the Engineer prior to commencing activities.

The Contractor shall demarcate an area in which equipment and vehicles may be stored. The location of this area shall be as approved by the Engineer. The Contractor shall take measures to ensure that there is no pollution of this storage area by leaks or drips.

C3.4.7.13 Materials handling, use and storage

The Contractor is responsible for ensuring that any material delivery drivers are informed of all procedures and restrictions (e.g. which access roads to use, “no go” areas, speed limits, dust control, etc) required to comply with the EMP before they arrive at site and off load any materials. The Contractor shall ensure that the delivery drivers are supervised during off-loading by someone with an adequate understanding of the requirements of the EMP, so as to ensure that all relevant requirements of the EMP are followed.

Hazardous Substances

The Contractor shall comply with all relevant national, regional and local legislation with regard to the transport, use and disposal of hazardous materials.

The Contractor shall provide the Engineer with a list of all hazardous materials to be used on site, together with the storage, handling and disposal procedures of the materials. This information shall be available to all personnel on site.

The location of the hazardous material store shall be within the demarcated construction camp area. The location and design of the store within this area shall be approved by the Engineer prior to establishment.

Fuel (Petrol and Diesel) and Oil

Where possible, the Contractor shall ensure the refuelling of vehicles takes place only at the fuel storage area in the construction camp. Where this is not possible, the Contractor shall notify the Engineer to get his approval of the refuelling method to be used. The surface under the refuelling area shall be protected against pollution to the satisfaction of the Engineer prior to any refuelling activities. All equipment that leaks shall be repaired immediately or removed from the site. Refuelling shall be carried out by means of pumps, rather than funnels.

C3.4.7.14 Emergency procedures

The Contractor shall ensure that emergency procedures for the following situations are submitted for approval to the Engineer prior to establishment of the site.

Fire

The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it. The Contractor shall ensure that his staff and the staff of Subcontractors are aware of the procedure to be followed in the event of a fire.

Accidental leaks and spillages

The Contractor shall ensure that his staff and the staff of Subcontractors are aware of the procedure to be followed for dealing with spills and leaks, which will include notifying the Engineer and relevant authorities. The Contractor shall also ensure that the necessary materials and equipment for dealing with spills and leaks are present on site at all times. The clean up of spills and any damage caused by the spill or leak shall be for the Contractor's account. The Contractor shall submit a method statement for management of accidental leaks and spillage's of any liquid material to the Engineer for approval.

C3.4.7.15 Care of surrounding areas

The Contractor shall ensure that no contamination of or damage to the surrounding areas or watercourses shall occur as a result of any of his activities during construction.

Care shall be taken to ensure no accidental spillage or leakage occurs whilst temporary bypass facilities are in use. Should any spillage or leakage occur the Contractor shall immediately stop his operations and clean up the spillage. He shall then rectify the cause of the spillage or leakage before proceeding further to ensure that no further spillages occur.

The clean up of spillage and any damage caused by the spillage or leakage shall be for the Contractor's account. The Contractor shall submit a method statement for management of accidental leaks and spillages of any sewage to the Engineer for approval.

The Contractor shall ensure that no pollution of the surrounding areas occurs due to wind-blown or other litter emanating from the site or from his activities during construction. No fires are permitted, neither is the cutting down of or any damage to trees and other vegetation outside of the demarcated site.

C3.4.8 Other Contractors on site

A mechanical / electrical contractor will be on site during the contract period, who will be working on the instalment of certain mechanical components of the new sewer pump station. The contractor responsible for delaying other contractors shall be liable for all costs associated with the delay.

Programming and liaison in this regard must be taken into account.

C3.4.9 Format of communications

All communication regarding the contract shall be channelled through the Engineer and/or his duly authorised representative.

C3.4.10 Key personnel

The contractor shall furnish satisfactory evidence that they dispose of sufficient staff and workmen with the necessary experience in work of a similar nature as that described in this document. For this purpose the contractor shall duly complete a personnel schedule and past experience.

