DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3

T15/2027

CIDB GRADING 3 CE OR HIGHER

TENDER DOCUMENT

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY
PRIVATE BAG X9011
VOLKSRUST, 2470
TEL: +27 (0) 17 734 6100
FAX: +27 (0) 86 630 2209

NAME OF TENDERER: .....

TOTAL BID PRICE (EXCL. VAT): .....

TOTAL BID PRICE (INCL. VAT): .....

VAT AMOUNT: .....

CENTRAL SUPPLIER DATABASE NO: .....

TAX COMPLIANT STATUS PIN: .....

CLOSING DATE: Friday, 02 October 2026 at 12:00

T1.1 TENDER NOTICE AND INVITATION TO TENDER

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

TENDER T15/2027: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

CLOSING DATE AND TIME: FRIDAY, 02 OCTOBER 2026 AT 12:00

Tenders are hereby invited from SMME's, contractors and co-operatives to submit bids for the **TENDER T15/2027: APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.** Tenders should have a CIDB contractor grading of **3CE OR HIGHER**.

Tender documents will be obtainable from **Friday, 17 September 2026 at 12H00** at the Finance Department (Volksrust Offices) upon payment of a non-refundable tender levy of R649.20 or may be downloaded free of charge from www.etenders.gov.za. Only bank-guaranteed cheques or cash will be accepted.

A compulsory tender briefing meeting will not be held. Duly completed tenders must be sealed in an envelope clearly marked: **"MUNICIPAL MANAGER, DR PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY, TENDER T15/2027: APPOINTMENT OF THE CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3. CLOSING DATE: FRIDAY, 02 OCTOBER 2026 AT 12:00** must be placed in the tender box at Dr. Pixley Ka Isaka Seme Local Municipality offices, c/o Adelaide Tambo Street & Dr Nelson Mandela Drive in Volksrust not later than 12:00 PM when tenders will be opened in public.

Late tenders, incomplete tender documents and tenders per email or fax will not be accepted, and the Dr Pixley Ka Isaka Seme Local Municipality does not bind itself to accept the lowest or any tender. Dr Pixley Ka Isaka Seme Local Municipality reserves the right to accept a tender as a whole or in part.

All administrative enquiries can be directed to **Ms Melody Ralinotsi at 017 734 6100,** and the technical enquiries can be directed to **Mr Cedrick Mohoto at 017 734 6100.**

FI MOFOKENG
ACTING MUNICIPAL MANAGER

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DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

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T1.2 Bid Data

The conditions of Bid are the Standard Conditions of Bid as contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement. (See www.cidb.org.za) which are reproduced without amendment or alteration for the convenience of Bidders as an Annexure to this Bid Data

The Standard Conditions of Bid make several references to the Bid Data for details that apply specifically to this Bid. The Bid Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of the Bid. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Bid to which it mainly applies.

The additional conditions of the Bid are:

Clause number	Bid Data
F.1.1	The employer is the DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY.
F.1.2	The Bid documents issued by the employer comprise: T1.1 Bid notice and invitation to Bid T1.2 Bid data T2.1 List of returnable documents T2.2 Returnable schedules **Part 1: Agreements and contract data** C1.1 Form of offer and acceptance C1.2 Contract data C1.3 Form of Guarantee C1.4 Adjudicator's appointment **Part 2: Pricing data** C2.1 Pricing instructions C2.2 Summary of Bills of Quantities C2.3 Annexure: Bill of Quantities **Part 3: Scope of work** C3.1 Standard Specifications C3.2 Description of Works C3.3 Engineering C3.4 Procurement C3.5 Construction Standardized Specification C3.6 Health and Safety Specifications C3.7 Environmental Specifications **Part 4: Site information** C4.1 General C4.2 Site Location C4.3 Site Pictures **Appendices** Annexure A: Schedule of Personnel and Employer Annexure B: Preliminary Programme Annexure C: Financial Details, Statements and Bank reference Annexure D: Special Conditions of Contracts Annexure E: Drawings for Tender

F.1.4	The employer's details are: Name: **Dr. Pixley Ka Isaka Seme Local Municipality** Address: **c/o Adelaide Tambo & Dr. Nelson Mandela Drive, Volksrust, 2470** Tel: 017 734 6100 Fax: 086 630 2209 E-mail: records@pixleykaseme.gov.za The employer's agent is: Name: **TMS Consulting Engineers and Project Management** P.O. Box 603 Mbombela 1200 Tel: 013 752 8478 Email: info@tmsconsulting.co.za
F.2.1	Only those Bidders who have in their employ management and supervisory staff satisfying the requirements of the Scope of Work for labour intensive competencies for supervisory and management staff are eligible to submit Bids.

Standard Conditions of Bid

(As contained in Annexure F of the CIDB Standard for Uniformity in Construction Procurement)

F.1 General

F.1.1 Actions

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

F.1.2 Bid Documents

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

F.1.3 Interpretation

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

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

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

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

F.1.4 Communication and employer's agent

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

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

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

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

F.2 Bidder's obligations

F.2.1 Eligibility

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

F.2.2 Cost of Biding

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

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting

Attend **compulsory a clarification meeting** at which Bidders may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the Bid data.

F.2.8 Seek clarification

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

F.2.9 Insurance

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

F.2.10 Pricing the Bid offer

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

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

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

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

F.2.11 Alterations to documents

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

F.2.12 Alternative Bid offers

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

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

F.2.13 Submitting a Bid offer

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

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

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

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

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

F.2.13.6 Where a two-envelope system is required in terms of the Bid data, place and seal the returnable documents listed in the Bid data in an envelope marked “financial proposal” and place the remaining returnable documents in an envelope marked “technical proposal”. Each envelope shall state on the outside the employer’s address and identification details stated in the Bid data, as well as the Bidder's name and contact address.

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

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

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

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

F.2.15 Closing time

F.2.15.1 Ensure that the employer receives the Bid offer at the address specified in the Bid data not later than **12h00 on FRIDAY, 02 OCTOBER 2026** as stated in the Bid data. Proof of posting shall not be accepted as proof of delivery. The employer shall not accept Bid offers submitted by telegraph, telex, facsimile or e-mail, unless stated otherwise in the Bid data.

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

F.2.16 Bid offer validity

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

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

F.2.17 Clarification of Bid offer after submission

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

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

F.2.18 Provide other material

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

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

F.2.19 Inspections, tests and analysis

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

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

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

F.2.21 Check final draft

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

F.2.22 Return of other Bid documents

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

F.2.23 Certificates

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

F.3 The employer's undertakings

F.3.1 Respond to clarification

Respond to a request for clarification received up to five working days prior to the Bid closing time stated in the Bid Data and notify all Bidders who drew procurement documents.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the Bid documents to each Bidder during the period from the date of the Bid Notice until seven days before the Bid closing time stated in the Bid Data. If, as a result a Bidder applies for an extension to the closing time stated in the Bid Data, the Employer may grant such extension and, will then notify it to all Bidders who drew documents.

F.3.3 Return late Bid offers

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

F.3.4 Opening of Bid submissions

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

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

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

F.3.5 Two-envelope system

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

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

F.3.6 Non-disclosure

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

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

Determine, on opening and before detailed evaluation, whether each Bid offer has been properly received:

a) meets the requirements of these Conditions of Bid,

b) has been properly and fully completed and signed, and
c) is responsive to the other requirements of the Bid documents.

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

- Detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- change the Employer's or the Bidder's risks and responsibilities under the contract, or
- affect the competitive position of other Bidders presenting responsive Bids, if it were to be rectified.

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

F.3.9 Arithmetical errors

Check responsive Bid offers for arithmetical errors, correcting them in the following manner:

- Where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern.
- If a bill of quantities (or schedule of rates) apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate will be corrected.
- Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the Bidder's addition of prices, the total of the prices shall govern and the Bidder will be asked to revise selected item prices (and their rates if a bills of quantities applies) to achieve the Bided total of the prices.

Consider the rejection of a Bid offer if the Bidder does not correct or accept the correction of his arithmetical errors in the manner described above.

F.3.10 Clarification of a Bid offer

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

F.3.11 Evaluation of Bid Offers

F3.11.1 General

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

Method 1: Financial offer	1) Rank Bid offers from the most favourable to the least favourable comparative offer. 2) Recommend highest highest-ranked Bidder for the award of the contract unless there are compelling and justifiable reasons not to do so.
Method 2: Financial offer and preferences	1) Score Bid evaluation points for the financial offer.
	2) Confirm that Bidders are eligible for the preferences claimed and if so, score Bid evaluation points for preferencing. 3) Calculate total Bid evaluation points. 4) Rank Bid offers from the highest number of Bid evaluation points to the lowest. 5) Recommend Bidder with the highest number of Bid evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

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

Note: Sub-clause F3.11.1 Method 4 will be used for the evaluation of this tender.

FUNCTIONALITY EVALUATION

The following is the criteria that the Bidders will be evaluated for Functionality:

According to the MFMA Circular No. 53 of the Municipal Finance Act No. 56 of 2003, Bidders will also be evaluated on Functionality. The minimum Score for functionality is 70%, 70 points out of 100 as prescribed in the following tables. The bidder must score the minimum points in each and every category to show the ability to execute this project.

NB: FAILER TO OBTAIN MINIMUM SCORE WILL RESULT IN DISQUALIFICATION.

FUNCTIONALITY CRITERIA

CATEORY	FUNCTIONAL CRITERIA	POINTS ALLOCATION
i	Experience of the bidder	35
ii	Key personnel qualifications and experience	35
iii	Project Execution Plan (PEP)	30
TOTAL		**100**

(i) EXPERIENCE OF THE BIDDER (35 POINTS)

The Bidder must submit proof of successfully completed similar projects/works, construction and installation of water pipelines
(Attach copies of Appointment Letters or Official Purchase Orders and Completion Certificates).

Company experience	POINTS ALLOCATION
Bidder has submitted no information or inadequate information to determine scoring levels	0
Bidder has successfully completed at least 1 similar project/work	7
Bidder has successfully completed at least 2 similar project/work	14
Bidder has successfully completed at least 3 similar project/work	21
Bidder has successfully completed at least 4 similar project/work	28
Bidder has successfully completed at least 5 similar project/work	35

Note: 7 points per project

(ii) KEY PERSONNEL QUALIFICATIONS AND EXPERIENCE (35 POINTS)

The Bidder must submit Proposed Team Structure, identifying Site Agent, Site Foreman and Safety Officer as key personnel. (Copies of CVs and certified copies of qualifications certificates must be attached).

KEY PERSONNEL	Key personnel's experience	POINTS ALLOCATION
Site Agent/Site Manager National Diploma (NQF level 6) in Civil engineering or Construction Management	Minimum National Diploma (NQF level 6) in Electrical/Mechanical Engineering with 3years and above of relevant similar project experience	15
	Minimum National Diploma (NQF level 6) in Electrical/Mechanical Engineering and 1 – 2 of relevant similar project experience	10
	No information or inadequate information submitted to determine scoring level	0
Site Foreman NQF Level 4 in Civil Engineering and Construction Management	Minimum NQF Level 4 (Matric / Grade 12) with Trade Test Certificate in Electrical/Mechanical and more than 2 years of relevant similar project experience	10
	Minimum NQF Level 4 (Matric / Grade 12 with Trade Test Certificate in Electrical/Mechanical Engineering and 1 – 2 years of relevant similar project experience	5
	No information or inadequate information submitted to determine scoring level	0
Health and Safety officer/Manager registered with the South African Council for Project and Construction Management Professions registered with (SACPCMP)	Health and Safety officer/Manager registered with (SACPCMP) with more than 2 years' experience	10
	Health and Safety officer/Manager registered with (SACPCMP) and 1 – 2 years of relevant experience	5
	No information or inadequate information submitted to determine scoring level	0

(iii) PROJECT EXECUTION PLAN (30)

A bidder must attach a realistic and relevant project execution plan (PEP) tailored specifically to the project's scope to demonstrate competence and win the contract. The PEP should cover the following aspects	POINTS ALLOCATIONS
1. Methodology Statement	6
2. Availability of plant and equipment relevant for the project	6
3. Company's Health and Safety Statement/Policy	6
4. Quality Management Plan	6
5. Propose Construction Programme with realistic time frames	6
Total	**30**

Note: Bidders must provide a concrete and solid proposal addressing each of the topics listed above. Failure to submit a detailed proposal for any of these items will result in a score of zero points for that section:

a) Dr Pixley Ka Isaka Seme Local Municipality reserves the right to contact references submitted by the bidder.
b) Bids that do not achieve a minimum score of 70% for functionality will not be evaluated further and will not proceed to the next stage of the Bid Evaluation process

Please note should any of the nominated staff be replaced, the successfully appointed service provider will be required to ensure that such replacements must have equivalent criteria as above and this need to be approved by Dr Pixley Ka Isaka Seme Local Municipality.

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

T2.1 List of Returnable Documents

The Bidder must complete the following returnable documents:

1 Returnable Schedules required only for Bid evaluation purposes

- Certificate of authority for joint ventures (where applicable)
- Compulsory Enterprise Questionnaire
- Record of Addenda to Bid Documents
- Proposed Amendments and Qualifications
- Schedule of Subcontractors
- Schedule of Plant and Equipment
- Schedule of the Bidder's Experience
- Municipal statement on Bidder's rates and taxes

2 Other documents required only for Bid evaluation purposes

- completed unbinded tender documents;
- a company profile;
- a company registration certificate;
- certified ID copies of the company's shareholders, members, trustees, etc
- a valid tax clearance certificate;
- a proposed construction/works programme;
- letter confirming a signatory of authority
- CIDB registration certificate **(3CE OR HIGHER)**
- an original B-BBEE certificate; and
- proof of purchase of the Bid document (i.e. copy of the receipt)

3 Returnable Schedules that will be incorporated into the contract

- Preferencing Schedule (direct preferences)

4 Other documents that will be incorporated into the contract

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

6 C1.2 Contract Data (Part 2)

7 C2.2 Bill of quantities

Record of Addenda to Bid documents

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

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

Attach additional pages if more space is required.

Signed		Date	
Name		Position	
Bidder			

Certificate of Authority for Joint Ventures

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this Bid 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 Bid offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature. . . . . . Name …….. Designation
		Signature. . . . . . Name …….. Designation
		Signature. . . . . . Name …….. Designation
		Signature. . . . . . Name …….. Designation

Schedule of Proposed Subcontractors

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

If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with the requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

We confirm that all subcontractors who are contracted to construct a house are registered as home builders with the National Home Builders Registration Council.

	Name and address of proposed Subcontractor	**Nature and extent of work**	**Previous experience with Subcontractor.**
1.			
2.			
3.			
4.			
5.			

Signed		Date	
Name		Position	
Bidder			

Schedule of Plant and Equipment

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 Bid 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 Bid is acceptable.

Quantity	Description, size, capacity, etc.

Attach additional pages if more space is required.

Signed		Date	
Name		Position	
Bidder			

Schedule of the Bidder's Experience

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

Employer, contact person and telephone number.	**Description of Contract and Scope of Work**	**Value of work inclusive of VAT (Rand)**	**Date completed**
`			

Signed		Date	
Name		Position	
Bidder			

Proposed amendments and qualifications

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

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

Page	Clause or item	Proposal

Signed		Date	
Name		Position	
Bidder			

MBD1

INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR THE REQUIREMENTS OF THE DR PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

BID NUMBER: T15/2027 CLOSING DATE: 02 OCTOBER 2026 CLOSING TIME: 12:00

DESCRIPTION: **TENDER T15/2027 APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.**

The successful bidder will be required to fill in and sign a written Contract Form (MBD 7.2)

BID DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT:

Dr Pixley ka Isaka Seme Local Municipality Offices (Entrance Foyer)
Cnr Adelaide Tambo Street and Dr Nelson Mandela Drive
Volksrust
2470

Bidders should ensure that bids are delivered timeously to the correct address. If the bid is late, it will not be accepted for consideration.

The bid box is generally open during normal office hours from Mondays to Fridays (07:45 to 16:30).

ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS – (NOT TO BE RE-TYPED).

THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2011.

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

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

NAME OF BIDDER: .....

POSTAL ADDRESS: .....

STREET ADDRESS: .....

TELEPHONE NUMBER: CODE: ..... NUMBER.....

TELEPHONE NUMBER: .....

FACSIMILE NUMBER: CODE: ..... NUMBER.....

E-MAIL ADDRESS: .....

DPLISLM discourages fraud and corruption.

VAT REGISTRATION NUMBER: ……

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

HAS A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE BEEN SUBMITTED? (MBD 6.1) YES or NO

IF YES, WHO WAS THE CERTIFICATE ISSUED BY?

AN ACCOUNTING OFFICER AS CONTEMPLATED IN THE CLOSE CORPORATION ACT (CCA)……☐

A VERIFICATION AGENCY ACCREDITED BY THE SOUTH AFRICAN ACCREDITATION SYSTEM (SANAS); OR……☐

A REGISTERED AUDITOR ……☐

[TICK APPLICABLE BOX]

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

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

…… YES or NO

[IF YES ENCLOSE PROOF]

SIGNATURE OF BIDDER: ……

DATE: ……

CAPACITY UNDER WHICH THIS BID IS SIGNED: ……

TOTAL BID PRICE: ……

ANY ENQUIRIES REGARDING THE BIDDING PROCEDURE MAY BE DIRECTED TO:

Municipality: Dr Pixley ka Isaka Seme Local Municipality

Department: Supply Chain Management Unit

Contact Person: Ms M Ralinotsi
Tel: 017 734 6100
Fax: 086 630 2209
E-mail address: ralinotsi@pixleykaseme.gov.za

ANY ENQUIRIES REGARDING TECHNICAL INFORMATION MAY BE DIRECTED TO:

Department: Technical & Engineering Services Department

Contact Person: Mr C Mohoto
Tel: 017 734 6100
Fax: 086 630 2209
E-mail address: cedric@pixleykaseme.gov.za

MBD 2

TAX CLEARANCE CERTFICATE REQUIREMENTS

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

1. In order to meet this requirement bidders are required to complete in full the attached form TCC 001 "Application for a Tax Clearance Certificate" and submit it to any SARS branch office nationally. The Tax Clearance Certificate Requirements are also applicable to foreign bidders / individuals who wish to submit bids.