C3.4.11 Management meeting

Monthly site meetings will take place at the site office of the Contractor at dates and time to be communicated at the award of the contract. The Employer, Engineer, Contractor and Project Steering Committee will attend the monthly site meetings. The Engineer will act as the chair for the monthly site meetings. Other planning meetings between the Contractor's personnel and the Engineer's Representative can take place on a fortnightly basis or as required in terms of the contract progress.

C3.4.12 Daily records

The Contractor will be required to keep a daily record of the site activities (including plant, personnel, site and weather conditions) in the Site Diary which will be inspected during each management meeting and when the Engineer or Employer visits the site.

C3.4.13 Payment certificates

Payment on this contract will be made in accordance with Contract clauses. The Contractor and the Engineer's Representative shall compile and agree on the quantity of work certified for payment and submit the payment certificate to the Engineer 7 days before the monthly site meeting. The Engineer will draw up the payment certificate to be certified at the monthly site meeting by the Engineer and the Employer. Payment certificates will only be certified at the site meeting if the Engineer and Employer are in agreement as to work certified, contractual obligations fulfilled by the contractor, etc. following a site inspection on the day of the site meeting. Payment certificates will be certified by the Engineer and Employer should there be an agreement as to the issues previous mentioned or the payment certificate will be edited.

No retention money will be certified for payment unless the list setting out the work to be completed to justify the issue of the Certificate of Completion, has been fully complied with.

The quantities in the Bill of Quantities are provisional only and do not necessarily represent the actual and final amount of work to be done. Unless otherwise stated, items will be measured nett in accordance with the drawings and no allowance will be made for waste.

The Contract amount for the complete contract shall be computed from the actual measured quantities of authorised work done to the satisfaction of the Engineer, valued at prices tendered against the respective items in the Bill of Quantities.

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

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ANNEXURES - OHS

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

TENDER NO. UB/VW/07/2021

OHS CONTRACTOR SPECIFICATION

INDEX **PAGE**

1. SCOPE

This Specification is intended for all Service Providers and Contractors

2. OBJECTIVE

- To ensure that Service Providers and Contractors comply with the requirements of the Occupational Health and Safety Act No. 85 of 1993 and the Regulations thereto including any relevant standards and SABS codes of practice that may apply.

- To minimise and eliminate contractor's health and safety risks.

- To ensure that contractors submitting tenders make provision for the cost of health and safety measures to be implemented during the duration of the contract / during the construction process.

3. DEFINITIONS

Client means any person for whom construction work is performed.

Contractor (also referred as Mandatary), including a labour-only contractor, who carries out a trade, business or other undertaking (whether for profit or not) in connection with which he or she:

(a) carries out or undertakes to carry out or manages construction work; or

(b) arranges for any person at work under his control (including an employee of his, where he is the employer) to carry out or manage construction work; or

(c) provides a person or persons to perform work for a client

Construction work means any work in connection with

(a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;

(b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;

(c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or

(d) the moving of earth, clearing of land, the making of an excavation, piling, or similar type of work.

(e) Any work in addition to the above which by agreement between the principal and the contractor may be agreed to be construction work, or any work which may be described as construction work in terms of the Construction Regulations to the OHS Act GN 1010 of the 18th July 2003.

Competent person means any person having the knowledge, training, experience and qualifications specific to the work or task being performed. Qualifications and training must be inline with the South African Qualification Authority Act No. 58 of 1995.

Designer means a person who prepares a design; arranges for any person at work under his control(including an employee of his, where he is the employer) to prepare a design; an architect or engineer contributing to, or having overall responsibility for the design; building services engineer designing details for fixed plant; surveyor specifying articles or drawing up specifications; contractor carrying out design work as part of a design and build project; temporary works engineer designing formwork and false work; and interior designer, shop-fitter and landscape architect.

Fall Prevention Equipment means equipment used to arrest the person in a fall from an elevated position, including personal equipment, body harness, lanyards, lifelines or physical equipment, guardrails, toe-boards, screens, barricades, anchorages or similar equipment.

Fall Arrest Equipment means equipment used to arrest the person in a fall from an elevated position, including personal equipment, body harness, lanyards, deceleration devices, lifelines or similar equipment, but excluding body belts.

Hazard means a source of or exposure to danger

Hazard identification means the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed

Risk assessment is an activity conducted by competent person which includes

(a) the identification of the risks and hazards to which persons may be exposed to;

(b) the analysis and evaluation of risks and hazards identified;

(c) a documented plan of safe work procedure to mitigate, reduce or control the risks and hazards that have been identified;

(d) monitoring plan; and

(e) a review plan.

Excavation work means making of any man-made cavity, trench, pit or depression formed by cutting, digging or scooping

Ergonomics means application of scientific information concerning humans to the design of objects, systems and the environment for human use in order to optimise human well-being and the overall system performance

4. NOTIFICATION OF CONSTRUCTION

Any contractor who intends to carry out construction which includes the construction work listed below must notify the Provincial Director prior commencement of any work at least 3 days after being officially notified that he/she has been awarded the tender to carry out such work. Proof of such notification must be submitted for reference purposes.

(a) the demolition of a structure exceeding a height of 3 meters; or

(b) the use of explosives to perform construction work; or

(c) the dismantling of fixed plant at a height greater than 3 meters;

(d) when the construction work exceeds 30 days or will involve more than 300 person days of construction work;

(e) excavation work deeper than 1 meter; or

(f) working at a height greater than 3 meters above ground or a landing.

5. REGISTRATION WITH THE WORKMEN'S COMPENSATION OR LICENSED INSURER

Contractors shall ensure that the client is provided with a letter of good standing including a registration number with the Compensation for Occupational Injury and Diseases Fund or an alternative scheme approved in writing by the Commissioner to the COID Fund at least 3 days prior commencement of construction work.

Contractors shall ensure that the client is provided with a letter of good standing including a registration number with the Compensation for Occupational Injury and Diseases Fund or an alternative scheme approved in writing by the Commissioner to the COID Fund at least three (3) days prior commencement of construction work.

6. MANDATARY FORM

Not applicable

7. ASSIGNED PERSON IN TERMS OF OCCUPATIONAL HEALTH & SAFETY ACT OF 1993 & ITS REGULATIONS

A written letter of appointment shall be forwarded to the client duly signed by responsible persons at least 3 days prior commencement of construction work for the following duties:

(a) Person assigned duties in terms of the 16.2 appointees of the Act
(b) Construction Work Supervisor
(c) Assistant Construction Work Supervisor
(d) Full-time or part-time Construction Safety Officer
(e) Scaffolding Erector
(f) Scaffolding Inspector
(g) Excavation Supervisor
(h) Explosive Powered Tool Supervisor
(i) Fire Equipment Supervisor
(j) Portable Electrical Equipment Supervisor
(k) Ladder Supervisor
(l) Personal Protective Equipment Supervisor
(m) Electrical Supervisor
(n) Lifting Machine Supervisor
(o) Lifting Tackle Supervisor
(p) Stacking and Housekeeping Supervisor
(q) Workshop and Plant Supervisor
(r) Oxy-acetylene Gas Cutting/Welding Supervisor
(s) Safety Representatives
(t) Competent Person in Risk Assessment
(u) Hazardous chemical substances Controller/Co-ordinator
(v) First Aider
(w) Incident Investigator
(x) Formwork and Support work Supervisor

8. HEALTH AND SAFETY PLAN

A contractor shall provide the client with a Health and Safety Plan document that shall includes the following during tendering process, before commencement of construction work and during construction:

8.1 Contractor's Health & Safety Policy

A Contractor shall provide a health & safety policy signed by the Chief Executive Officer (CEO).which outlines contractor's commitment towards health and safety

8.2 Health and Safety Organogram

A Contractor shall provide a health & safety organogram which outlines the team leaders, 16.2 appointees, construction work supervisor, assistant construction work supervisor, safety representatives, safety committee members and other related appointments in terms of the OHSAct. The contact numbers should also be provided for easy reference.