2. SARS will then furnish the bidder with a Tax Clearance Certificate that will be valid for a period of 1 (one) year from the date of approval.

3. The original Tax Clearance Certificate must be submitted together with the bid. Failure to submit the original and valid Tax Clearance Certificate will result in the invalidation of the bid. Certified copies of the Tax Clearance Certificate will not be acceptable.

4. In bids where Consortia / Joint Ventures / Sub-contractors are involved, each party must submit a separate Tax Clearance Certificate.

5. Copies of the TCC 001 "Application for a Tax Clearance Certificate" form are available from any SARS branch office nationally or on the website www.sars.gov.za.

6. Applications for the Tax Clearance Certificates may also be made via e-Filing. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website www.sars.gov.za.

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**

---

* 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.

3.7.1 If so, furnish particulars.

……
……

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

3.8.1 If so, furnish particulars.

……
……

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**

3.9.1 If so, furnish particulars.

……
……

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

3.11.1 If so, furnish particulars.

……

CERTIFICATION

I, THE UNDERSIGNED (NAME) ……..……

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

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

…….. ……
Signature Date

……. ……
Position Name of Bidder

MBD 6.1

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2011

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, 2011.

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 R1 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R1 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated not to exceed R1 000 000 (all applicable taxes included) and therefore the 90/10 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**	**80**
1.3.1.2	**B-BBEE STATUS LEVEL OF CONTRIBUTION**	**20**
	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

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

2.2 **"B-BBEE"** means broad-based black economic empowerment as defined in Section 1 of the Broad -Based Black Economic Empowerment Act;

2.3 **"B-BBEE status level of contributor"** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;

2.4 **"bid"** means a written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals;

2.5 **"Broad-Based Black Economic Empowerment Act"** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003);

2.6 **"comparative price"** means the price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration;

2.7 **"consortium or joint venture"** 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;

2.8 **"contract"** means the agreement that results from the acceptance of a bid by an organ of state;

2.9 **"EME"** means any enterprise with an annual total revenue of R5 million or less;

2.10 **"Firm price"** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;

2.11 **"functionality"** means the measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder;

2.12 **"non-firm prices"** means all prices other than "firm" prices;

2.13 **"person"** includes a juristic person;

a. **"rand value"** means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties;

2.15 **"sub-contract"** means the primary contractor's assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract;

2.16 **"total revenue"** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007;

2.17 **"trust"** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and

2.18 **"trustee"** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

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:

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

The specific goals allocated points in terms of this tender	Number of points allocated (80/20 system) (To be completed by the organ of state)	Number of points claimed (80/20 system) (To be completed by the tenderer)
At least 51%Black	4	
At least 51%Youth	4	
At least 51%Woman	4	
People with disabilities	3	
Locality - Dr Pixley Ka Isaka Seme LM	5	
TOTAL	**20**	

The following condition shall apply:

a) Any discount offered unconditionally shall be taken into account when calculations comparative prices.

b) Although discount offered conditionality shall not be taken into account for evaluation purposes, such discount shall be implemented when payments is effected (should the tender prove to be successful).

c) Points scored shall be rounded off to the nearest 2 decimal places.

d) In the event that two or more tenders score equal total points, the successful tender must be the one scoring the highest number of preferential points for Municipal specific goals. However, when functionality is part of the evaluation process and two or more tenders have scored equal points including equal preferential points for Municipal specific goals, the successful tender must be the one scoring the highest score for functionality. Should two or more tenders be equal in all respect, the award shall be decided by drawing of lots.

e) A trust, consortium or joint venture will qualify for points for municipal specific goals status level of contribution status level as a legal entity, provided that the entity submits their joint municipal specific goals status level of contribution documents.

f) A trust, consortium or joint venture will qualify for points for their municipal specific goals status level of contribution as an unincorporated entity, provided that the entity submits their consolidated municipal specific goals status level of contribution documents as if they were a group structure and that such a consolidated municipal specific goals status level of contribution document is prepared for every separated tender.

g) A person will not be awarded points for municipal specific goals status level of contribution if it is indicated in the bid documents that such a bidder intends sub-contracting 30% 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.

h) Tenderers who qualify as EMEs in terms of the MUNICIPAL SPECIFIC GOALS 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 MUNICIPAL SPECIFIC GOALS Status Level Certificates.

i) Tenderers other than EMEs must submit their original and valid MUNICIPAL SPECIFIC GOALS status level verification certificate or a certified copy thereof, substantiating their MUNICIPAL SPECIFIC GOALS rating issued by a Registered Auditor approved by IRBA or a Verification Agency accredited by SANAS.

j) A trust, consortium or joint venture will qualify for points for their MUNICIPAL SPECIFIC GOALS status level as a legal entity, provided that the entity submits their MUNICIPAL SPECIFIC GOALS status level certificate.

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

l) Tertiary institutions and public entities will be required to submit their MUNICIPAL SPECIFIC GOALS status level certificates in terms of the specialised scorecard contained in the MUNICIPAL SPECIFIC GOALS Codes of Good Practice.

m) A person will not be awarded points for MUNICIPAL SPECIFIC GOALS 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.

n) 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 MUNICIPAL SPECIFIC GOALS 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: ……...

……...

MBD 7.2 : CONTRACT FORM - RENDERING OF SERVICES

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

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

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

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

   (i) Bidding documents, *viz*
   - Invitation to bid;
   - Tax clearance certificate;
   - Pricing schedule(s);
   - Filled in task directive/proposal;
   - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2011;
   - Declaration of interest;
   - Declaration of Bidder's past SCM practices;
   - Certificate of Independent Bid Determination;
   - Special Conditions of Contract;

   (ii) General Conditions of Contract; and
   (iii) Other (specify)

3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.

4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfilment of this contract.

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

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

NAME (PRINT) …….

CAPACITY …….

SIGNATURE …….

NAME OF FIRM …….

WITNESSES

1 …….

2 …….

DATE: ……..

MBD 7.2

CONTRACT FORM - RENDERING OF SERVICES

PART 1 (TO BE FILLED IN BY THE PURCHASER /THE MUNICIPALITY)

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

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

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

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

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

SIGNED AT …… ON ……

NAME (PRINT) ……

SIGNATURE ……

OFFICIAL STAMP

WITNESSES

1 ……

2 ……

DATE: ……..

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1. This Municipal Bidding Document must form part of all bids invited.

2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3. The bid of any bidder may be rejected if that bidder, or any of its directors have:

   a) abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
   b) been convicted for fraud or corruption during the past five years;
   c) willfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
   d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).

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

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

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

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME) ……..…….…… CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM TRUE AND CORRECT.

I ACCEPT THAT, IN ADDITION TO CANCELLATION OF A CONTRACT, ACTION MAY BE TAKEN AGAINST ME SHOULD THIS DECLARATION PROVE TO BE FALSE.

…….. ……

Signature **Date**

…….. ……

Position **Name of Bidder**

MBD 9

CERTIFICATE OF INDEPENDENT BID DETERMINATION

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

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

[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.

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

T15/2027

C1: Agreement and Contract Data
C1.1 Form of Offer and Acceptance

Offer

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

Bid: TENDER T15/2027 APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

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

By the representative of the Bidder, deemed to be duly authorized, signing this part of this form of offer and acceptance, the Bidder 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 Bidder before the end of the period of validity stated in the Bid data, whereupon the Bidder becomes the party named as the contractor in the conditions of contract identified in the contract data.

Signature ……... Date ……

Name ……..

Capacity ……..

for the Bidder
(Name and address of organization) ……...
……...
……...

Name and signature of witness …….. ……

Acceptance

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

The terms of the contract are contained in:

Part C1: Agreements and contract data, (which includes this agreement)
Part C2: Pricing data
Part C3: Scope of work.
Part C4: Site information

and drawings and documents or parts thereof, which may be incorporated by reference into Parts 1 to 4 above.

Deviations from and amendments to the documents listed in the Bid data and any addenda thereto as listed in the Bid schedules as well as any changes to the terms of the offer agreed by the Bidder 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 Bidder shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfill any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the Bidder receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the Bidder (now contractor**)** within five 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.

Signature …… Date ……

Name ……..

Capacity ……

for the Employer

THE MUNICIPAL MANAGER
DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY
PRIVATE BAG X9011
VOLKSRUST
2470

Name and Signature of witness ……. …… Date ……

.

Schedule of Deviations

1 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

2 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

3 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

4 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

5 Subject . . . . . .

Details . . . . . .

. . . . . .

. . . . . .

. . . . . .

By the duly authorised representatives signing this agreement, the employer and the Bidder agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the Bid data and addenda thereto as listed in the Bid schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the Bidder 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 Bid documents and the receipt by the Bidder of a completed signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this agreement.

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

C1: Agreement And Contract Data
C1.2 Contract Data

The General Conditions of Contract for Construction Works (2015) published by the South African Institution of Civil Engineering, is applicable to this contract Drawings. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (tel 011-805 5947).

The conditions of Contract for Construction Works make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. 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.

	The variations to the General Conditions of Contract are:
4.5.2	Replace the term “Safety” with “Occupational Health and Safety”
49.6.1 to 4.9.6.3	Replace the term “Bank” with “Bank or Insurance Company”
55.1.8	Replace sub-clause with: The Contractor or anyone on his behalf or in his employ would pay, offer or offer as payment to any person in the employ of the Employer, or in the employ of the Engineer, a gratuity or reward or commission.
	Payment for the labour-intensive component of the works Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict. **Applicable labour laws** The Ministerial Determination, Special Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63 of 25 January 2002, as reproduced below, shall apply to works described in the scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers. **1 Introduction** 1.1 This document contains the standard terms and conditions for workers employed in elementary occupations on a Special Public Works Programme (SPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a SPWP. 1.2 In this document – (a) “department” means any department of the State, implementing agent or contractor; (b) “employer” means any department, implementing agency or contractor that hires workers to work in elementary occupations on a SPWP; (c) “worker” means any person working in an elementary occupation on a SPWP; (d) “elementary occupation” means any occupation involving unskilled or semi-skilled work; (e) “management” means any person employed by a department or implementing agency to administer or execute an SPWP; (f) “task” means a fixed quantity of work; (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task;

(h) "task-rated worker" means a worker paid on the basis of the number of tasks completed;
(i) "time-rated worker" means a worker paid on the basis of the length of time worked.

2 Terms of Work

2.1 Workers on a SPWP are employed on a temporary basis.
2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on a EPWP.
2.3 Employment on a SPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

3 Normal Hours of Work

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

4 Meal Breaks

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

5 Special Conditions for Security Guards

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

6 Daily Rest Period

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

7 Weekly Rest Period

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

8 Work on Sundays and Public Holidays

8.1 A worker may only work on a Sunday or public holiday to perform emergency or security work.
8.2 Work on Sundays is paid at the ordinary rate of pay.
8.3 A task-rated worker who works on a public holiday must be paid –
(a) the worker's daily task rate, if the worker works for less than four hours;
(b) double the worker's daily task rate, if the worker works for more than four hours.
8.4 A time-rated worker who works on a public holiday must be paid –
(a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;
(b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.

9 Sick Leave

9.1 Only workers who work four or more days per week have the right to claim sick-pay in terms of this clause.
9.2 A worker who is unable to work on account of illness or injury is entitled to claim one day's paid sick leave for every full month that the worker has worked in terms of a contract.
9.3 A worker may accumulate a maximum of twelve days' sick leave in a year.
9.4 Accumulated sick-leave may not be transferred from one contract to another contract.
9.5 An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
9.6 An employer must pay a time-rated worker the worker's daily rate of pay for a day's sick leave.
9.7 An employer must pay a worker sick pay on the worker's usual payday.
9.8 Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –

(a) absent from work for more than two consecutive days; or
(b) absent from work on more than two occasions in any eight-week period.

9.9 A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
9.10 A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Diseases Act.

10 Maternity Leave

10.1 A worker may take up to four consecutive months' unpaid maternity leave.
10.2 A worker is not entitled to any payment or employment-related benefits during maternity leave.
10.3 A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
10.4 A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
10.5 A worker may begin maternity leave –

(a) four weeks before the expected date of birth; or
(b) on an earlier date –
  (i) if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
  (ii) if agreed to between employer and worker; or
(c) on a later date, if a medical practitioner, midwife or certified nurse has certified that the worker is able to continue to work without endangering her health.

10.6 A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.
10.7 A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the SPWP on which she was employed has ended.

11 Family responsibility leave

11.1 Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances -

(a) when the employee's child is born;
(b) when the employee's child is sick;
(c) in the event of a death of –
  (i) the employee's spouse or life partner;
  (ii) the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

12 Statement of Conditions

12.1 An employer must give a worker a statement containing the following details at the start of employment –

(a) the employer's name and address and the name of the SPWP;
(b) the tasks or job that the worker is to perform; and
(c) the period for which the worker is hired or, if this is not certain, the expected duration of the contract;

(d) the worker's rate of pay and how this is to be calculated;
(e) the training that the worker will receive during the SPWP.

12.2 An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
12.3 An employer must supply each worker with a copy of these conditions of employment.

13 Keeping Records

13.1 Every employer must keep a written record of at least the following –
(a) the worker's name and position;
(b) in the case of a task-rated worker, the number of tasks completed by the worker;
(c) in the case of a time-rated worker, the time worked by the worker;
(d) payments made to each worker.

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

14 Payment

14.1 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
14.2 A task-rated worker will only be paid for tasks that have been completed.
14.3 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
14.4 A time-rated worker will be paid at the end of each month.
14,5 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
14.6 Payment in cash or by cheque must take place –
(a) at the workplace or at a place agreed to by the worker;
(b) during the worker's working hours or within fifteen minutes of the start or finish of work;
(c) in a sealed envelope which becomes the property of the worker.

14.7 An employer must give a worker the following information in writing –
(a) the period for which payment is made;
(b) the numbers of tasks completed or hours worked;
(c) the worker's earnings;
(d) any money deducted from the payment;
(e) the actual amount paid to the worker.

14.8 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it
14.9 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

15 Deductions

15.1 An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
15.2 An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
15.3 An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
15.4 An employer may not require or allow a worker to –
(a) repay any payment except an overpayment previously made by the employer by mistake;
(b) state that the worker received a greater amount of money than the employer actually paid to the worker; or
(f) pay the employer or any other person for having been employed.

16 Health and Safety

16.1 Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
16.2 A worker must –
(a) work in a way that does not endanger his/her health and safety or that of any other person;

	(b) obey any health and safety instruction; (c) obey all health and safety rules of the SPWP; (d) use any personal protective equipment or clothing issued by the employer; (e) report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager. **17 Compensation for Injuries and Diseases** 17.1 It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a SPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993. 17.2 A worker must report any work-related injury or occupational disease to their employer or manager. 17.3 The employer must report the accident or disease to the Compensation Commissioner. 17.4 An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home. **18 Termination** 18.1 The employer may terminate the employment of a worker for good cause after following a fair procedure. 18.2 A worker will not receive severance pay on termination. 18.3 A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the employer in advance to allow the employer to find a replacement. 18.4 A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period. 18.5 A worker who does not attend required training events, without good reason, will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period. **19 Certificate of Service** 19.1 On termination of employment, a worker is entitled to a certificate stating – (a) the worker's full name; (b) the name and address of the employer; (c) the SPWP on which the worker worked; (d) the work performed by the worker; (e) any training received by the worker as part of the SPWP; (f) the period for which the worker worked on the SPWP; (g) any other information agreed on by the employer and worker.

3.1 GCC-General Clauses

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

3.1.1 Cession (CL 2.5.1)

Delete the words "without the written consent of the other".

3.1.2 Subcontracting (CL 4.4.1)

Delete the contents of Clause 4.4.1 and insert:

"The Contractor shall not subcontract more than 30 per centum of the value of the Contract."

3.1.3 The type of Security (CL 6.2.1)

The type of security required for the due performance of the Contract shall be restricted to one of the following:

Cash deposit of 10 (ten) per centum of the Contract Sum or

Performance Guarantee of 10 (ten) per centum of the Contract Sum, issued by a Commercial Bank registered in the Republic of South Africa,

Or Performance Guarantee of 10 (ten) per centum of the Contract Sum, issued by an insurance Company registered in terms of the Short-term Insurance Act (Act 53 of 1998).

Whenever a Joint Venture constitutes the contracting party (Contractor) to this Contract, the Performance Guarantee shall be issued on behalf of the Joint Venture.

The wording of the Performance Guarantee shall be in the form appended in C1.2.

3.1.4 Program (CL 5.6)

"Failure on the part of the Contractor to deliver to the Engineer, the programme of the Works in terms of Clause 5.6.1 and 5.6.2 within the period stated in the Contract Data, shall be sufficient cause for the Engineer to retain 25 per centum of the value of the Fixed Charge and Value-related items in assessment of amounts due to the Contractor, until the Contractor has submitted aforementioned first Programme of the Works and Supporting Documents".

3.1.4 Program (CL 5.6)

Add the following sub-clause 5.6.6 to Clause 5:

"Failure on the part of the Contractor to deliver to the Engineer, the programme of the Works in terms of Clause 5.6.1 and 5.6.2 within the period stated in the Contract Data, shall be sufficient cause for the Engineer to retain 25 per centum of the value of the Fixed Charge and Value-related items in assessment of amounts due to the Contractor, until the Contractor has submitted aforementioned first Programme of the Works and Supporting Documents".

3.1.5 Contractor's Superintendence (CL 4.12)

Add the following sub-clause 4.12.4 to Clause 4.12:

"Where a form is included in the Appendix to the Contract Data for this purpose, the Tenderer shall fill in the name of the person he proposes to entrust with the post of Contractor's Site Agent on this Contract in the space provided therefore. Previous experience of this person on work of a similar nature during the past five (5) years is to be entered in the list.