8.3 Risk assessment

A risk assessment shall be conducted by a competent person, this includes:

1. identification of risks and hazards to which persons may be exposed; this is also to include ergonomic related

2. hazard analysis and evaluation of the identified risks and hazards;

3. a documented plan of safe work procedure to mitigate, reduce or control the risks and hazards that have been identified;

4. a monitoring and review plan of risks and hazards

5. relevant personal protective equipment or clothing to be provided which is SABS approved

6. fall protection plan for work carried in elevated position(s)

The contractor shall ensure that all employees are informed, instructed and trained by a competent person regarding any hazard and the related procedure before any work commences.

8.4 Fall Protection Plan

A contractor shall submit a risk assessment conducted by a competent person outlining the procedure and methods used to address all risks identified per location. A contractor shall ensure that employees working in such elevated positions undergo a medical examination conducted by a registered occupational health practitioner. A certificate of fitness (that is employee's physical and psychological fitness) valid for a year, shall be submitted prior commencement of construction. A contractor shall ensure that employees working from elevated positions receive proper training and such records are kept on file for reference purposes.

A contractor shall ensure that no person works in an elevated position, unless such work is performed safely as if working from a scaffold or ladder.

A contractor shall ensure that fall prevention and fall arrest equipment is inspected for its suitability and strength before use to ensure that it is safe for use and such inspections shall be recorded and kept on file for reference.

A contractor shall ensure that fall arrest equipment is used only if not reasonably practicable to use fall prevention equipment. Precautionary measures shall be taken by the contractor to ensure that in the event of fall by any person, the fall arrest equipment or the surrounding environment does not cause injury to the person.

8.5 Health and Safety Representatives

A contractor shall ensure that Health and Safety Representative(s) is/are elected and delegated in writing and necessary training has been provided by a competent person. A proof of training certificate shall be provided to THE CLIENT prior commencement of construction work.

Health and Safety Representatives shall conduct regular inspections by completing a mutually acceptable form of checklist developed by the contractor. Safety defects noted shall be recorded and reported to the supervisor for remedial action. Health and Safety Representative Inspection findings shall be made available to THE CLIENT for reference and audits purposes.

Health and Safety Representatives and their reports shall form part of the safety committee which shall meet on a regular bases as stated by the contractor.

8.6 Health and Safety Committee

A contractor shall hold health and safety meetings on site. Minutes of such meetings and action taken by management shall be kept on file and made available to THE CLIENT for reference purposes. Members of the committee shall receive proper training and a proof of such training shall be made available.

The contractor shall ensure that THE CLIENT Safety Department is invited to such meetings. These meetings do not substitute for Contractor's Site meetings.

8.7 HEALTH & SAFETY TRAINING

ENVIRONMENTAL HEALTH & SAFETY INDUCTION

A contractor shall attend an Induction training session conducted by THE CLIENT Safety at least 3 days prior commencement of construction work. An attendance register shall be provided to the contractor to keep it on their health and safety file.

For any construction work to be conducted on the Airside, an Airside Safety Induction training shall be attended by all persons entering who are to enter Airside and a course fee determined by THE CLIENT shall be paid by the Contractor. A security permit to access airside shall be issued on production of proof of attendance.

INDUCTION CONDUCTED BY CONTRACTOR & COMPETENT PERSON

A contractor must make sure that their personnel and persons visiting the site undergo an induction conducted by a competent person prior commencement of construction work. Every employee on site shall be in a possession of proof of the health and safety induction training

A contractor shall ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site.

A manual /copy of such training shall be provided to THE CLIENT for reference purposes.

As a risk assessment determines, a contractor shall ensure that all employees under his/her control are trained by a competent person and a proof of such training is kept on file for reference.