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

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

3.1.6 Insurances (CL 8.6)

3.1.6.1 Contractor to produce proof of payment

Delete sub-clause 8.6.6 and substitute with:

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

8.6.6.1 The policies by which the insurances are effected,

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

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

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

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

3.1.6.2 Remedy of Contractor's failure to insure

Delete sub-clause 8.6.7 and substitute with:

"Failure on the part of the Contractor to effect and keep in force any of the insurances

referred to in Clause 8.6.1 and its sub-clauses, is a fundamental breach of Contract, entitling the Employer to cancel the Contract by due notice in terms of Clause 9.2 and with specific reference to sub-clause 55.2.5, as amended, in the Special Conditions of

Contract."

3.1.7 Variations (CL 6.3)

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

3.1.8 Suspension of the Works (CL 5.1 **1)**

Add the following sub-clause 5.1 1.4 to Clause 5.11:

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

the Employer, suspend the progress of the Works.

The Contractor's action shall not prejudice his entitlements to a claim in terms of Clause 10.1 and to termination of the Contract in terms of Clause 9.3.

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

3.1.9 Extension of time arising from Abnormal Rainfall (CL **5.12)**

SCC5.1 2.2.2.1 A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Engineer, all progress on an item or items of work on the critical path of the working programme of the contractor has been brought to a halt. Delays on working days only (based on a five-day working week) will be taken into account for the extension of time, but the Contractor shall make provision in his

programme of work for an expected delay of "n" working days caused by normal rainy weather, for which he will not receive any extension of time. Extension of time during working days will be granted to the degree to which actual delays, as defined above, exceed the number of "n" workings days. The number of "n" working days will be calculated based on the Contract period and the expected number of working days lost as a result of normal rainfall between the contractual commencement and completion dates.

Add the following to sub-clause **5.12.2.2:**

"The extension of time to be allowed due to abnormal rainfall shall be calculated separately for each calendar month or part thereof in accordance with the following formula:

V	=	Extension of time in calendar days for the calendar month under Consideration
Nw	=	Actual number of days during the calendar month on which a rainfall of **10** mm or more has been recorded
Nn	=	Average number of days for the calendar month on which a rainfall of **10** mm or more has been recorded, as derived from existing rainfall records
Rw	=	Actual recorded rainfall for the calendar month
Rn	=	Average rainfall for the calendar month, as derived from existing rainfall records
X	=	20

The rainfall records which shall provisionally be accepted for calculation purposes are:

Month	**Average Rainfall (mm)**	**Ave Rain Days**
JAN	112.1	17
FEB	100.1	12.6
MAR	68.4	10.7
APR	33.8	4.8
MAY	10.4	1.9
JUN	5.5	1.2
JUL	5.9	2.1
AUG	13.7	4.4
SEP	29.1	11.3
OCT	76.0	15.5
NOV	107.4	15.5

DEC	114.9	17.7
Total	677.3	114.7

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

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

3.1.10 Interim Payments (CL 6.10)

Add to the end of Clause 6.10.1 the following paragraph:

"The Contractor shall complete the 'Contractor's Monthly Report Schedule', which pro

forma documentation is obtainable from the Engineer. Pursuant to Sub-clause (I),

these, duly signed by all concerned, together with the Contractor's statement and a

VAT invoice in original format are to be submitted to the Engineer. Issue by the Engineer to the Employer and Contractor of any signed payment certificate is conditional to this information being fully endorsed, accurately and timeously submitted to the Engineer".

Add to the end of Clause 6.10.1.5 the following paragraph:

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

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

3.1.1 1 Variations Exceeding 15 Per Cent (CL 6.1 1)

In sub-clause 50.1.3 omit the words "15 per cent" and replace with "'20 per cent"

3.1.12 Cancellation of the Contract (CL 54)

Alter the numbering of:

Clause 9.1.4 to 9.1.5,

Clause 9.1.5 to 9.1.6 and

Insert the following new clause 9.1.4:

"The Employer shall be entitled to cancel the Contract, at any time for the Employer's convenience, by giving written notice of such cancellation to the Contractor. The Contractor termination shall take effect 28 days after the later of the dates which the Contractor receives this written notice or the Employer returns the Demand Guarantee. The Employer shall not cancel the Contract under this sub-clause in order to execute the Works himself or to arrange for the Works to be executed by another contractor. This restriction on the Employer shall lapse 18 months after the date of receipt by the

Contractor of cancellation in terms of this sub-clause".

3.1.13 Termination by Employer (CL 9.2)

Delete the contents of Clause 9.2 and substitute with:

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

if:

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

Jurisdiction, or

9.2.1.2 The Contractor publishes a notice of surrender or presents a petition for the

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

9.2.1.3 The Contractor, or anyone on his behalf, or in his employ, offers to any person

in the employ of the Employer or the Engineer, a gratuity or reward or commission, or

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

9.2.1.5 The Contractor has abandoned the Contract.

9.2.2 If the Contractor:

9.2.2.1 Has failed to commence the Works in terms of Clause 5.3 hereof, or has suspended the progress of the Works for fourteen (14) days after receiving from the Engineer written notice to proceed, or

9.2.2.2 Has failed to provide the Guarantee in terms of Clause 6.2 within the time stipulated in the Contract Data, or

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

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

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

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

9.2.2.7 Has assigned the Contract or any part thereof without the Employer's consent in writing,

then the Employer may give the Contractor 14 days' notice to rectify the default, and if the Contractor fails to rectify the default in said 14 days, then, without further notice, notify the Contractor in writing of the termination of the

Contract and expel the Contractor and order the Contractor to vacate the site within 24 hours of issue of the Notice of Termination and to hand the Site over to the Employer, and the Employer may then enter upon the Site and the Works without affecting the rights and powers conferred on the Employer or the Engineer by the Contract and the Employer may himself complete the Works or may employ another contractor to complete the Works, and the Employer or such other contractor may use for such completion so much of the Construction Equipment.

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

9.2.3 If the Contractor, having been given notice to rectify a default in terms of **9.2.2.7** above, rectifies said default, but later repeats the same or substantially the same default, then the Employer may notify the Contractor of the immediate termination of the Contract, and proceed as stated in the paragraph following the word "writing" in Clause 55.2.7 above.

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

3.1.14 Termination by Contractor **(CL 9.3)**

Add the following paragraph as Clause **9.3.5:**

"In addition to, or as an alternative to the rights to termination contained in this Clause **9.3.5** the Contractor may notify the default to the Employer, with a copy to the Engineer, and if the default is not rectified within 10 days the Contractor may suspend progress of the works until a date 7 days after the default is rectified. The Contractor shall be entitled to extension of time to the extent of delay caused by or resulting from such suspension, and to payment of additional costs caused by or resulting from the suspension. Such extension of time and additional costs shall be promptly ascertained by the Engineer, who shall then grant the extension of time and include the additional costs in all future payment certificates. Such suspension, extension of time and/or payment of additional costs, shall not prejudice the Contractor's rights to cancel the contract."

3.1.15 information in respect of Employees (CL 20.2)

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

3.1.16 information in respect of Construction Equipment (CL 23.3)

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

4 **PRIORITY OF DOCUMENTS**

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

a) the Form of Offer and Acceptance.

b) amplifications of the General Conditions of Contract within the Contract Data.

c) the General Conditions of Contract.

d) the Specifications, Drawings, Schedules and other documents forming part of the Contract (in that order) contained in the Scope of Work and the Site Information.

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

Part 1: Contract Data completed by the Employer

Clause	Contract Specific Data by the Employer
1.1.14	**Name of Employer:** Dr. Pixley Ka Isaka Seme Local Municipality
1.2.2	**The address of the Employer is**: Address (physical): Cnr Adelaide Tabo & Nelson Mandela Drive, Volksrust Address (postal): Private Bag X9011, Volksrust, 2470 Telephone: 017 734 6100 Fax: 017 735 3004
1.1.15	**Name of Engineer:** TMS Consulting Engineers and Project Management
1.2.2	**Address of the Engineer:** Physical: 39A Ehmke Street Nelspruit/Mbombela 1201 Telephone: 013 752 8478 Email: info@tmsconsulting.co.za
1.6 & 38	The special non-working days are public holidays, Saturdays, Sundays and the days on which the contractor grants the majority of his permanent workforce leave around the 16th December and the first Monday of the subsequent year.

Clause	Contract Specific Data by the Employer
2.3	The Engineer is required to obtain the specific approval of the Employer before executing any of the following functions or duties: 1. Nominating the Engineer's Representative in terms of Clause 2.4. 2. Delegation of Engineer's authority in terms of Clause 2.7. 3. Providing consent for subcontracting part of the contract in terms of Clause 6.2. 4. The issuing of further drawings or instructions in terms of Clause 13.1 5. The issue of instructions for dealing with fossils and the like in terms of Clause 15. 6. Authorizing the Contractor to repair and make good, excepted risks in terms of Clause 32.2.2. 7. The issuing of a variation order in terms of Clause 36.2. 8. Issuing of instructions to carry out work on a day work basis in terms of Clause 37.1.4. 9. Granting permission to work during non-working times in terms of Clause 38.1. 10. Suspend the progress of the works in terms of Clause 39.1. 11. The issue of an instruction to accelerate progress in terms of Clause 40.3. 12. The reduction of a penalty for delay in terms of Clause 43.2. 10. The determination of additional or reduced costs arising from changes in legislation in terms of Clause 46.4. 11. The giving of a ruling on a contractor's claim in terms of Clause 48.5. 12. The agreement of an extension to the 28 period in terms of Clause 48.5.1. 13. The inclusion of credits in the next payment certificate in terms of Clause 48.5.2. 14. The agreement of the adjustment of the sums for general items in terms of Clause 50.1.
7	The time to deliver the Form of Guarantee within **14 days** of the Commencement Date. The Form of Guarantee is to contain the wording of the document included in Clause.3. The liability for the guarantee shall be for **10% of the contract amount.**
10.1	The Works are to be commenced within **14 days** of the Appointment Date.
12.2	The Works programme is to be delivered within **14 days** of the Commencement Date.
35.1.1.2.2	The value of the materials supplied by the Employer to be included in the insurance sum is **R0-00**
35.1.1.2.3	The amount to cover professional fees for repair or reinstatement of damage to the works to be included in the insurance sum is **R0-00**
35.1.3	The limit of liability insurance is **10% of the contract amount** per claim.
35.1.4	No additional insurance is required.
37.2.2.3	The percentage allowance to cover overhead charges is **15%**.
42.1	The works shall be completed within **FOUR (04) months,** exclusive of year-end break.
43.1	The penalty for failing to complete the Works is **1.5% of the contract amount per month.**
46.2	Contract Price Adjustment is not applicable to this contract. The value of "x" is 0,15 a = 0.15 (labour) b = 0.20 (plant) c = 0.55 (materials) d = 0.10 (fuel) The urban area nearest the site is Volksrust.
49.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%
49.3	The percentage retention on amounts due to the Contractor is **10% of the contract amount,** excluding contract price adjustment, contingencies and VAT.

Clause	Contract Specific Data by the Employer
49.6	A Retention Money Guarantee is **permitted**.
53.1	The Defects Liability Period is **12 months** measured from the date of the Certificate of Completion.
58.2	Dispute resolution is to be by means of adjudication
58.4	Disputes are to be referred for final settlement to arbitration.

Part 2: Data provided by the Contractor

Clause 1.8

1.2.2 The name of the Contractor is.

……..

The address of the contractor is:

Telephone: ……..

Facsimile: …….

Address (physical): ……

……

……..

Address (postal): ……

……...

46.3 The variation in cost of special materials is:

Special material	**Unit on which variation will be determined**		**Price for base month ex-factory, excluding transport, labour or any other costs.**
	Containers	Delivered in bulk	

*State unit in appropriate column

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C1: Agreement and Contract Data

C1.3 Form of Guarantee

Contract No: …… Description ……

WHEREAS THE **DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY** (hereinafter referred to as the Employer") entered into, a Contract with:

. . . . . .

(hereinafter called "the CONTRACTOR") on the . . . . . day of . . . . . .20. . . . . .

AND WHEREAS it is provided by such Contract that the Contractor shall provide the Employer with security by way of a guarantee for the due and faithful fulfilment of such Contract by the Contractor;

AND WHEREAS . . . . . has / have at the request of the Contractor, agreed to give such guarantee;

NOW THEREFORE WE . . . . . do hereby guarantee and bind ourselves jointly and severally as Guarantor and Co-principal Debtors to the Employer under renunciation of the benefits of division and excursion for the due and faithful performance by the Contractor of all the terms and conditions of the said Contract, subject to the following conditions:

1. The Employer shall, without reference and / or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the completion date of the works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which the Employer may take under such Contract, or of any modification, variation, alterations of the completion date which the Employer may make, give, concede or agree to under the said Contract.

2. This guarantee shall be limited to the payment of a sum of money.

3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.

4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by the Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.

5. Our total liability hereunder shall not exceed the Guaranteed Sum of . . . . . .Rand (in words); R . . . . . (in figures) ……

6. The Guarantor reserves the right to withdraw from this guarantee by depositing the Guaranteed Sum with the beneficiary, whereupon our liability hereunder shall cease.

7. We hereby choose our address for the serving of all notices for all purposes arising here from as

. . . . . .

. . . . . .

. . . . . .

. . . . . .

IN WITNESS WHERE OF, this guarantee has been executed by us at . . . . . .
on this . . . . . day of . . . . . 20 . . . . . .

Signature . . . . . .

Duly authorized to sign on behalf of . . . . . .

Address . . . . . .

. . . . . .

. . . . . .

As witnesses:

1 . . . . . .

2 . . . . . .

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C2. Pricing Data

C2.1 Pricing Instructions

1 Measurement and payment shall be in accordance with the relevant provisions of clause 8 of each of the SABS 1200 Standardised Specifications for Civil Engineering Construction referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of SABS 1200-A, *General.*

2. The units of measurement described in the Bills of Quantities are metric units. Abbreviations used in these Bills of Quantities are as follows:

%	=	percent
h	=	hour
ha	=	hectare
kg	=	kilogram
kl	=	kilolitre
km	=	kilometre
km-pass	=	kilometre-pass
kPa	=	kilopascal
kW	=	kilowatt
l	=	litre
m	=	metre
mm	=	millimetre
m²	=	square metre
m²-pass	=	square metre-pass
m³	=	cubic metre
m³-km	=	cubic metre-kilometre
MN	=	meganewton
MN.m	=	meganewton-metre
MPa	=	megapascal
No.	=	number
Prov sum	=	Provisional sum
PC sum	=	Prime Cost sum
R/only	=	Rate only
sum	=	lump sum
t	=	ton (1000 kg)
W/day	=	Work day

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

4. The prices and rates in these Bills of Quantities are fully inclusive prices for the work described under the items. Such prices and rates cover all costs and expenses that may be required in and for the execution of the work described in accordance with the provisions of the Scope of Work, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the Contract Data, as well as overhead charges and profit. These prices will be used as a basis for assessment of payment for additional work that may have to be carried out.

5 It will be assumed that prices included in these Bills of Quantities are based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for Bids. (Refer to www.stanza.org.za or www.iso.org for information on standards)

6 Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith are deemed to have been provided for and included in the unit rates and sum amount Bided such items

7. An item against which no price is entered will be considered to be covered by the other prices or rates in the Bills of Quantities. A single lump sum will apply should a number of items be grouped together for pricing purposes.

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

9. Reasonable compensation will be received where no pay item appears in respect of work required in the Bills of Quantities in terms of the Contract and which is not covered in any other pay item.

10. The short descriptions of the items of payment given in these Bills of Quantities are only for the purposes of identifying the items. More details regarding the extent of the work entailed under each item appear in the Scope of Work.

11. Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the SABS 1200 Standardised Specifications.

12. Those parts of the contract to be constructed using labour-intensive methods have been identified in the scope of works. **Tenderers must price such works so as to allow for Labour-intensive construction methods**. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract.

13. **Payment for items which are designated to be constructed labour-intensively will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.**

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C2. Pricing Data

C2.2 Summary of Bill of Quantity

Construction of Water Reticulation in Vukuzakhe Ward 3.

Contract No. T15/2027

SUMMARY OF SECTIONS		
SECTION	**DESCRIPTION**	**AMOUNT (RANDS)**
A	PRELIMINARY AND GENERAL	R
B	PRIME COST ITEMS	R
C	SITE CLEARANCE	R
D	PIPE TRENCHES	R
E	WATER	R
F	**SUB-TOTAL 1**	**R**
G	ADD CONTINGENCIES @ 10%	R
H	SUB-TOTAL 2	R
I	ADD VAT @ 15%	R
J	**TOTAL COST ESTIMATE**	**R**

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C2. Pricing Data

C2.3 Bill of Quantities

SANS 1200 A: PRELIMINARY AND GENERAL

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RANDS)
A	SANS 1200 A	SECTION A: PRELIMINARY AND GENERAL				
A.1	**8.3**	**FIXED-CHARGE ITEMS**				
A.1.1	8.3.1	Contractual Requirements	Sum	1.00		
	8.3.2	Establish Facilities on the Site :				
		a) Facilities for Engineer (SANS 1200 AB)				
A.1.2		Offices: 1 furnished room with a telephone and 2 name-boards	Sum	1.00		
		b) Facilities for Contractor				
A.1.3	8.3.4	Remove Engineer's and Contractor's Site establishment on completion	Sum	1.00		
A.2	**8.4**	**TIME-RELATED ITEMS**				
A.2.1	8.4.1	Contractual Requirements	month	4.00		
	8.4.2	Operate and maintain facilities on the Site:				
	8.4.2.1	a) Facilities for Engineer for duration of construction (SANS 1200 AB)				
A.2.2		Offices: 1 room, etc., as for item .1.2	month	4.00		
A.2.3		Survey assistants and material	month	4.00		
	8.4.2.2	b) Facilities for Contractor for duration of construction, except where otherwise stated				
A.2.4	8.8.2	Deal with traffic and maintain the road (or accommodation of traffic and provide temporary road (detour).	month	4.00		
A.3	**8.8**	**HEALTH & SAFETY**				
A.3.1	8.8.1	Provision for use by the Engineer of an independent Health and Safety Agent for the compilation and maintenance of Health and Safety	PC Sum	1.00	30,000.00	R30,000.00

		Plan including Risk Assessment, Safe Work Procedure and Method Statement				
A.3.2	8.8.2	Cost of health and safety measures required in terms of the Construction Regulations of the Occupation Health and Safety Act (2003)	PC Sum	1.00	20,000.00	R20,000.00
A.3.3		Handling cost and profit in respect of sub-item A.3.1 to A.3.2	%	50,000.00		
Total Carried Forward to Summary						

SANS 1200 B : PRIME COST ITEMS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RANDS)
B	SANS 1200 B	SECTION B: PRIME COST ITEMS				
B.1	8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
B.1.1	8.6	Prime cost of laboratory testing by other concerns where so directed by the Engineer	month	4.00	5,000.00	R20,000.00
B.1.2		Required Additional Survey by Engineer	month	4.00	10,000.00	R40,000.00
B.1.3		Remuneration of Health and Safety Agent	month	4.00	30,000.00	R120,000.00
B.1.4		Remuneration of SHE Representative from Local Municipality	month	4.00	15,000.00	R60,000.00
B.1.5		Remuneration of three Community Liaison Officer (CLO x 1) including transport, cellphone and overtime from either wards 1 or 2	month	4.00	20,000.00	R80,000.00
B.1.6		Provision for the Topographic Survey and Drafting of the Township Layout Plan : Remaining Extent of the Town and Townlands of Volksrust 143 HS	sum	1.00	498,070.75	R498,070.75
B.1.6		Allow for the testing and commissioning of sewer networks and water networks, as well as outfall pipes.	sum	1.00	150,000.00	R150,000.00
B.1.7		Overheads,charges and profit on item B.1.1 to B.1.6	%	968,070.75		
Total Carried Forward To Summary						

SANS 1200 C : SITE CLEARANCE

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RANDS)
C	SANS 1200 C	SECTION C : SITE CLEARANCE				
C.1		CLEAR SITE				
C.1.1	8.2.1	Clear and grub pipeline route 1.5m wide	m	1,482.00		
C.2	8.2.2	Remove and grub large trees and tree stumps of girth:				
C.2.1		Over 1,0 m and up to and including 2,0 m	No.	2.00		
C.3	8.2.5	Take down and re-erect existing fences (all types of fences and boundaries)	m	220.00		
C.4	8.2.10	Remove topsoil to nominal depth 150 mm, stockpile, and maintain for reinstating.	m³	333.45		
C.5	**8.2.8**	**Demolish and remove structures/buildings to designated location:**	sum	1.00		
Total Carried Forward to Summary						

SANS 1200 DB: PIPE TRENCHES

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RANDS)
D	SANS 1200 DB	SECTION D: PIPE TRENCHES				
D.1		PIPE TRENCHES				
	8.3.2(a)	Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes up to 250 mm diam. for total trench depth:				
D.1.1		Exceeding 0,0 m but not exceeding 1,0 m	m	1,482.00		
	8.3.2(b)	Extra-over incl. for (prov):				
D.1.5		Intermediate excavation	m³	202.74		
D.1.6		Hard rock excavation	m³	168.95		
D.1.7		Boulder excavation Class A	m³	112.63		
D.1.8		Boulder excavation Class B	m³	56.32		

D.1.9	8.3.2(b)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m³	214.00		
		EXCAVATION. ANCILLARIES Make up deficiency in backfill material (Provisional)				
D.2.9	8.3.3.1(a)	from other necessary excavations on site	m³	Rate Only		
D.2.10	8.3.3.1(c)	by importation from commercial or off-site sources selected by the Contractor	m³	513.60		
D.3	PSD 8.3.3	SUPPLY ONLY OF BEDDING BY IMPORTATION				
		From commercial sources:				
D.3.7		Bedding Cradle	m³	168.95		
D.3.8		200mm layer compacted seleted fill blanket (Class I)	m³	225.26		
D.3.9		300mm layer of consolidaed selected backfil (Class II)	m³	337.90		
D.3.10		200mm layer of 19mm Aggregate	m³	112.63		
D.4	8.3.3.4	OVERHAUL				
D.4.1		Overhaul (provisional)	m³.km	844.74		
D.5	8.3.5	EXISTING SERVICES				
	PSDB ...	Location				
D.5.1		Supply or hire of specialist equipment for the detection of a particular service	Sum	Rate Only		
D.5.2		The use of equipment in item 142.4.1	h	28.00		
D.5.3		Excavate by hand in soft material to expose service...	m³ / daywk	5.35		
	PSDB ...	Dealing with services				
	8.3.5(a)	Services to be relocated				
D.5.4		Electricity cables and poles	Sum	1.00		
D.5.5		Water mains up to 500 mm diam.	Sum	1.00		
D.5.6		Sewer main up to 500 mm diam.	Sum	1.00		
D.5.7		Stormwater main up to 900 mm diam.	Sum	1.00		
	8.3.5(a) PSDB	Services to be relocated				

D.5.8		Water meters and valves	No.	5.00		
D.5.9		Stormwater kerb inlets and catchpit	No.	Rate Only		
D.6		PARTICULAR ITEMS				
	8.3.4	Temporary Works: Control water inflow from the ground to trench or any source, trench depth oof notmore than 4,0m and width not more than 2,0m				
D.6.1		Provide equipment or hire equipment	Sum	1.00		
D.6.2		Operate and maintain	Days	15.00		
D.6.3		Remove equipment	Sum	1.00		
Total Carried Forward to Summary						

SANS 1200 L: MEDIUM PRESSURE PIPELINES

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT (RANDS)
E	SANS 1200 G	SECTION E: WATER PIPELINES				
E.1	8.3.2	Supply, lay and bed on class B bedding, complete with couplings:				
E.1.1	8.3.2(a)	HDPE type 4 class 10 pipes:				
E.1.1.1		75mm diameter	m	71.25		
E.1.1.2		50mm diameter	m	1,482.00		
E.1.1.3		30mm diameter	m	4,700.00		
E.1.2	8.2.2	Extra over items in E.1 for the supplying, laying, and bedding of HDPE specials complete with couplings:				
E.1.2.1		45° bends:				
E.1.2.1.1		50mm diameter	no.	8.00		
E.1.2.2		90° bends:				
E.1.2.2.1		50mm diameter	no.	4.00		
E.1.2.3		Tees:				
E.1.2.3.1		50mm diameter	no.	4.00		
E.1.2.3.2		75mm diameter	no.	3.00		

E.1.2.4		End caps:	no.	1.00		
E.1.2.5		22,5° bends:				
E.1.2.5.1		50mm diameter	no.	7.00		
E.1.2.6		Reducers:s:				
E.1.2.6.1		50 mm dia x 75 mm dia	no.	3.00		
E.1.3	8.2.3	Extra over items E.1 for supplying, fixing and bedding of plain-ended gate valves, including coupling, fittings				
E.1.3.1		75mm diameter	no.	3.00		
E.1.3.1		50mm diameter	no.	5.00		
E.1.4	8.2.3	Extra over items E.1 for supplying, fixing and bedding of non-return valves, including coupling, fittings.				
E.1.4.1		75 mm dia	no.	Rate Only		
E.1.5	8.2.3	Supply and install of water meters, including coupling, fittings and PVC cover, all water meters shall be above ground as per the detailed drawings and specifications				
E.1.5.1		40 mm diameter	no.	94.00		
E.1.6	8.2.3	Supplying, installing and fixing bedding for saddle connections for household's connections, including coupling and fittings				
E.1.6.1		25 mm diameter	no.	94.00		
E.2	8.2.2	Construction of Stanpipes				
E.2.1	8.2.16	Supply and installation of Household Standpipe, complete with reinforced concrete slab, water drainage gulley, 160 mm diameter PVC pipe filled with concrete mix, including all necessary excavation, bedding, installation, reinforcement, concrete works, backfilling and compaction. The work shall completed in accordance with the detailed drawings and project specifications.	no.	94.00		
E.3	8.2.17	**Marker blocks:**				
E.3.1.1		Type 1	no.	13.00		
E.4	8.2.3	**Fire Hydrant:**				

E.4.1		supplying, fixing and bedding of fire hydrants including double flanged distance piece between hydrant and tee:				
		75 mm dia	no.	2.00		
E.5	PSL 8.2.11	Anchor/thrust blocks and pedestals:				
E.5.1		Concrete:				
E.5.1.1		Class 20MPa/19 mm	m³	39.66		
E.6	PSL 8.2.13	Valve and hydrant chambers etc:				
E.6.1		**Valve chamber as per**				
E.6.1.1		Drawing No	no.	10.00		
E.6.2		**Fire hydrant valve chamber as per**				
E.6.2.1		Drawing No	no.	2.00		
E.7	PSL 8.2.18	Connection to existing main supply pipes or network	no.	3.00		
Total Carried Forward To Summary						

SUMMARY OF SECTIONS		
SECTION	**DESCRIPTION**	**AMOUNT (RANDS)**
A	PRELIMINARY AND GENERAL	R
B	PRIME COST ITEMS	R
C	SITE CLEARANCE	R
D	PIPE TRENCHES	R
E	WATER	R
F	**SUB-TOTAL 1**	**R**
G	ADD CONTINGENCIES @ 10%	R
H	SUB-TOTAL 2	R
I	ADD VAT @ 15%	R
J	**TOTAL COST ESTIMATE**	**R**

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C3: Scope of Work
C3.1 Standard Specifications

The following specifications apply for the construction of the Works:

C3.1.1 Volume: 1: The Tender Document:

The Tender Document: The Project Document, containing the tender notice, Conditions of Tender, Tender Data, Returnable Schedules, general and particular conditions of contract, project specifications, Pricing Schedule, Form of offer and Site Information is issued by the Employer. The Employer's Form of Acceptance and any correspondence from the selected tenderer, performance security-demand guarantee and all addenda issued during the period of tender will also form part of this volume once a successful tenderer.

C3.1.2 Volume 2: General Conditions of Contract for Construction Works 3rd Edition, 2015

C3.1.3 Volume 3: Environmental Management Plan

C3.1.4 Volume 4: SABS 1200 Standardized Specifications

The following specifications shall apply for the construction of the Works.
SABS or BS Specifications and Codes of Practice
Wherever any reference is made to the South African Bureau of Standards (SABS) and the British Standards Specification (BSS) in either these Bill of Quantities or the Specification of Materials and Methods to be Used (OOG-001E), this reference shall be deemed to read "SABS or equivalent standard" and BS or equivalent standard" respectively.

Various other specifications are specified in the Project Specifications.

The applicable standardized specifications for this Contract shall be the following:

SABS 1200 A	GENERAL
SABS 1200 C	SITE CLEARANCE
SABS 1200 D	EARTHWORKS
SABS 1200 DB	EARTHWORKS (PIPE TRENCHES)
SABS 1200 DK	GABIONS AND PITCHING
SABS 1200 DM	EARTHWORKS (ROADS, SUBGRADE)
SABS 1200 DN	EARTHWORKS (RAILWAY SIDINGS)
SABS 1200 F	PILING
SABS 1200 G	CONCRETE (STRUCTURAL)
SABS 1200 GE	PRECAST CONCRETE (STRUCTURAL)
SABS 1200 GF	PRESTRESSED CONCRETE
SABS 1200 H	STRUCTURAL STEELWORK
SABS 1200 HA	STRUCTURAL STEELWORK (SUNDRY ITEMS)
SABS 1200 HC	CORROSION PROTECTION OF STRUCTURAL STEELWORK
SABS 1200 L	MEDIUM-PRESSURE PIPELINES
SABS 1200 LB	BEDDING (PIPES)
SABS 1200 LC	CABLE DUCTS
SABS 1200 LD	SEWERS
SABS 1200 LE	STORMWATER DRAINAGE
SABS 1200 LF	ERF CONNECTIONS (WATER)

SABS 1200 LG PIPE JACKING
SABS 1200 ME SUBBASE
SABS 1200 MF BASE
SABS 1200 MFL BASE (LIGHT PAVEMENT STRUCTURES)
SABS 1200 MG BITUMINOUS SURFACE TREATMENT
SABS 1200 MH ASPHALT BASE AND SURFACING
SABS 1200 MJ SEGMENTED PAVING
SABS 1200 MK KERBING AND CHANNELLING
SABS 1200 MM ANCILLARY ROADWORKS
SABS 1200 NB RAILWAY SIDINGS (TRACKWORK)
PARTICULAR SPECIFICATION PA: FENCING
PARTICULAR SPECIFICATION PB: MISCELLANEOUS WORK FOR RESERVOIRS
PARTICULAR SPECIFICATION PC: NO-FINES CONCRETE
PARTICULAR SPECIFICATION PD: BUILDING WORK
PARTICULAR SPECIFICATION PE: CONCRETE PAVEMENTS
PARTICULAR SPECIFICATION PG: CHLORINATION INSTALLATION
PARTICULAR SPECIFICATION PH: SUBMERSIBLE PROGRESSING CAVITY PUMPS
PARTICULAR SPECIFICATION PI: DRY-WELL PUMPING EQUIPMENT
PARTICULAR SPECIFICATION PJ: SUBMERSIBLE PUMPING EQUIPMENT
PARTICULAR SPECIFICATION PK: DIESEL ENGINES
PARTICULAR SPECIFICATION PL: MANUALLY OPERATED CHAIN HOISTS
PARTICULAR SPECIFICATION PM: OPERATION AND MAINTENANCE MANUALS
PARTICULAR SPECIFICATION PN: MEASURING INSTRUMENTS
PARTICULAR SPECIFICATION PO: GEOMEMBRANE SHEETING
PARTICULAR SPECIFICATION PS: ELECTRICAL INSTALLATION
PARTICULAR SPECIFICATION PT: COMPACTION GROUTING
PARTICULAR SPECIFICATION PU: CATHODIC PROTECTION
PARTICULAR SPECIFICATION PV: SYNTHETIC MULTI-PURPOSE SPORTS FIELD
PARTICULAR SPECIFICATION PW: MEASURING INSTRUMENTS
PARTICULAR SPECIFICATION PX: GLASS-REINFORCED PLASTIC (GRP) SECTIONAL WATER TANKS
PARTICULAR SPECIFICATION PY: BASE (COMPOSITE MACADAM)

C3.2.1 Project Specifications Relating to Standard Specifications

This part of the project specifications deals with matters relating to the standard specifications. Where reference is made in the standard specifications to the project specifications this part shall also contain the relevant information e.g. the requirements where a choice of materials or construction methods are provided for the standard specifications. In certain clauses the standard specifications allow a choice to be specified in the project specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract.

Details of such alternatives or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains some additional specifications and amendments of the standard specifications required for this particular contract. The number of each clause and each payment item in this part of the project specifications refers to the number of the relevant clause or payment item in the standard specifications. The number of a new clause or a new payment item, which does not form part of a clause or a payment item in the standard specifications and is included here, is also prefixed by B followed by a new number. The new numbers follow on the last clause or item number used in the relevant section of the standard specifications.

Clauses and pay items referring to labour intensive methods are prefixed by L in the project specifications. Clauses and pay items referring to emerging contractors are prefixed by E in the project specifications.

Standard specifications that are applicable to this contract can be seen below.

Variations to these standard specifications can be seen in the following section:

PSA	General
PSAB	General - Engineer's Office
PSC	Site Clearance
PSDB	Earthworks (Pipe Trenches)
PSLB	Bedding Pipes
PSG	Concrete (Structural)
PSHA	Structural Steelworks (Sundry Items)
PSHB	Cladding and sheeting
PSL	Medium Pressure Pipelines
PSLC	Cable Ducts

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C3: Scope of Work
C3.2: Description of Works

C3.2.1. Employer's objectives

It is the Employer's objective to deliver quality service to the communities, in consultations with the affected communities through their local leadership. Throughout the entire life span of the project, the Employer endeavours to ensure maximum community participation to foster the sense of ownership by the Community. The execution of this project is not an exception. The Contractor who is appointed for this project is expected to enhance the Employer's drive for Community participation and involvement. The contractor shall make use of local resources as is reasonable. These local resources include local labour, local suppliers, builders, sub-contractors and plant hire when required.

C3.2.2. Overview of the works

The contractor is expected to provide the prices (rates) as provided in the Schedule of Quantities provided. All cost of test shall be deemed to have been incorporated in the rates provided. The contractor shall at all times provided progress and challenges faced on site to the Engineer for recommendation and approval of the work done. All works must be approved before the following activity can commence. All payment certificates must be accompanied with progress report for the work done. No payment certificates will be accepted/forwarded to the client without required documentation. The contractor shall take full responsibility to timeously comply with the firm conditions as stipulated under this contract.

In an endeavor to empower the community the works will be executed by employing labour intensive methods of construction wherever possible, using local labour as well as local subcontractors all sub-contractors must be approved by the client. The contractor's attention is drawn with regard to GCC 2015 (3rd edition) clause 4.4.3, clause 4.4.4 and clause 4.4.5, thus: The contractor shall be liable for the acts, defaults and negligence of any subcontractor, his agents or employees as faulty as if they were the acts, defaults or negligence of the contractor;

The contractual relationship between the contractor and any subcontractors selected by the Contractor in consultation with the employer in accordance with the requirements of and a procedure set out in the scope of works, shall be the same as if the Contractor had appointed the subcontractor in terms of Clause GCC 2015, Clause 4.4.3 and

Any appointment of a subcontractor in accordance with GCC 2015, Clause 4.4.4 shall not amount to contract between the Employer and the subcontractor, or a responsibility or liability on part of the Employer to the subcontractor and shall not relieve the Contractor from any liability or obligation under the Contract.

C3.2.3. Extent of the works

The description of works given is merely an outline and does not limit the full extent of the actual work to be carried out on the ground.

The construction of water reticulation networks in Vukuzakhe Wards 3, will provide an effective water conveyance, thereby improving overall living conditions. The networks have been designed in full compliance with municipal standards to ensure durability, ease of maintenance, and adequate capacity for future growth.