Toolbox Talks

A Contractor shall ensure that employees attend a formal Toolbox conducted at least on a weekly basis. Toolbox Talks shall cover a wide variety of topics related to health and safety. An attendance register shall be completed by employees who attended such Talks. The register shall indicate the topic covered, presenter, date and signatures of employees attended. Records for Toolbox Talks shall be kept in a health and safety file and be made available to THE CLIENT for perusal.

First Aid Training

A contractor shall appoint First Aider(s) in writing. A letter of appointment shall be kept on file for reference made available to THE CLIENT Safety. Duly designated First Aider(s) shall undergo for training conducted by an accredited institution prior commencement of construction work and a proof of certificate be submitted to THE CLIENT for reference.

The Contractor shall ensure that the first aid box(es) is/are controlled by qualified First Aider(s) and kept fully stocked with necessary first aid contents related to the hazards and risks identified. A first aid box must be accessible and location of such boxes) is clearly displayed on site.

8.8 Fire prevention and Protection

A contractor shall ensure that adequate fire equipment is provided in strategic places (that is, where there is a mobile distribution board, flammable liquids, vessels under pressure, confined spaces, hot work etc). A contractor shall ensure that such equipment is inspected by a competent person on a regular basis and such inspections are recorded on a register. A contractor shall ensure that all fire equipment is serviceable and person(s) have been properly trained on how to use the equipment. A proof of such training shall be provided prior commencement of construction work.

8.9 EMERGENCY PREPAREDNESS

A contractor shall provide THE CLIENT with an emergency plan and procedure which will include, but not limited to emergencies such as fire, bomb threat, civil unrest, medical treatment, environmental incidents, accidents to employees and other persons other than their employees.

Emergency procedure shall be communicated to employees and a proof of such training shall be kept on file for reference. A list of emergency contact numbers shall be conspicuously displayed on site for ease reference. An evacuation plan shall be displayed in strategic places.

A contractor shall provide THE CLIENT Safety with a full record of any incidents which may occur on site.

8.10 Incidents/Accidents Reporting and Investigation

A Contractor shall ensure that all incidents/accidents (this includes near miss, first aid cases and section 24 cases) are reported by employees immediately to the Construction Work Supervisor for further investigation and remedial action. A Contractor shall ensure that all section 24 incidents/accidents and incidents other than employees are reported to the Department of Labour immediately and preliminary investigation is conducted by a competent person within seven days. If construction work will be finished within 3 days after occurrence, an investigation shall be conducted before such construction work is ceased. Proof of such records shall be submitted to THE CLIENT immediately or within 24 hours.

8.11 Personal Protective Clothing/Equipment

A contractor shall ensure that personal protective equipment or clothing needs analysis is conducted and incorporated into the risk assessment. Records shall be provided by the contractor prior commencement of construction work. A contractor shall ensure that SABS approved personal protective equipment or clothing is provided to personnel The contractor shall ensure that no personnel are allowed to work on site without necessary personal protective equipment or clothing. A contractor shall ensure that PPE or Clothing is kept in good working order.

A contractor shall clearly stipulate procedures to be followed when PPE or Clothing is lost or stolen, worn or damaged. THE CLIENT shall remove any person from construction site who is working without necessary personal protective equipment and/or clothing. Worn or tattered personal protective clothing shall not be permitted on airport premises.

9. GENERAL HEALTH & SAFETY REQUIREMENTS

9.1 Roof Work

A contractor shall ensure that all necessary health and safety precautions stated in the General Safety Regulations and Construction Regulations are taken into consideration when conducting any roof work. A contractor shall ensure that no person(s) is /are permitted to work on roof during inclement weather conditions.

9.2 Structure

A contractor shall provide THE CLIENT with necessary precautionary safety measures to be taken as stipulated in Construction Regulation 9 to obviate any uncontrolled collapse of new structure or existing structure or any part thereof which may become unstable or is in temporary state of weakness or instability due to carrying out of construction work.

9.3 Designer

The designer shall conduct regular inspections to ensure that a contractor is erecting a structure according to the designs and records of inspections shall be kept on site for reference. The frequency of inspections shall be determined by the nature of construction.