This Bid is as a result of this initiative, and the Bidder will be expected to carry-out the "**CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3"** within the **Dr Pixley Ka Isaka Seme Local Municipality**

The primary objectives of the project are as follows:

- To enhance the capacity and efficiency of the water infrastructure to accommodate the increasing population.
- To facilitate urban development and growth by providing essential infrastructure that supports sustainable and responsible water management practices.

The secondary objectives of the project include the following:

- To improve the socio-economic circumstances of the beneficiary community by way of job creation.
- To develop human resources through skills training
- To improve the life of the benefiting community.
- The project will benefit newly developed households with water connections in Vukuzakhe Ward 03

C3.2.4. The scope of works

The scope of work for the water reticulation in Ward 03:

1. Site Clearance
    1. Clear and grub pipeline route 1.5m wide
    2. Removal of Trees,
    3. Clearing of grass and vegetation,
    4. Removing the existing fence and gate,
    5. Removal of topsoil,
    6. Demolish and remove structures/buildings to designated location.

2. Pipe Trenches
    1. Pipe trenches excavations,
    2. Hard Rock Excavations,
    3. Restricted Excavation,
    4. Importation of Bedding and Blanket material,
    5. Importation of material for backfilling,
    6. Finishing of the site area,

3. Water Pipelines
    1. Supply, lay and bed on class B bedding, complete with couplings HDPE type 4 class 10 pipes sizes 75 mm, 50 mm and 30 mm diameters.
    2. Extra over items E.1 for the supplying, laying, and bedding of HDPE specials complete with couplings:
        - Bends,
        - Tees,
        - End Caps,
        - Reducers.
    3. Extra over items E.1 for supplying, fixing and bedding of plain-ended gate valves, including coupling, fittings,
    4. Extra over items E.1 for supplying, fixing and bedding of water meter, including coupling, fittings and PVC Cover as per the detailed drawings and specifications,
    5. Extra over items E.1 for supplying, fixing bedding for saddle connections for households' connections, including coupling and fittings,
    6. supplying, fixing and bedding of fire hydrants including double flanged distance piece between hydrant and tee,
    7. Construction of Household Standpipe, complete with all detailed components as per the specification and drawings,
    8. Construction of valves and hydrant chamber,
    9. Connecting to existing water supply
    10. Testing and commissioning the water pipe networks

C3.2.5. Description of the Site and Access

1. Location of site

The Project Site is located in Vukuzakhe outside the town of Volksrust in Dr Pixley Ka Isaka Seme Local Municipality under Gert Sibande District Municipality in Mpumalanga Province. The Coordinates of the project area and the wastewater treatment works are as follows:

Item name	S	E
Vukuzakhe Area	27°21'57.26"S	29°54'18.44"E
Volksrust Town	27°22'2.63"S	29°52'53.43"E

2. Access to site

Access to the site is from the N11 Road either from Volksrust or Amersfoort (see locality plan for details).

C3.2.6. Details Of the Works

A brief detail of the works for which this specification is applicable is as follows:

Detailed Scope of Works

ITEM NO	PAYMENT	DESCRIPTION	QTY	UNIT
A	SANS 1200 A	SECTION A: PRELIMINARY AND GENERAL		
A.1	**8.3**	**FIXED-CHARGE ITEMS**		
A.1.1	8.3.1	Contractual Requirements	1.00	Sum
	8.3.2	Establish Facilities on the Site :		
		a) Facilities for Engineer (SANS 1200 AB)		
A.1.2		Offices: 1 furnished room with a telephone and 2 name-boards	1.00	Sum
		b) Facilities for Contractor		
A.1.3	8.3.4	Remove Engineer's and Contractor's Site establishment on completion	1.00	Sum
A.2	**8.4**	**TIME-RELATED ITEMS**		
A.2.1	8.4.1	Contractual Requirements	4.00	month
	8.4.2	Operate and maintain facilities on the Site:		
	8.4.2.1	a) Facilities for Engineer for duration of construction (SANS 1200 AB)		
A.2.2		Offices: 1 room, etc., as for item .1.2	4.00	month
A.2.3		Survey assistants and material	4.00	month
	8.4.2.2	b) Facilities for Contractor for duration of construction, except where otherwise stated		
A.2.4	8.8.2	Deal with traffic and maintain the road (or accommodation of traffic and provide temporary road (detour).	4.00	month
A.3	**8.8**	**HEALTH & SAFETY**		
A.3.1	8.8.1	Provision for use by the Engineer of an independent Health and Safety Agent for the compilation and maintenance of Health and Safety Plan including Risk Assessment, Safe Work Procedure and Method Statement	1.00	PC Sum
A.3.2	8.8.2	Cost of health and safety measures required in terms of the Construction Regulations of the Occupation Health and Safety Act (2003)	1.00	PC Sum
A.3.3		Handling cost and profit in respect of sub-item A.4.1 to A.4.3	50,000.00	%
ITEM NO	PAYMENT	DESCRIPTION	QTY	UNIT
B	SANS 1200 B	SECTION B : PRIME COST ITEMS		
B.1	8.5	SUMS STATED PROVISIONALLY BY ENGINEER		

B.1.1	8.6	Prime cost of laboratory testing by other concerns where so directed by the Engineer	4.00	month
B.1.2		Required Additional Survey by Engineer	4.00	month
B.1.3		Remuneration of Health and Safety Agent	4.00	month
B.1.4		Remuneration of SHE Representative from Local Municipality	4.00	month
B.1.5		Remuneration of three Community Liaison Officer (CLO x 1) including transport, cellphone and overtime from either wards 1 or 2	4.00	month
B.1.6		Provision for the Topographic Survey and Drafting of the Township Layout Plan: Remaining Extent of the Town and Townlands of Volksrust 143 HS	1.00	sum
B.1.6		Allow for the testing and commissioning of sewer networks and water networks, as well as outfall pipes.	1.00	sum
B.1.7		Overheads,charges and profit on item B.1.1 to B.1.6	968,070.75	%

ITEM NO	PAYMENT	DESCRIPTION	QTY	UNIT
C	SANS 1200 C	SECTION C : SITE CLEARANCE		
C.1		CLEAR SITE		
C.1.1	8.2.1	Clear and grub pipeline route 1.5m wide	1,482.00	m
C.2	8.2.2	Remove and grub large trees and tree stumps of girth:		
C.2.1		Over 1,0 m and up to and including 2,0 m	2.00	No.
C.3	8.2.5	Take down and re-erect existing fences (all types of fences and boundaries)	220.00	m
C.4	8.2.10	Remove topsoil to nominal depth 150 mm, stockpile, and maintain for reinstating.	333.45	m³
C.5	**8.2.8**	**Demolish and remove structures/buildings to designated location:**	1.00	sum

ITEM NO	PAYMENT	DESCRIPTION	QTY	UNIT
D	SANS 1200 DB	SECTION D : PIPE TRENCHES		
D.1		PIPE TRENCHES		
	8.3.2(a)	Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes up to 250 mm diam. for total trench depth:		
D.1.1		Exceeding 0,0 m but not exceeding 1,0 m	1,482.00	m
	8.3.2(b)	Extra-over incl. for (prov):		
D.1.5		Intermediate excavation	202.74	m³
D.1.6		Hard rock excavation	168.95	m³

D.1.7		Boulder excavation Class A	112.63	m³
D.1.8		Boulder excavation Class B	56.32	m³
D.1.9	8.3.2(b)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	214.00	m³
		EXCAVATION. ANCILLARIES Make up deficiency in backfill material (Provisional)		
D.2.9	8.3.3.1(a)	from other necessary excavations on site	Rate Only	m³
D.2.10	8.3.3.1(c)	by importation from commercial or off-site sources selected by the Contractor	513.60	m³
D.3	PSD 8.3.3	SUPPLY ONLY OF BEDDING BY IMPORTATION		
		From commercial sources:		
D.3.7		Bedding Cradle	168.95	m³
D.3.8		200mm layer compaceted seleted fill blanket (Class I)	225.26	m³
D.3.9		300mm layer of consolidaed selected backfil (Class II)	337.90	m³
D.3.10		200mm layer of 19mm Aggregate	112.63	m³
D.4	8.3.3.4	OVERHAUL		
D.4.1		Overhaul (provisional)	844.74	m³.km
D.5	8.3.5	EXISTING SERVICES		
	PSDB ...	Location		
D.5.1		Supply or hire of specialist equipment for the detection of a particular service	Rate Only	Sum
D.5.2		The use of equipment in item 142.4.1	28.00	h
D.5.3		Excavate by hand in soft material to expose service...	5.35	m³ / daywk
	PSDB ...	Dealing with services		
	8.3.5(a)	Services to be relocated		
D.5.4		Electricity cables and poles	1.00	Sum
D.5.5		Water mains up to 500 mm diam.	1.00	Sum
D.5.6		Sewer main up to 500 mm diam.	1.00	Sum
D.5.7		Stormwater main up to 900 mm diam.	1.00	Sum
	8.3.5(a) PSDB	Services to be relocated		
D.5.8		Water meters and valves	5.00	No.
D.5.9		Stormwater kerb inlets and catchpit	Rate Only	No.
D.6		PARTICULAR ITEMS		

	8.3.4	Temporary Works: Control water inflow from the ground to trench or any source, trench depth of not more than 4,0m and width not more than 2,0m		
D.6.1		Provide equipment or hire equipment	1.00	Sum
D.6.2		Operate and maintain	15.00	Days
D.6.3		Remove equipment	1.00	Sum

ITEM NO	PAYMENT	DESCRIPTION	QTY	UNIT
E	SANS 1200 G	SECTION E: WATER PIPELINES		
E.1	8.3.2	Supply, lay and bed on class B bedding, complete with couplings:		
E.1.1	8.3.2(a)	HDPE type 4 class 10 pipes:		
E.1.1.1		75mm diameter	71.25	m
E.1.1.2		50mm diameter	1,482.00	m
E.1.1.3		30mm diameter	4,700.00	m
E.1.2	8.2.2	Extra over items in E.1 for the supplying, laying, and bedding of HDPE specials complete with couplings:		
E.1.2.1		45° bends:		
E.1.2.1.1		50mm diameter	8.00	no.
E.1.2.2		90° bends:		
E.1.2.2.1		50mm diameter	4.00	no.
E.1.2.3		Tees:		
E.1.2.3.1		50mm diameter	4.00	no.
E.1.2.3.2		75mm diameter	3.00	no.
E.1.2.4		End caps:	1.00	no.
E.1.2.5		22,5° bends:		
E.1.2.5.1		50mm diameter	7.00	no.
E.1.2.6		Reducers:s:		
E.1.2.6.1		50 mm dia x 75 mm dia	3.00	no.
E.1.3	8.2.3	Extra over items E.1 for supplying, fixing and bedding of plain-ended gate valves, including coupling, fittings		
E.1.3.1		75mm diameter	3.00	no.
E.1.3.1		50mm diameter	5.00	no.
E.1.4	8.2.3	Extra over items E.1 for supplying, fixing and bedding of non-return valves, including coupling, fittings.		
E.1.4.1		75 mm dia	Rate Only	no.

E.1.5	8.2.3	Supplying and Installing of Water Meter, including coupling, fittings and PVC Cover, all water meters shall be above ground as per the detailed drawings and specifications.		
E.1.5.1		40 mm diameter	94.00	no.
E.1.6	8.2.3	Supplying, installing and fixing bedding for saddle connections for household's connections, including coupling and fittings.		
E.1.6.1		25 mm diameter	94.00	no.
E.2	8.2.2	Construction of Standpipes		
E.2.1	8.2.16	Supply and installation of Household Standpipe, complete with reinforced concrete slab, water drainage gulley, 160 mm diameter PVC pipe filled with concrete mix, including all necessary excavation, bedding, installation, reinforcement, concrete works, backfilling and compaction. The work shall be completed in accordance with the detailed drawings and project specifications.	94.00	no.
E.3	8.2.17	**Marker blocks:**		
E.3.1.1		Type 1	13.00	no.
E.4	8.2.3	**Fire Hydrant:**		
E.4.1		supplying, fixing and bedding of fire hydrants including double flanged distance piece between hydrant and tee:		
		75 mm dia	2.00	no.
E.5	PSL 8.2.11	Anchor/thrust blocks and pedestals:		
E.5.1		Concrete:		
E.5.1.1		Class 20MPa/19 mm	39.66	m³
E.6	PSL 8.2.13	Valve and hydrant chambers etc:		
E.6.1		**Valve chamber as per**		
E.6.1.1		Drawing No	10.00	no.
E.6.2		**Fire hydrant valve chamber as per**		
E.6.2.1		Drawing No	2.00	no.
E.7	PSL 8.2.18	**Connection to existing main supply pipes or network**	3.00	no.

The water reticulation is to be constructed, commissioned, tested, and handed over to the Local Municipality. The quality of work is to be audited by the contractor before being inspected by the Municipality representative and the Engineer.

The contractor is required to supply, deliver, install, test, commission, mark-up as-built drawings and hand over in working order the whole of the works associated with the construction of the sewer reticulation network. The contractor will provide a suitable site store and office. The design is based on the Dr Pixley Ka Isaka Seme Local Municipality Standards. The detail of the works required is included in the design drawings, bill of quantities and Works Information.

C3.2.6.1. Other works

1. Risk:

- The following risks have been identified at project design stage:
- Working in close proximity of existing infrastructure services.
- Working on uneven terrain presenting risks of falls.
- This is a residential and commercial built-up town and there are possible public liability risks.
- Work is carried out during the dry season presenting fire risks from open fires.
- Ergonomic risks from working on deep excavations.
- Weather related risks as temperatures can be extreme
- Hi-jacking risks
- Groundwater seepage

2. Material

The appointed contractor will supply all materials to complete the project. All materials are to be in accordance with SANS specifications
All materials associated with the completion of the project is as per the attached bill of quantities.

3. Meetings

It is envisaged that the Contractor will be attending the following meetings at his own cost:

Meeting	**Frequency**
Site Inspection (Quality Assurance)	twice a month
Site Meetings	twice a month
Pre-Energising commissioning	once/ zone
Project Closing Out Meeting	once
Final Hand-over	once
Safety meeting	once/month
Feedback meetings	once/month

4. Recording of Tests / Compliance / Safety Data

The contractor will provide the books / manuals for recording the above data.

5. Program

Key Dates

1. Construction to Commence
2. Testing and commissioning
3. Construction Completion
4. As-built drawings
5. Handover

A detailed construction and resource schedule to be provided by contractor as indicated in the annexure. This becomes part of the contract. Failure to provide this may result in disqualification.

6. Documents, Liaison and Reporting

(a) Employer's Agent duly authorised to administer this Appointment and to whom all related correspondence and copies of invoices shall be addressed is:

The Project Manager
ATTENTION: Mr Cedrik Mohoto
TEL: 017 734 6100
FAX : 086 630 2209
E-Mail : cedricm@pixleykaseme.gov.z

(b) Reporting Requirements:

A weekly progress report containing:
- executive summary (typically one to two paragraphs)
- performances to date
- problems experienced
- priorities for the next week
- corrective actions necessary and needed
- overall performance of the Contractor
- etc.

The documents have to be sent to the above-mentioned Employer's Agent, no later than 16h00, every Thursday.
The following feedback is also required by the above-mentioned responsible person:
Physical progress on all aspects of the project every Thursday before 16h00.
The Employer's Agent will discuss the format and definitions with the Contractor.

7. Payments:

The assessment for work done on-site will be on the 15th and 30th day of each month

NOTE:

Section A of the Bill of Quantities will only be paid once all correct information necessary for the loading of connections into CC & B has been submitted to the Consultant and successfully loaded onto the Municipality system i.e. project control sheet files, meter cards, Uploaded PCS files etc.

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C3: Scope of Work
C3.3 Engineering

C3.3.1 DESIGN

Works designed by, per design stage:	
Concept, feasibility and overall process	Employer
Basic engineering and detail layouts to bid stage	Employer
Final design to approved for construction stage	Employer
Temporary works	Contractor
Preparation of as-built drawings	Contractor

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

C3.3.2. EMPLOYER'S DESIGN

(a) Works as described in scope of works above

C3.3.3 CONTRACTOR'S DESIGN

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

C3.3.4 DRAWINGS

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless required by the Engineer. The Engineer will, on the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract.

The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates, or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis.

All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Employer for the permanent Works are listed below and bound in the tender document. The Employer reserves the right to issue amended and/or additional drawings during the Contract.

DRAWING NO.	REV	DRAWING DESCRIPTION
VUKUZAKHE-01	00	LIST OF DRAWINGS
VUKUZAKHE-02	00	LCALITY LAYOUT
VUKUZAKHE-03	00	PROPOSED TOWNSHIP LAYOUT PLAN
VUKUZAKHE-04	00	WARD 03 WATER LAYOUT PLAN SHEET 01 OF 02
VUKUZAKHE-05	00	WARD 03 WATER LAYOUT PLAN SHEET 02 OF 02
VUKUZAKHE-06	00	WARD 03 WATER SCHEDULE
VUKUZAKHE-07	00	WATER HOUSE CONNECTION DETAILS
VUKUZAKHE-08	00	WATER BEDDING DETAILS
VUKUZAKHE-09	00	THRUST BLOCK DETAILS
VUKUZAKHE-10	00	STANDPIPE PLAN LAYOUT AND DETAILS
VUKUZAKHE-11	00	VALVE CHAMBER DETAILS
VUKUZAKHE-12	00	MAIN SUPPLY CONNECTION DETAILS
VUKUZAKHE-13	00	NAME BOARD DETAILS

C3.3.5. DESIGN PROCEDURES

- *interfaces with existing structures, plant etc;*
- *any temporary works requirements, if any, e.g. specialized items of equipment;*
- *design integration before and during construction;*
- *procedures for all necessary approvals;*
- *special procedures e.g. environmental;*
- *design change procedures, and*
- *record keeping and tracking of documents.*

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APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C3: Scope of Work

C3.4 Procurement

C3.4.1 Preferential Procurement Procedures

C3.4.1.1 Requirements

C3.4.1.1.1 Employment of unskilled and semi-skilled labour in Labour Intensive Construction works

1. Requirements for the sourcing and engagement of labour

1.1 Unskilled and semi-skilled labour require for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.
1.2 The rate of pay set for the project is in accordance with the Dr Pixley Ka Isaka Seme Local Municipality

1.3 Daily Labour Rate.

The Minimum labour rates is R220/day

1.4 The Contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.3.
1.5
1.6 The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

(a) where the head of the household has less than a primary school education;
(b) that have less than one full-time person earning an income;
(c) where subsistence agriculture is the source of income;
(d) those who are not in receipt of any social security pension income.