A designer can stop any contractor from executing any construction work which is not in accordance with the relevant design. A certificate of commissioning shall be issued by the designer after completion of structure.

9.4 Scaffolding Erection/Dismantling

A contractor shall ensure that scaffolding is erected and dismantled under the supervision of a competent person. A letter of appointment of the scaffold erector and inspector and their proof of competency shall be provided prior commencement of work. A contractor shall ensure that all safety standards stipulated in Construction Regulation are adhered to.

A proof of weekly inspections and inspection conducted after inclement weather shall be kept on file for reference.

9.5 Excavation Work

A contractor shall ensure excavation work is conducted under supervision of a competent person who has been appointed in writing. A letter of appointment shall be provided to THE CLIENT Safety prior commencement of work. A risk assessment outlining safe work procedures to be adhered to if excavation is more than 1.5m deep must be provided to THE CLIENT prior commencement of work. A contractor shall ensure that no person works in an excavation which is not adequately braced or shored. Other safety precautions stated in annexure A should be taken into consideration.

A contractor shall ensure that every excavation including bracing and shoring are inspected daily prior each shift starts and such records are kept on site for reference.

A contractor shall ensure that all precautionary measure as stipulated for confined spaces as stated in the General Safety Regulation are complied with when entering any excavation. A contractor shall ensure that warning signs are conspicuously displayed where excavation work involves the use of explosives and a method statement developed by a competent person is provided to THE CLIENT prior commencement.

A contractor shall communicate, train and enforce safe work procedures pertaining to excavation work to his/her employees.

9.6 Demolition Work

A contractor shall ensure that a detailed structural engineering survey is conducted by a competent person and a method statement on the procedure to be followed is provided to THE CLIENT Safety. A contractor shall ensure that demolition work is conducted under the supervision of a competent person appointed in writing.

A contractor shall ensure that safety precautionary measures stipulated in Asbestos Regulations is adhered to if demolition work involves asbestos material and that asbestos work is conducted under the supervision of a registered Asbestos Contractor.

9.7 Explosive Power Tools

A contractor shall ensure that no person uses explosive power tools unless they have been properly trained, tools are properly guarded and inspected daily before use by a competent person who has been appointed in writing. A proof of such appointment and competency is kept on file for reference. A contractor shall ensure that warning signs are conspicuously displayed when explosive power tools are in use. A contractor shall ensure that all safety precautions are adhered to as stipulated in the Explosive Regulations and Construction Regulations

9.8 Portable Electrical Tools and Electrical Installation

A contractor shall ensure that all portable electrical tools are properly maintained, inspected before use by a competent person who is appointed in writing to perform such duties.

A contractor shall ensure that the electrical power tools are provided with earth leakage protection and are of double insulated type.

A contractor shall ensure that portable electrical tools are numbered and identified and entered onto a register. Regular inspections shall be recorded onto a register and kept on site.

A contractor shall ensure that prior notice is given to THE CLIENT Electrical Engineer of any work involving electrical isolation. A lock-out certificate shall be issued to the relevant Contractor. A contractor shall ensure that a lock-out procedure is adhered to by his/her employees whenever required. A contractor shall ensure that safety measures stipulated in the Electrical Installation Regulations, Machinery Regulations, General Machinery Regulations and Construction Regulations are adhered to at all times.

9.9 Lifting Equipment, Tackle, Material Hoist & Cranes

A contractor shall ensure that all lifting equipment and tackle is inspected before use and a monthly register is completed by a competent person. Proof of such inspections shall be recorded and kept on file for reference. A contractor shall ensure that a safe working load is conspicuously displayed on lifting equipment and tackle and service certificate is provided prior commencement of work. A contractor shall ensure operators are properly trained on how to operate the above equipment and a proof of competency is provided prior commencement of work.