1.7 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

(a) 60% women;
(b) 20% youth who are between the ages of 18 and 35; and
(c) 2% persons with disabilities.

2. Specific provisions pertaining to SANS 1914-5

2.1 Definitions

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

2.2 Contract participation goals

2.2.1 **The specified contract participation goal for the contract is 15 number**. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

2.2.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-related and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

2.3 Terms and conditions for the engagement of targeted labour

Further to the provisions of Clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

2.4 Variations to SANS 1914-5

2.4.1 The definition for net amount shall be amended as follow:

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

2.4.2 The schedule referred to in Clause 5.2 of SANS 1914-5 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of formal trainings provided to targeted labour.

3. Training of targeted labour

3.1 The Contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.

3.2 The cost of the formal training of targeted labour must be included on the total of the Prices.

3.3 The Contractor shall do nothing to dissuade targeted labour from participating in training programmes and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked.

3.4 An allowance equal to 100 % of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 3.3 above.

3.5 Proof of compliance with the requirements of 3.2 to 3.4 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

C3.4.1.1.2 Appointment of Community Liaison Officer

1. A community liaison officer (CLO) will be appointed from the local community. The liaison office will, amongst other duties, be responsible for the liaison with the beneficiary community.

2. Provision for the payment of the CLO has been made in the Pricing Data.

3. The successful tenderer shall enter into an agreement with the Ward Councillor/Ward Committee whereby the Ward Councillor shall provide to the Contractor with a Community Liaison Officer (CLO) for liaison with the recipient community.

4. The CLO shall attend all site and other meetings concerning the project.

5. The agreement shall make provision for the payment by the Contractor to the CLO a maximum amount calculated as follows:

Wage per month = *R 10,000.00 per month)*

6. Only one CLO shall be appointed per project. If the project spans over more than one Ward, the relevant Ward Councillors shall agree on one CLO to be appointed by the Contractor. Should no agreement be found as envisaged, the relevant Project Manager together with the Executive Director: Integrated Community Development, or their nominees, will interview prospective appointees and in their discretion appoint such CLO.

7. Notwithstanding the above, if the vastness of the project requires the use of more than one CLO, this will be permitted provided that the total monthly sum paid to all CLO's shall not exceed the amount allowed for as set out above.

8. Should the Contractor experience any difficulties with the community, these difficulties shall immediately be brought to the attention of the Department/Project Manager who shall arrange a meeting with the relevant Ward Councillor(s) and the CLO to resolve such difficulties.

9. The main Contractor shall ensure that any Sub-Contractor he may appoint shall adhere to these conditions but also subject to the provisos applicable to the duration of such sub-contract.

10. Should any of the above conditions be less favourable than any Bargaining Council Agreement or Act applicable to the Contractor, the more favourable condition will apply.

C3.4.1.2 Resource standard pertaining to targeted procurement

State the number, title, part, and edition of SANS 1914 targeted procurement applicable to the contract and all data, variations and definitions required e.g. definitions of target groups, weighting factors, etc. (Refer to SANS 10396 for specific guidance)

C3.4.2 SUBCONTRACTING

C3.4.2.1 Scope of mandatory subcontract works

A minimum of **30%** of the contract value (VAT inclusive) shall be towards the employment of local labour, subcontractors and suppliers.

The Contractor can use his/her own discretion to determine where and how the specified minimum percentage as stipulated is achieved and shall provide documentary proof to substantiate his/her claim.

The Contractor will be required to submit a statement with each payment certificate indicating where and how this requirement has been met. Sanctions will be imposed on the contractor in the form of a financial penalty equal to the difference between the actual and minimum percentage.

Preference will be given to contractors and suppliers located within the boundaries of Dr. Pixley ka Isaka Seme Municipality, preferably from within the project area.
Expenditure which is claimable is:

- Payments for the contract, which is made to labourers, sub-contractors, material suppliers, fuel suppliers, training providers, caterers, transport services, plant hire, laboratory services, surveyors and the like which are wholly or partially owned by one or more historically disadvantaged individuals (HDI).

For payments made to service providers which are not 100% HDI owned, only the amount of the payment as a proportion of the percentage HDI ownership shall be claimable as community retailed earnings.

If, at the completion of the project, the contractor has not yet shown that he/she has complied with this condition then the shortfall of the specified minimum percentage shall be withheld from the final payment due to the contractor.

C3.4.2.2 Preferred subcontractors/suppliers

Not applicable

C3.4.2.3 Subcontracting procedures

The contractor shall provide enterprise declarations for each sub-contractor employed on site and shall provide documentary proof of all payments made to subcontractors to substantiate any claims. Preference shall be given to sub-contractors residing in the immediate project area.

C3.342.4 Attendance on subcontractors

The contractor shall provide on-site assistance and support to local sub-contractors as appropriate

C3.4.3 LOCAL LABOUR AND TRAINING

The contractor shall limit the utilisation of his permanent employed personnel to key personnel such as contracts mangers, site agents, foremen, supervisors, plant operators, materials & survey technicians, trainers, buyers, store men and the like should such expertise not be available from the local area. The contractor shall make maximum use of human resources existing in the local community/area, the contractor is shall employ local labour maximum of 30 people for project more than 10 Million Rand. The bidder shall apply to the employment labour desk, conveyed by the ward committee for details of those labourers who are available in the area of work and shall provide preference to those labourers identified.

The contractor shall comply with the relevant laws governing the employment, accommodation and transport of labour. All matters affecting the contractor's labour force shall be the sole responsibility of the contractor.

Formal structured training of labour in certain fields has to be undertaken, preferable in the first two months of the project. The training requirements/needs will be determined by the contractor in consultation with the engineer, employer and CLO.

The contractor shall utilise trained labour in all instances. The employment of labour from outside the local area will only be considered and permitted by the Engineer in the event of:

a) the unavailability of sufficient numbers of local labourers to execute the work;
b) the unavailability within the local community of the required skills necessary for the execution of a specific portion of work, and where the completion period does not permit the creation of the necessary skills through training.

In both cases the contractor shall prove to the satisfaction of the Engineer that he has exercised his best endeavours and taken all reasonable actions to recruit local labour.

The contractor shall maintain accurate and comprehensive daily records of all labour engaged on the bid and shall submit to the Engineer at two weekly intervals detailed labour returns substantiating the

actual numbers of labourers employed, the amounts actually paid in respect thereof, and details of the various activities undertaken by the labourers.

The employment of casual labour will be done in co-operation with community leaders and local structures. The bidder shall ensure that all remuneration paid to employees is in line with the relevant sectorial determination in terms of the Basic Conditions of Employment Act, No 75 of 1997, as determined by the Department of Labour.

C3.4.4 COMMUNITY LIAISON OFFICER (CLO)

a) Appointment

The Contractor shall if instructed to do so appoint a Liaison Officer or Officers after consultation with the local community, the Engineer and the Employer. The Liaison Officer(s) shall be appointed as a member of the Contractor's management personnel and the Contractor's normal employment conditions shall be applicable to the appointment. The Contractor shall disclose his normal employment conditions to the Engineer when called upon to do so.

b) Duties for the Liaison Officer

The Liaison Officer(s) shall

(i) be available on Site daily between the hours agreed on by the Contractor, the Employer and the Engineer from time to time;
(ii) determine, in consultation with the Contractor, the needs of the temporary Labourers for relevant skills Training. He is responsible for the identification of suitable trainees and shall attend one of each of the training sessions;
(iii) communicate with the Contractor and the Engineer to determine the labour requirements with regard to numbers and skills;
(iv) assist in maintaining relations, and when applicable partake in labourer grievance and dispute procedures;
(v) assist in and facilitate the recruitment of suitable temporary labour and the establishment of the Labour Register;
(vi) attend all meetings in which the local community and/or labourers are present or are required to be represented;
(vii) assist in the identification, and screening of labourers from the local community in accordance with the Contractor's requirements;
(viii) inform temporary labourers of their conditions of temporary employment, and inform temporary labourers as early as possible when their period of employment will be terminated;
(ix) attend disciplinary proceedings to ensure that hearings are fair and reasonable;
(x) keep a daily written record of his interviews and community liaison activities;
(xi) carry out specific tasks ordered by the Engineer;

a) perform such other duties as required and agreed upon between all parties concerned.

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APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C3: Scope of Work

C3.5 Construction Standardised Specification

PART B1 VARIATIONS AND ADDITIONS TO THE STANDARDIZED SPECIFICATIONS

SUBCLAUSE REFERENCE

The sub clause in brackets refers to the sub clause in SANS 1200.

PSA GENERAL (SANS 1200A)

PSA.2.3 DEFINITIONS (CLAUSE 2.3 (a))

For the purpose of this Project Specification the following definition shall apply:

GENERAL CONDITIONS The “General Conditions of Contract for Construction Works Second Edition (2015)”.

PSA.3 MATERIALS (CLAUSE 3)

PSA.3.1 QUALITY (SUB-CLAUSE 3.1)

Add the following:

All materials used in this contract shall comply with the relevant SANS Specification (as amended) or particular Specification as noted.

Materials specified as being to the approval of a Standards Bureau shall bear the official mark of the appropriate standard.

Recycled materials may not be used in the Works unless authorized by the Engineer.

Samples of concrete aggregates and pipe bedding material are to be delivered to an approved laboratory.

PSA.4 PLANT (CLAUSE 4)

PSA.4.1

PSA.4.2 CONTRACTOR’S OFFICES, STORES AND SERVICES (SUB-CLAUSE 4.2)

Add the following:
The location of the temporary area where the contractor will set up any site camps as well as plant and material storage yards shall be by mutual agreement between the Contractor and the PSC.

"The Contractor's construction camp shall be fenced off and shall contain all offices, stores, workshops, testing laboratories, toilet facilities, etc. The camp shall always be kept in a neat and orderly condition.

No personnel may reside on the Site. Only night-watchmen may be on the Site after hours."

The Contractor shall obtain the necessary Community approval and introduce members of his team to the Community before carrying out works at the site camp.

The Contractor shall obtain all the necessary permits and make all the necessary arrangements for services, also latrine facilities for labourers:

“One toilet per 10 workmen shall be provided and must be screened from public view and its use shall be enforced, the Contractor shall, where applicable, make the necessary arrangements for the removal of night soil."

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

PSA.4.3 WATER & POWER (ADDITIONAL SUB-CLAUSE)

Add new Sub-Clause:

The Contractor shall make his own arrangements to legally obtain temporary water connections.

There is power available on site and the Contractor shall make his own arrangements to legally obtain temporary power connections.

PSA.4.4 PLANT FOR CONSTRUCTION PURPOSES (ADDITIONAL SUB-CLAUSE)

Add new Sub-Clause:

The Contractor's plant for construction purposes shall be of modern design, adaptable for the purpose for which it is required, in sound condition, and ample in capacity for carrying out the Works expeditiously.

Should the Engineer be of the opinion that the plant in use is in any way unsuitable for carrying out the Works in a manner or at a rate commensurate with the requirements of the Contract, they shall have the right to call on the Contractor at any time during the progress of the works to provide additional or improved plant and tools as may be necessary to meet these requirements.

PSA.5 CONSTRUCTION (CLAUSE 5)

PSA.5.2 DEALING WITH TRAFFIC (SUB-CLAUSE 5.2)

Add the following:

PSA.5.2.1 General

The temporary deviation of the public traffic together with providing access to persons occupying properties that fall within or adjoining the area over which the contractor is working, shall be the responsibility of the Contractor and at his cost.

The Contractor to ensure safe and easy passage of public traffic over sections of roads which he occupies. If for any reason, such access has to be closed for a certain period arrangements have to be made with the persons affected and reasonable notice in writing of each period must be given to affected persons.

In addition, the Contractor shall provide, erect and maintain traffic signs that conform to the South African Road and Traffic manual in positions approved by the Engineer for the temporary deviation of traffic during construction.

All signposting shall be by the use of yellow background "Temporary Road Signs" as detailed in the latest edition of South African Road Traffic Signs Manual (SARTSM) Vol. 2, Chapter No 13, Roadworks Signage issued by the CSRA Road Traffic Signs Sub-Committee.

PSA.5.2.2 Materials

All construction vehicles shall be fitted with rotating beacons with an amber lens of minimum height 200mm, clearly visible from all directions, and a reverse direction warning buzzer. The beacons on construction vehicles shall not be switched on while vehicles are being operated on unrestricted sections of public road, but shall be switched on while construction vehicles are operating within the accommodation of traffic areas, as the vehicles decelerate to enter a construction area, and as the vehicles accelerate to the general speed of traffic when entering the road from a construction area. Beacons on items of plant shall operate continuously while the plant is working alongside sections of open road to public traffic. The beacons shall be so placed as to be clearly seen from all directions.

All flagmen and workmen, including supervisory staff, working on or near the roadway, shall wear high visibility "day-glo" yellow reflectorised safety vests.

Rotating beacons on the Contractor's vehicles and plant, and high visibility vests shall not be paid for separately but shall be included in the rates covering the use of the vehicles.

PSA.5.2.3 Pedestrian Traffic

Safe pedestrian access shall be maintained by means of demarcating a pedestrian zone.

PSA.5.2.4 Maintenance

If the coefficient of retro-reflection of any portion of a sign falls below 80% of the value given in Table 1 of CKS 191-1987 (observation angle 0,33o, entrance angle, 5,0o) for the grade and colour of the material specified, the sign shall be considered defective. Signs for which the retro-reflectivity falls below a standard acceptable to the Engineer shall be replaced at the Contractor’s cost. All maintenance of signs will be at the Contractor's cost.

PSA.5.2.5 Allowance in Programme

The Contractor's programme shall allow for traffic accommodation measures. The Contractor's tendered rates for the relevant items in the schedule of quantities shall include full compensation for all possible additional costs which may arise from this, and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered.

Failure to maintain road signs, warning signs or flicker lights, etc, in a good condition shall constitute reason for the Engineer to suspend work on site.

The Contractor may not commence constructional activities before adequate provision has been made to accommodate traffic in accordance with the requirements of the latest addition of South African Road Traffic Signs Manual (SARTSM) Vol. 2, Chapter No 13, Roadworks Signage.

The Contractor shall submit his proposals in connection with all signs and accommodation of traffic to the Engineer for approval.

The Contractor shall ensure that the existing property accesses are maintained at all times. Where necessary the Contractor shall make allowance in the rates for completing the work required to the accesses out of normal hours.

The Contractor shall record in writing, take appropriate photographs with a date and time reference of all temporary road signs, barricades, delineators, flagmen and other devices in use for traffic accommodation purposes at the scene of an accident.

The Contractor shall advise, in writing, all property owners whose accesses are likely to be affected during the course of the work at least one month in advance of the date on which such work is likely to commence. A copy of each letter of advice shall be forwarded to the Engineer.

The Contractor shall ensure that the effects of his operations on pedestrian traffic flow on the minor cross and service roads are kept to a minimum.

PSA.5.3 PROTECTION OF STRUCTURES (SUB-CLAUSE 5.3)

Replace “Machinery and Occupational Safety Act, 1983 (Act No. 6 of 1983)” with Occupational Health and Safety Act, Act no. 85 of 1993 as amended by Act 181 of 1993.
Replace “Mines and Works Act, 1956 (Act No. 27 of 1956)” with Minerals Act, Act 50 of 1991.

PSA.5.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES (SUB-CLAUSE 5.4)

Add the following:

In addition to the requirements of clause 5.4, the existing internal reticulation pipes with diameter of ND110-ND250 and the ND250 gravity main outside the site has been identified as critical to health & wellbeing of the community and as a risk to the new construction works if it blocks and overflows. As such it has to remain operational and any down time due to damage has to be minimised. In the event of damage to these gravity mains and associated infrastructure along this length the damage shall be repaired by the Contractor at his own expense as set out below.

This clause shall apply to the full length of the existing water and sewer networks including the gravity sewer mains within and around the site and site camp:
Any damage to the pipeline within and around the site defined in this contract shall be deemed to be due to construction activities, and shall be repaired by the CONTRACTOR at his own expense as outlined above.
Any damage outside of the length 5.0km shall be deemed not to be due to construction activities and shall be repaired by the CONTRACTOR at the expense of the Employer, unless such damage can reasonably be attributed to the activities of the contractor, which judgment shall be made by the Engineer.
Any blockage resulting in overflowing into the Works shall be repaired by the CONTRACTOR at the expense of the Employer.

Payment for repairs deemed not to be due to construction activities shall be at day works rates for personnel, with applicable multipliers of 1.5 and 2.0 for work outside of normal working hours and on Sundays or Public Holidays, and at rates in the BOQ for materials.

5.4.1 Classification

Any damage resulting in an interruption in the supply of services or blockages resulting in sewerage overflowing into the Works shall be deemed an emergency repair, and the timing of the works would therefore be of an urgent nature. Such classification shall be at the discretion of the Engineer and communicated as such to the Contractor.

5.4.2 Availability of Contractor for emergency repairs

During the contract period, the Contractor shall ensure that a designated member of his staff is contactable by cell phone in the event of the need for an emergency repair.

The Contractor shall as a minimum comply with the following requirements:

i) A minimum of 1 artisan and 1 skilled labourer shall be available to attend to an emergency repair at all times during normal hours and after hours.

ii) Suitable tools, plant, transport, test equipment, spares and repair kits shall be available at all times to do the necessary emergency repairs.

iii) Above labour and resources shall be available at all times, including Saturdays, Sundays and public holidays, during normal hours and after hours, and the names, addresses and contact information shall be made available to the Employer and Engineer for this purpose.