A Contractor shall provide information on a procedures to be followed in the case of :

(a) the malfunctioning of equipment; and

(b) the discovery of a suspected defect in the equipment

A contractor shall ensure that safety measures stipulated in Driven Machinery Regulation and Construction Regulation with regard to above equipment are adhered to at all times.

9.10 Ladders

A contractor shall ensure that all ladders are numbered, inspected before use and weekly inspections are recorded in a register. A contractor shall ensure that a competent person who carries the above inspections is appointed in writing.

9.11 Storage of Flammable Liquids

A contractor shall ensure that a competent person is designated in writing to control the storage and usage of Hazardous Chemical Substances (HCS). A letter of appointment shall be provided prior commencement of construction work.

A contractor shall ensure that material safety data sheets (MSDS) of chemical substances brought on site are kept on site and such documents have been communicated to the chemical substance users and First Aiders.

A contractor shall ensure that safety measures stated in Hazardous Chemical Substances Regulations, General Safety Regulation, Construction Regulation and Community Safety Fire By-law are applied at all times.

9.12 Vessels Under Pressure

A contractor shall ensure that vessels under pressure are identified, numbered and entered in a register. A contractor shall ensure that a competent person is designated to supervise the use and maintenance of vessels under pressure. A contractor shall ensure that inspections are carried out and test of certificates are available and kept on file.

9.13 Employees exposed to excessive noise

A contractor shall ensure that all employees exposed to excessive noise (equal or above 85 dB(A) have undergone a baseline audiometric test prior commencement of construction work and SABS approved ear protection is provided and worn at all times.

9.14 Stacking and Storage

A contractor shall ensure a competent person is appointed in writing with a duty of supervising all stacking and storage on a construction work or site. A proof of such appointment shall be provided prior commencement of construction work. A contractor shall ensure that stacking is conducted under supervision and good housekeeping is maintained at all times

9.15 Ablutions/Changing/Eating Facility

A contractor shall ensure that sufficient shower, sanitary, changing facilities for each sex and sheltered eating area(s) are provided for the employees. The above facilities must be kept in a clean, hygiene, safe condition and in good state of repair.

9.16 Housekeeping on Sites

A contractor shall ensure that good housekeeping is maintained and enforced at all times. A contractor shall ensure that safety precautionary measures stipulated in Environmental Regulations for Workplaces and Construction Regulations and Construction Environmental Specification are adhered to at all times.

9.17 Public Safety & Security

A contractor shall ensure that notices and signs are conspicuously displayed at the entrance and along the perimeter fence indicating “No Unauthorised Entry”, “Visitors to report to office”, “helmet and safety shoes” etc

A contractor shall ensure that nets, canopies, fans etc are provided to protect the public passing or entering the site. A contractor shall ensure that Security guard is provided where necessary and provided with a way of communication and an access control measures or register is in place.

A contractor shall ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site.

9.18 Night Work

A contractor shall ensure that necessary arrangements have been made with THE CLIENT before conducting any night work. A contractor shall ensure that there is adequate lighting for any work conducted at night and failure to do so shall result in work being stopped.

9.19 Hot Work

A contractor shall ensure that Fire & Rescue Department is notified of any hot work to be conducted during construction work. A hot work permit accompanied with a gas free certificate shall be issued to the relevant contractor by THE CLIENT Fire & Rescue Department when satisfied that the area is safe and that the Contractor understands the procedure. A contractor shall ensure that a hot work procedure is adhered to at all time by his/her employees.

9.20 Construction Vehicles

A contractor shall ensure that all construction vehicles are maintained in a good working order, regular inspections are conducted and such records are kept on site. A contractor shall ensure that construction vehicle(s) is/are operated by only certified competent and authorised persons. A contractor shall ensure that s/he complies with the safety measures stipulated in Construction Regulation and National Road Transport Regulations, 2000.