5.4.3 Procedure for commencement and execution of repairs

Upon discovery of damage, the Engineer or his representative shall instruct the Contractor to attend to the said emergency repair, which instruction shall be verbal, and thereafter confirmed in writing.

The Contractor shall within 3 hours from such notification arrive on site so as to define the extent of the repair required and shall immediately make arrangements to have such a repair rectified, which repair shall be effected within 9 hours thereafter.

5.4.4 Communication in the event of emergency repairs

The Contractor shall immediately upon arrival inform the Engineer of the extent of the problem and also of the anticipated timeframe required to effect the repairs thereto.

Immediately upon completion of the repairs, the Contractor shall provide a verbal notification to the Engineer to the fact that the works have been completed and confirm same within 12 hours in writing.

5.4.5 Failure to effect emergency repairs

Failing to effect the emergency repair within the stipulated 12 hour time frame shall result in a once off penalty of R100 000, followed by a further penalty of R10 000 per additional hour of interruption of water supply.

In the event that the Contractor should fail to attend to the emergency repairs as described above and within the response times noted, the Employer shall also be entitled to carry out such work by his own workman or by other persons without further notification to the Contractor and to recover the cost thereof from the Contractor. This would not relieve the Contractor of his obligations in terms of the penalty prescribed above.

5.4.6 Standard of work of repairs

The repairs shall be to the same specification as the main works, and any repair work not meeting the specification shall be replaced by the Contractor after the completion of the entire scheme, for which purpose payment shall be withheld by the Engineer to cover the cost of this work, which amount shall be calculated by the Engineer, and which shall be returned to the Contractor following acceptance by the Engineer of the repair. A method statement for the replacement of unsatisfactory repairs shall be submitted by the Contractor and approved by the Engineer prior to commencement of the work.

PSA.5.7 SAFETY (SUB-CLAUSE 5.7)

Add the following:

The Contractor shall make available for the duration of the contract an adequate number of safety helmets, gumboots and any other necessary safety equipment for sole use by the Engineer and his representatives.

PSA.5.8 PROVIDING ACCESS TO PROPERTIES (SUB-CLAUSE 5.8)

Add the following:

Road crossing and access to properties must be provided by the Contractor at all times. The Contractor shall, at his own expense, provide suitable crossings for residents and other Contractors requiring access to the Site. Such temporary service trench crossing shall be in the form of portable bridges, temporary backfill or other approved means and shall be capable of permitting the safe passage of vehicles of means not exceeding 2 tons. The Contractor shall also be responsible for maintaining such crossings and for removing same when they are no longer required.

The Contractor may, with the approval of the Engineer, arrange with the occupiers of the affected properties to temporarily close off a portion of a street, road, foot-path or entrance, provided that the Contractor shall give due notice to the occupiers of the intended closure and its probable duration and shall as punctually as possible re-open the route at the prescribed time. Where possible the road shall be made safe and re-opened to traffic overnight. Any such closure shall be an arrangement between the Contractor and the occupiers and

shall not absolve the Contractor from his obligations under the Contract to provide access at all times. Barricades, and traffic signs shall be provided by the Contractor to suit the specific conditions.

Items have been included in the Preliminary and General Sections of the Schedule of Quantities for the provision of access to properties.

Payment shall be a lump sum for providing access to all properties, which lump sum shall be full compensation for providing access to properties at all times and shall include for any additional costs due to construction under traffic, for making arrangements with the occupiers of properties to temporarily close off routes and for taking the necessary precautions to provide for the safe and easy passage of traffic through the areas under construction.

PSA.5.10 WORKING AREAS (ADDITIONAL SUB-CLAUSE)

Add new Sub-Clause:

Working in restricted areas (PS 10 CONSTRUCTION IN RESTRICTED AREAS)

Working space is sometimes restricted. The construction method used in these restricted areas largely depends on the Contractor's Plant. However, the Contractor must note that measurement and payment will be according to the specified resections and dimensions irrespective of the method used, and that the rates and prices tendered will be deemed to include full compensation for difficulties encountered while working in restricted areas. No extra payment or any claim for payment due to these difficulties will be considered.

The allowable working width for the pipeline shall not exceed 10m. The practical working width of the new pipeline is reduced to less than 10m in certain places due to the proximity of current and possible future buildings, graves and roads.

In all areas of restricted working width (i.e. less than 10m) the contractor must take all additional precautions as necessary and in terms of the applicable regulations for the protection of any adjacent servitude width intrusions, including shoring where necessary. No additional payment will be made for working in restricted areas.

The pipelines shall be cleared over a width of at least 1m on the outside and 4 m on the inside of the centre line of the trench for a general total width of 5m. The Engineer shall designate the areas to be cleared, which shall not necessarily be limited to those mentioned above.

No clearing and grubbing shall be done other than on the written instruction of the engineer, who shall designate in detail the exact areas to be cleared and grubbed and the time when it shall be done. The contractor shall note that, in order to avoid re-clearing, the clearing and grubbing may have to be done at the last practicable stage of construction.

Working Length

The contractor will not be allowed to open up trenches in excess of the maximum working lengths, which are as follows:

Gravity Main
Reticulation Network

Graves

No construction work shall be carried out within 15m of any grave. This distance may be reduced to 10m with the approval of the Engineer.

PSA.6 TOLERANCES (CLAUSE 6)

PSA.6.2 DEGREES OF ACCURACY (SUB-CLAUSE 6.2)

Add the following:

The Degree of Accuracy I shall be applicable to the vertical alignment of the sewer pipelines. The Degree of Accuracy II shall be applicable to the remainder of the Works.

PSA.7 TESTING (CLAUSE 7)

PSA.7.1 PRINCIPLES (SUB-CLAUSE 7.1)

Add the following:

i) The following definitions apply:

Control Testing means quality control tests carried out by the contractor to ensure that work is done according to specifications.

Acceptance Testing means quality control tests carried out by the Engineer to ensure that the work is acceptable in accordance to the specifications.

PSA.7.1.1 CHECKING (SUB-CLAUSE 7.1.1)

Control Testing will be for the contractor's account. These costs must be allowed for in the tendered rates of items that are subjected to quality control tests.

All control test results shall as soon as available immediately be given to the Engineer for approval.

Acceptance Testing of site welding and site holiday testing of coatings and linings and repairs to coatings and linings shall be carried out by a specialist testing agency selected by the Engineer. Payment for this testing shall be provided for as a provisional sum in the Bill of Quantities. The specialist testing agency shall report to the Engineer. The Contractor shall afford the Engineer reasonable notice and all opportunity and access necessary for the testing of every weld by the specialist testing agency.

The Contractor has the option of agreeing to a “Shared Laboratory”. The Shared Laboratory shall comprise the following:

A specialist testing agency for holiday testing selected by the Engineer. The specialist testing agency shall report to the Engineer who shall forward all test results to the Contractor. Communication with the specialist testing agency shall be through the Engineer. Holiday testing shall be to 100% of the internal and external surfaces unless otherwise agreed with the Engineer.

An external materials laboratory for soil density and concrete cube testing selected by the Engineer. The materials laboratory shall report to the Engineer who shall forward all test results to the Contractor. Communication with the materials laboratory shall be through the Engineer

A site Troxler. The Troxler shall be hired by the Contractor from an accredited supplier and be accompanied by a current calibration certificate.

Both time related and testing costs of the specialist testing agency for weld and holiday testing shall be shared equally by the Employer and the Contractor.

Both time related and testing costs of the external laboratory for soils and concrete testing shall be shared equally (50-50) by the Employer and the Contractor.

Payment for site Troxler shall be shared equally by the Employer and the Contractor.

Payment to the specialist testing agency and the external soils lab shall be made by the Contractor upon receipt of invoices certified by the Engineer. Proof of payment of these items and the Troxler shall be forwarded to the Engineer. The Employer’s share of these shall be added to the following monthly payment certificate.

Costs of any tests which fail to meet specification shall be deducted from the sum to be split and charged directly to the Contractor.

PSA.7.2 APPROVED LABORATORIES (SUB-CLAUSE 7.2)

Add the following:
All testing laboratories used shall also be accredited by the South African National Accreditation System (SANAS).

PSA.8 MEASUREMENT & PAYMENT (CLAUSE 8)

PSA.8.1 MEASUREMENT (SUB-CLAUSE 8.1)

PSA.8.1.1 METHOD OF MEASUREMENT (SUB-CLAUSE 8.1.1)
Add the following:

Non Standard Items

A number of Non-Standard Payment Items are included in the Schedule of Quantities in respect of items of work not described within the standarised, Project or Particular Specifications.

Measurement and payment items shall be in terms of this Clause.

The unit of measurement for each individual non-standard item shall be as indicated for that item within the Schedule of Quantities.

The tendered rates and prices for each particular item shall, unless otherwise stated in the “Short Description” of the item, include for everything necessary to construct the particular item complete in all respects and in accordance with the description thereof as set out in the column headed “Short Description” in the Schedule of quantities.

PSA.8.2 PAYMENT (SUB-CLAUSE 8.2)

PSA.8.2.1 FIXED-CHARGE AND VALUE-RELATED ITEMS (SUB-CLAUSE 8.2.1)

Add the following:
The amount, if any, by which the sum of the fixed-charge and value-related items exceeds five percent of the net total tendered amount (excluding contingencies and escalation) shall be regarded for payment purposes as time-related items and will be paid in accordance with clause 8.2.2.

PSA.8.2.2 TIME-RELATED ITEMS (SUB-CLAUSE 8.2.2)

Delete the fourth line and substitute the following:
“(...months of the duration of construction as assessed by the Engineer) will be…”
Add to the Sub-Clause:
Notwithstanding the provisions of Sub-Clause 8.2.2 an approved extension of time will not qualify the Contractor to receive any payment for that portion of fixed charge and value-related items that are regarded as “time-related” items in terms of PSA 8.2.1 above.

PSA.8.3 SCHEDULED ITEMS (SUB-CLAUSE 8.3)

PSA.8.3.4 Removal of Contractor's Site establishment on completion …….Unit : Sum

The contractor is to include in the appropriate items of the Preliminary and General for the cost of trimming, raking, top soiling and re-grassing the area on completion.

PSA.8.5 SUMS STATED PROVISIONALLY BY THE ENGINEER

PSA.8.5.1 Acceptance Testing

This sum shall be a provisional amount to cover the Engineer's Acceptance Tests. The amount invoiced shall be authorised by the Engineer and paid for by the Contractor before being paid for under this item. If any Acceptance Testing fails to meet the specified criteria, the test will be deemed to form part of the Contractor's Control Testing and shall be paid for by the Contractor.

The unit for (f) Overhead and mark up shall be the percentage (%) and shall be deemed to be full compensation for all the Contractor's additional costs and profit associated with this process.

a)	Establishment on Site.....	Unit : Provisional Sum
b)	Testing Staff.....	Unit : Provisional Sum
c)	Pipe Testing.....	Unit : Provisional Sum
d)	Soils and Concrete Testing	Unit : Provisional Sum
e)	Provision of Troxler on Site	Unit : Provisional Sum
f)	Overheads and Mark-up	Unit: Percentage (%)

PSA.8.5.2 Providing Access …… Unit : Sum
PSA.8.8.1

The sum tendered shall include full compensation for all obligations in connection with the providing access to residents and visitors as described in clause PSA.5.8, for the entire site and access roads affected by the works for the duration of the contract.

PSA.8.8.2 Dealing with Traffic

(a) Accommodation of traffic…….. Unit : Sum

The sum tendered shall include full compensation for all obligations in connection with the accommodation of traffic and pedestrians for the entire site and access roads affected by the works for the duration of the contract

.

(b) Supply of signs, barriers and lamps ……..... Unit : No.

The unit of measurement shall be the number of signs or lamps prescribed in accordance with the Engineer's instructions and the specifications.

The rate tendered shall include for the supply of the signs and their supports to site and if necessary for storage until used. Payment shall become due as soon as the sign is in stock in the Contractor's store on site or is in position on site. The number of signs, barriers or lamps shall be in accordance with the Engineer's instructions and the specifications.

(c) Signposting Unit : Weeks
……..

The unit of measurement shall be in weeks to provide for their erection, maintenance including the replacement of items that have become unserviceable, barriers, flagmen and other activities associated with the accommodation and control of traffic during construction not separately provided for in the Schedule of Quantities.

The rate tendered shall include all incidental labour, materials and equipment required for the handling and erection as well as the shifting and re-erection as often as may be necessary of all signs, barriers and other means of traffic control and accommodation that are necessary during the course of the contract.

The erection, removal or shifting of signs shall be covered by the weekly rate tendered for sign posting which shall become due weekly for the full tendered time for completion plus approved extensions, notwithstanding earlier completion of the works.

PSA.8.8.4 Existing services

Protection of Existing Services…… Unit : Sum

The unit of measurement shall be the Sum.

The sum tendered under this item shall include full compensation for all costs incurred in complying with the requirements of clause 1200A 5.4, including liaison with and accommodation of service organisations and temporary protection of services.

Additional requirements for the existing water network, and excavation to prove existing services will however be paid separately.

Extra Over for protection of existing sewer pipelines Fixed cost…….…. Unit : Sum

The unit of measurement shall be the Sum.

The sum tendered under this item shall include full compensation for all initial fixed costs incurred in complying with the requirements of clause 1200A 5.4, relating to emergency repairs including the provision of materials described in Clause 1200A 5.4.2 ii. The cost of the initial supply of materials will be paid separately.

Extra Over for protection of existing sewer pipelines Time-related costs…….. Unit: Week

The unit of measurement shall be the Week, and shall become payable for each week that the contractor is constructing the new pipeline.

The amount tendered under this item shall include full compensation for all time related costs incurred in complying with the requirements of clause 1200 PSA 5.4, relating to emergency repairs including the provision of services described in sub-clauses 1200 PSA 5.4.2 to 5.4.5. The cost of replenishing materials will be paid separately if the damage to the pipeline cannot be attributed to Contractor activities on site.

(d) Penalty for Late Completion of Emergency Repairs……..... Unit : Sum

The unit of measurement shall be the Sum.

The penalty shall be a once off sum per event as shown in the Schedule of Quantities. This penalty shall be enforced for each separate time that an emergency repair is not completed within 12 hours of the service becoming un-operational.

(e) Penalty for Late Completion of Emergency Repairs……..…… Unit : Sum

The unit of measurement shall be the Sum.

The penalty shall be the sum per hour as shown in the Schedule of Quantities. This penalty shall be enforced for each hour after the initial 12 hour period that the emergency repair is not completed.

(f) Supply and store on site, the following items for emergency repair of the existing ND300 rising main:

(i) Pipes (Type stated)……	Unit: m
(ii) Fittings (Type stated)…….……..	Unit: No

The unit of measurement shall be linear meter for pipes and number (No.) for fittings

Payment will be made for these items as soon as they are on site.

PSAB ENGINEERS OFFICE (SANS 1200 AB)

PSAB.3 MATERIALS (CLAUSE 3)

PSAB.3.1 NAME BOARDS (SUB-CLAUSE 3.1)

Add the following:

In the 3rd line delete “South African Institution of Civil Engineers” and substitute with “Consulting Engineers South Africa”, additional 4th line add MIG and EPWP Logo

Notwithstanding sub clause 3.1 of the Standard Specification, the name board shall be according to the pro-forma attached in section C4.

The name board shall be placed in a position designated by the Engineer.

The board shall remain the property of the Contractor who shall dismantle and remove the said board on completion of the contract.

PSAB.3.2 OFFICE BUILDING(S) (SUB-CLAUSE 3.2)

Replace Sub Clause 3.2 with the following.

Engineers Offices (New)

The contractor shall provide and furnish at an approved location, two new 12.5m x 3.0m partitioned prefabricated “Container Conversion” type Park Home site offices, or similar approved, for the use of the Engineer and his staff (refer to drawings). Each container shall be divided into two rooms.

Each room shall be weatherproof, comfortably insulated, secure, have opening windows with burglar guards of glazed area of at least 3m2 with vertical blinds, well ventilated, positioned to level & suitably raised above the ground with a level 50mm layer of 19mm stone surrounding each office to at least 1.0 m width.

The total new internal furnishings for the Engineer’s offices shall include:

Eight smooth topped desks with drawers of minimum size 1.5m long x0.8m wide;
Four dark fabric covered high-back swivel chairs with arms on casters/wheels;
Eight dark fabric covered swivel chairs with arms;
Four secure plan tables of minimum size 1.5m long x 0.9m wide;
Shelving of total length 12m and of nominal width 300mm;
Two lockable upright fire-proof steel filing cupboards with 3 shelves;
Four portable heaters of minimum capacity 1.5kw;
Sixteen double 220/250 volt power points;
Eight double 80W fluorescent light fittings;
Two 9kg fire extinguishers;
Four 12000btu air conditioning units (for heating and cooling);
Four wall mounted Notice Boards of minimum size 1.5m long x 1.0m wide.

Board Room and facilities

The contractor shall also provide and furnish at an approved location, one new 9.5m x 3.0m prefabricated "Container Conversion" type Park Home, or similar approved, partitioned for a site board room for the exclusive use of the Engineer and his staff (refer to drawing), toilets, a shower and a kitchen. The rate under payment clause 8.3.2 is to include the provision of a minimum three compartment septic tank with a capacity of 3 cubic meters, and a French drain of at least 8,0 cubic meters, and the connection of water lights and sewerage services and the rate under payment clause 8.4.2 is to include the continued supply, disposal and operation of same.

The unit shall be weatherproof, comfortably insulated, secure, have opening windows of glazed area of at least 3m2 with vertical blinds, well ventilated, positioned to level & suitably raised above the ground on a 50mm layer of 19mm stone surrounding the building to at least 1.0m width around each office.

The new internal furnishings for the board room shall include

Twelve dark fabric covered chairs;
Two exact alike 2,0m long x 1.5m wide smooth topped tables (joinable);
Two 220/250 volt power points;
Two 9kg fire extinguishers;
Two wall mounted Notice Board of minimum size 1.5m long x 1.0m wide.