9.21 Hired Plant and Machinery

A contractor shall ensure that any hired plant and/or machinery brought to site is inspected by a competent person before use and records confirming that it is safe for use are provided prior usage of such equipment. A contractor shall ensure that such plant or machinery complies with the requirements of the Occupational Health & Safety Act. A contractor shall ensure that hired operators receive induction prior commencement of work. A contractor shall ensure that hired operators have proof of competency. A Contractor shall provide information on a procedures to be followed in the case of :

(a) the malfunctioning of equipment; and

(b) the discovery of a suspected defect in the equipment

9.22 Road Construction Work

A contractor shall ensure that construction work conducted on the public road is done in a safe manner that is not detrimental to the safety of the public road users. A contractor shall ensure that all necessary caution signage are strategically and conspicuously displayed within 150 m from the actual construction work and things like cones, flag man etc are also provided where necessary.

10. OCCUPATIONAL HEALTH MEDICAL SERVICES

A contractor shall ensure that when a hazard identification and risk assessment (HIRA) is conducted occupational health hazards are clearly identified and health & hygiene measures are clearly outlined to ensure compliance. A contractor shall ensure that where certificate of fitness is required is provided prior commencement of construction work.

A contractor shall be provided with a number to be used for medical emergencies.

11. LIQUOR, DRUGS, DANGEROUS WEAPONS, FIREARMS

A contractor shall ensure that no person is allowed on site that appears to be under the influence of intoxicating liquor or drugs. A contractor shall encourage his/her workforce to disclose medication that pose a health and safety threat towards his/her fellow employees.

No person shall be allowed to enter the site and work if the side effects of such medication do constitute a threat to the health or safety of the person concerned or others at such workplace. No dangerous or firearms shall be allowed on construction site.

12. INTERNAL/EXTERNAL AUDITS

A contractor shall conduct weekly safety, health and environment audits and such records shall be kept on site. A contractor shall ensure that corrective measures are taken to ensure compliance.

THE CLIENT shall conduct regular audits and defects noted shall be reported to the relevant contractor for remedial action. Inspections shall be conducted by THE CLIENT and non-conformances noted shall be recorded and provided to the relevant contractor for remedial action. THE CLIENT shall stop any contractor from executing any construction work which is not in accordance with the health and safety plan.

A contractor shall ensure that all necessary documents stipulated in this document are kept on the health and safety file and made available when requested.

Activity	Name	Signature	Date
Prepared by			
Approval			
Authorisation			

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

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PART C4: SITE INFORMATION

UBUNTU MUNICIPALITY

VICTORIA WEST– UPGRADING AND REHABILITATION OF MANDELA SQUARE PUMP STATION, RESERVOIR AND REPLACEMENT OF WATER RETICULATION

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C4: SITE INFORMATION

C4.1 SCOPE

The documentation included in this section describes the site as at the time of tender to enable the tenderer to price his tender and to decide upon his method of working and programming.

Only actual information about physical conditions on the site and its surroundings has been included in this section and interpretation is a matter for the tenderers.

C4.2 SUBSOIL INVESTIGATIONS

No formal geotechnical investigation has been done on this project. Prospective tenderers shall acquaint themselves with the nature of the materials found on site. Certain portions of the total excavation may have to be done by mechanical breakers and / or blasting.

No claims whatsoever that may arise because of unforeseen ground and subsoil conditions will be considered. It is the responsibility for the Contractor to ascertain for himself the nature of the ground and subsoil as well as the conditions on site.

It is the Contractor's responsibility to supply and deliver all materials that comply with the minimum standards as well as for the building and maintaining of access roads to the works on site, haul areas or dumping sites. No additional payment will be applicable to the above-mentioned other than the relevant items in the schedule of quantities.

C4.3 "AS BUILT" DRAWINGS – WATER RETICULATION NETWORK

No data for existing services could be obtained and data for existing services on drawings are based on field observations done with representatives of the local municipality. Prospective tenderers shall acquaint themselves with existing site services.

No claims for damage to services may arise because of incorrect or incomplete data provided by the Engineer or the Client and it is the responsibility for the Contractor to ascertain himself of services encountered.

The Contractor must update a drawing with existing services encountered during construction and submit to the Engineer at practical completion stage.