The board room can be utilized as a venue for official training purposes and monthly site meetings, but not for internal Contractor training purposes or other use.

The new internal furnishings for the partitioned kitchen on the 9.5m x 3.0m board room office shall include:

One two door fridge/freezer of minimum total capacity 220 litres;
One standard minimum 1.6 litre capacity kettle;
One 4 plate compact stove with own electrical power point;
One medium size (20 litre) microwave oven;
One tea set comprising six cups and saucers;
One sugar bowl;
One milk jug;
Six coffee mugs;
Twelve tea spoons;
Twelve large glass tumblers;
One large glass water jug;
One glass carrying melamine tray;
Two double 220/250 volt power points;
One 12000 btu air conditioning unit (for heating and cooling).

The toilet rooms shall each include:
One toilet
One small wash hand basin
One high level frosted window.

The Shower shall include:
One 900x900 shower cubicle
A 60l geyser
One large wash hand basin
A slatted bench
Three coat hooks
One high level frosted window.
Car Ports

In addition, the contractor is to provide, at approved locations, 4 no. covered vehicle parking bays securely constructed with a leak proof corrugated iron roof with a 500mm overhang, on a level 50mm layer of 19mm stone extending at least 500mm past the roof edges.

An approved rain gauge properly fenced off shall be provided by the Contractor free of charge in order to enable him to claim for extensions of time in this regard.

The three furnished site offices & four carports will be paid in full once erected and approved.

Inspection Equipment

In addition, the Contractor shall provide the following equipment available for use by the Engineer for the inspection of the internal surfaces of the pipes DN 500 and larger:

One pair of boots having leather uppers and rubber soles
One one-piece overall with at least one breast pocket
One adjustable safety harness
Two screw drivers, 5 cm and 10 cm long
One small peen hammer
A two-cell torch with a 10W light bulb with two sets of rechargeable batteries and a battery charger and spare bulbs
A sufficient length of 16 mm diameter rope to suit the conditions on site.
One trolley suitable for inspecting pipes of the appropriate diameter(s).

The equipment shall be kept in good condition and operating order throughout the duration of the Contract.

On completion of the works, ownership of the offices, board room, carports and all furnishings shall revert to the Employer for use on further contract phases of this water supply scheme. The contractor to be advised if any moving on or off site would be required at an agreed rate.

PSAB.3.3 SITE INSTRUCTION BOOK (ADDITIONAL SUB-CLAUSE)

Throughout the construction period the Contractor shall supply a carbon triplicate book as a Site instruction book.

This book shall be kept on Site and shall be accessible to both the Contractor and the Engineer's Representative at all times. It may be used as follows:

by the Contractor for:

providing the Engineer’s Representative with any information regarding the construction of the works which may be requested,
And
giving notification in writing as required by any of the relevant clauses of the General Conditions of Contract,

by the Engineer's Representative for the purpose of writing day to day instructions and confirming any verbal information or instructions given to the Contractor.

One copy of each site instruction issued by either party shall remain in the book.

PSAB.3.4 E-MAIL CORRESPONDENCE (ADDITIONAL SUB-CLAUSE)

Add the following new Sub-Clause:

Correspondence via e-mail is deemed to be a legitimate and binding form of written contract communication and the Contractor shall ensure that he has adequate facilities on Site to cater for this form of communication.

Site Instructions sent via e-mail with electronic signatures would be deemed to be a legal and legitimate form of correspondence for this contract.

PSAB.4 PLANT (CLAUSE4)

PSAB.4.1 TELEPHONE (CLAUSE 4.1)

Delete the Sub-Clause and replace with the following:

The Contractor will not be required to provide a telephone for the Engineer or the Engineer's Representative (see also clause PSAB.8.2.1).

PSAB.5 CONSTRUCTION (CLAUSE 5)

PSAB.5.2 ENGINEER'S OFFICE(S) (CLAUSE 5.2)

Delete the 2nd sentence and replace with the following:

He shall keep the office(s), kitchen and toilet clean and shall provide adequate cleaning staff for this purpose throughout the contract period.

PSAB.5.6 SURVEY EQUIPMENT AND MATERIALS (ADDITIONAL CLAUSE)

Add the following new Sub-Clause:

The Contractor shall provide the following equipment on the site from the commencement to the completion of the works for use by the Engineer.

One recently calibrated approved automatic level of modern manufacture together with tripod;
One metric 5m leveling staff of approved design;
One staff angle bubble;
One metal change point for leveling;
Two spirit levels (one meter long);
One 2kg hammer with steel or wooden pegs when required;
One tape of length 30m;
Four 5m steel pocket tapes.

PSAB.8 MEASUREMENT & PAYMENT (CLAUSE 8)
PSAB.8.3 SCHEDULED ITEMS (SUB-CLAUSE 8.3)

PSA.8.3.2.1(a) Furnished Offices

Engineer's Offices Unit : Sum
……
The unit of measurement shall be the Sum.
The sum tendered under this item shall include full compensation for all costs incurred in complying with the requirements of clause 1200 PSAB.3.2 (a) and PSAB.5.2.

(ii) Board Room and Facilities (1No.). Unit : Sum

The unit of measurement shall be the Sum.
The sum tendered under this item shall include full compensation for all costs incurred in complying with the requirements of clause 1200 PSAB.3.2 (b) and PSAB.5.2.

(iii) Car Ports Unit: Sum
(4No.)……

The unit of measurement shall be the Sum.
The sum tendered under this item shall include full compensation for all costs incurred in complying with the requirements of clause 1200 PSAB.3.2 (c) and PSAB.5.2.

(iv) Inspection Unit : Sum
Equipment…….....

The unit of measurement shall be the Sum.
The sum tendered under this item shall include full compensation for all costs incurred in complying with the requirements of clause 1200 PSAB.3.2 (d) and PSAB.5.2.

(v)Survey Equipment……..... Unit : Sum

The unit of measurement shall be the Sum.
The sum tendered under this item shall include full compensation for all costs incurred in complying with the requirements of clause 1200 PSAB 5.6

PSA.8.3.2.1 (c) Name board (3 No.)……Unit : Sum

The unit of measurement shall be the Sum, for two name board.

The sum tendered under this item shall include full compensation for all costs incurred in complying with the requirements of clause 1200 PSAB.3.1 including supply, delivery to site, and erection on site, maintenance and removal upon completion of the Contract.

PSC SITE CLEARANCE (SANS 1200C)

PSC.3 MATERIALS (CLAUSE 3)

PSC.3.1 DISPOSAL OF MATERIAL (SUB-CLAUSE 3.1)

Add the following to the first sentence of sub-clause 3.1

Suitable spoil sites will be located on site by the Engineer and confirmed by the issue of a site instruction. The Contractor may not make his own arrangements in this regard without the written approval of the Engineer.

Add to Sub-Clause:
Disposal of combustible material by burning will not be permitted. The Contractor will be held responsible for observing the by-laws and regulations of the local authority.

PSC.3.2 OWNERSHIP OF CUT WOOD (ADDITIONAL SUB-CLAUSE)

All wood and/or trees cut whilst cleaning site will remain the property of the Tribal Authority and must be placed next to the servitude, and shall not be removed by the Contractor or his employees or Sub-contractors unless written permission has been granted by the relevant Authority.

PSC.5 CONSTRUCTION (CLAUSE 5)

PSC.5.1 AREA TO BE CLEARED AND GRUBBED (SUB-CLAUSE 5.1)

Any areas requiring particular clearing and grubbing must be agreed with the Engineer prior to any such clearing taking place.

Any area cleared without the consent of the Engineer will not be measured in terms of this Clause and may result in further action being taken against the Contractor in terms of any contravention with the Environmental Management Plan. A penalty as indicated in the EMP may be imposed on the Contractor for areas cleared and/or grubbed which are not designated by the Engineer.

PSC.5.2.3.2Preservation of Trees (Sub-Clause 5.2.3.2)

Where trees that have been marked for preservation by the Engineer are cut down by the Contractor or his sub-contractors, a penalty of as indicated in the EMP per tree shall be deducted from monies due to the Contractor as a penalty.

PSC.5.3 CLEARING (CLAUSE 5.3)

PSC.5.3.1 Restoration of Fences onto Servitude Boundary (Additional Sub-Clause)

Where existing fencing is encroaching on the pipeline servitude, such fencing shall be removed prior to construction and re-erected to a condition no worse than that pertaining prior to the removal, on the formal cadastral boundary all as indicated on the respective land plans or as agreed with Tribal Authority. For the period that the fence or wall is dismantled and not yet re-erected, the Contractor shall erect, at the end of each day's operations, a temporary fence to close the gap in the existing fence or wall and shall maintain security adequate to prevent use of the temporary fence as a point of access by unauthorised persons.

PSC.5.3.2 Temporary Fencing Closures (Additional Sub-Clause)

Where the pipeline route crosses an existing fence or wall, a section of fencing or wall not exceeding 10,0 m in length may be removed temporarily during construction and thereafter reinstated to a condition no worse than the original condition as soon as the pipeline has been installed and backfilled in the immediate vicinity of the crossing. For the period while the existing fence or wall is dismantled, the Contractor shall erect, at the end of each day's operations, a temporary wire fence, at least 1,5m high to close the gap in the existing fence or wall and shall maintain security adequate to prevent use of the temporary fence as a point of access by unauthorised persons.

PSC.5.3.3 Demarcation of Servitude by Stakes (Additional Sub-Clause)

Demarcation of the pipeline construction servitude will be by means of wooden stakes. These stakes will be at least 1m high, painted white and placed at least every 25m on either side of the linear feature, in all areas where works are occurring. The stakes shall be moved as required as the project progresses.

PSC.5.3.4 Demarcation of Servitude by Wire Fence (Additional Sub-Clause)

The Contractor shall also supply, install and maintain temporary fencing on both sides of the working area and around the perimeter of all agreed additional working areas during construction for prevention of unauthorised access and shall remove on completion of the works. Only the permissible working lengths as set out in Clause PSA.5.10 may be fenced at any given time.

The fencing shall comprise 1.8m high Bonnox 4 x 4 Mesh fencing, Bonnox pattern 1972/4, with straining posts and straining wires as required and according to supplier's directions and with mesh spacing not exceeding 100mm in both the vertical and horizontal directions. Chevron tape shall be interwoven in a zig zag pattern from the top to the bottom of the fence thereby clearly marking off the working area.

Gates shall be provided by the Contractor at all points as required for construction access purposes. The Contractor shall be held responsible for the control of access at these gates at all times as well as to the worksite during removal and re-erection of fencing. No other opening in the fence shall be permitted and the Contractor shall be responsible for monitoring the fencing on a daily basis and repairing any such opening within the same day that it is detected. Notices in two official languages (English and isiZulu) shall be attached to the fence where appropriate to indicate that the site is for personnel employed on the Contract only and that unauthorised entry is forbidden.

PSC.5.6 CONSERVATION OF TOPSOIL (SUB-CLAUSE 5.6)

The top 150mm of material in the pipe trench shall, unless otherwise indicated by the Engineer, be deemed to be topsoil and shall be stripped and stockpiled separately along the route of the pipeline. The stockpile shall not be more than 1,5m in height and shall not be covered by other material or be used for an access road.

PSC.5.9 FENCING (CLAUSE 5.8) (ADDITIONAL SUB-CLAUSE)

Where fencing has to be removed in order to facilitate pipelaying operations the Contractor shall notify the affected property owner and photograph the fence in advance of the dismantling of the fence. All dismantled

fencing materials shall be stockpiled neatly in a secure place and shall be safeguarded until the fence can be re-erected again.

The fence shall be re-erected where possible with the original fencing materials. Where this would give rise to a fence in a worse condition than it was before it was dismantled, the Contractor shall erect a new fence to an equivalent or better standard than the previous fence at his own cost.

PSC.8 MEASUREMENT & PAYMENT (CLAUSE 8)
PSC.8.2 SCHEDULED ITEMS (SUB-CLAUSE 8.3)
PSC.8.2.5 Take down existing fences (Type of fence stated) and providing the Temporary Fencing Closures for the site…….Unit: m

The unit of measurement shall be the linear meter of fencing taken down, measured in place before removal.

In addition to the requirements of clause SANS1200C 8.2.5, the rate shall also cover the cost for dealing with the fences in the manner specified in PSC 5.3.1.

The unit of measurement shall be the linear meter of temporary fencing, measured once per closure.

The rate shall cover the cost for dealing with the fences in the manner specified in PSC 5.3.2.

PSC.8.2.12 Demarcation of Servitude by Stakes (Additional Sub-Clause)……..Unit: m

The unit of measurement shall be the linear meter of stakes placed.

The rate shall cover the cost for dealing with demarcation of servitude by stakes in the manner specified in

PSC 5.3.3, and the subsequent replacement of stakes, if required.

PSC.8.2.13 Demarcation of Servitude by Wire Fence (Additional Sub-Clause)……Unit: m

Supply of materials
Erection of fencing
Take down fencing

The unit of measurement shall be the linear meter of fencing measured in place on site.

The rate for (a) shall include for the supply of all fencing materials and sundries described in PSC.5.3.4. The final quantity of fencing materials will be determined by actual quantity of fencing provided, which shall not exceed the quantity required to demarcate the authorized trench work lengths as described in PSA.5.10.

The rate for (b) and (c) shall cover the cost for dealing with the erection and taking down of fencing as specified in PSC.5.3.4.

PSD EARTHWORKS (SANS 1200 D)

PSD.2 INTERPRERATIONS (CLAUSE 2)

PSD .2.1 SUPPORTING SPECIFICATIONS (SUB-CLAUSE 2.1.2)

Delete Sub-Clause and replace with:

Any of the other SANS 1200 Specifications (latest editions) may form part of the Contract Documents.

PSD.2.3 DEFINITIONS (SUB-CLAUSE 2.3)

Delete the sentence under Restricted excavations and replace with:

Restricted Excavations: No excavations on this site will be classified as restricted, and any additional costs incurred by the Contractor must be included in other rates.

PSD.3 MATERIALS (CLAUSE 3)

PSD.3.1 CLASSIFICATION FOR EXCAVATION (SUB-CLAUSE 3.1)

PSD.3.1.1 Methods of Classifying (Sub-Clause 3.1.1)

Notwithstanding Sub-Clause 3.1 of SABS 1200D, no classification will be made for either intermediate or boulder excavation. The classification for excavation shall be as follows:

Machine Excavation

For machine excavation, No differentiation shall be made between “soft” and “Intermediate excavation”. The unit rate for excavation shall cover all material except rock.

Rock excavation will comprise all material that cannot be removed by any other means than by using compressors and jack hammers, or alternatively by blasting. Boulders larger than 0,5 cubic meter which require blasting or wedging and splitting for removal will also be classified as rock.

Hand excavation

Notwithstanding Clause 3.1 of SANS 1200D, the classification for hand excavatable material will be made in terms of the Particular Specification PE: Generic Labour Intensive Specification which classification will be in accordance with the Guidelines provided in PE3.

Payment for rock excavation will only be approved if the Engineer has classified the excavation as such in writing before commencement of the excavation.

Classes of excavation not stated in the Schedule of Quantities shall not be measured and paid for. The tenderer must allow for all other costs arising from this in the rates of the classes that are stated in the Schedule of Quantities.

PSD.3.1.2 Classes of Excavation (Sub-Clause 3.1.2)

Soft excavation : All material that is not classified as rock excavation under (c) below.

(c) Hard rock excavation Delete the word “efficiently”

All material that cannot be removed otherwise than using compressors and jack hammers, or alternatively by blasting. Payment for rock excavation will only be approved if the Engineer has classified the excavation as such in writing before commencement of the excavation.

PSD.4 PLANT (CLAUSE 4)

PSD 4.5 Restriction on use of Plant (Additional Sub-Clause)

Add new Sub-Clause:

Where the Contractor finds it impractical to use mechanical plant for excavation or to complete portions of the work due to restrictions caused by difficult access or the presence of existing structures, pipelines or services shown on tender drawings, the Contractor will be deemed to have satisfied himself as to the alternative requirements when entering rates against the appropriate items in the Bill of Quantities as no claim for extra payment based on the inability to use plant in such circumstances will be considered.

PSD 4.6 Vibration loadings from use of Plant (Additional Sub-Clause)

Add new Sub-Clause:

The onus will be on the Contractor, when proposing to use heavy plant or equipment to complete work in close proximity to a existing structures, pipelines or services, to determine the effect of the vibration loading from the plant or equipment on the supporting ground or foundation and the structure, pipeline or service and take all necessary steps to ensure that the stability or integrity of the element concerned is not compromised by the particular selection and use of plant or equipment.

Any damages caused to existing elements directly or indirectly arising out of the use of plant and equipment in close proximity shall be made good, to the satisfaction of the Engineer by the Contractor at his own expense.

PSD.5 CONSTRUCTION (CLAUSE 5)

PSD.5.1 PRECAUTIONS (Sub-Clause 5.1)

PSD.5.1.1 Safety (Sub-Clause 5.1.1)

Add to Sub-clause:
All activities shall be carried out in accordance with the requirements of the relevant clause of the Occupational Health and Safety Act (Act 85 of 1993).

PSD.5.1.1.2Safeguarding of Excavations (Sub-Clause 5.1.1.2)

Delete the first three lines and substitute the following:

The Contractor or his Agent or Representative appointed in writing shall be deemed to be and shall be a person who is competent to pronounce on the safety of all bracing and shoring as set out in the Occupational Health and Safety Act (Act 85 of 1993).

Add to the Sub-Clause:

The Contractor shall provide additional lateral support for all buildings, structures and services affected by his operations.

The relevant sums tendered for trenching in the Bill of Quantities shall cover the cost of providing, installing, maintaining and removing lateral support that is adequate for preserving the stability of the existing fences, walls, buildings, structures and services.

PSD.5.1.1.3Explosives (Sub-Clause 5.1.1.3) (Refer to SANS 1921-1 Clause 4.7)

Blasting shall not be carried out without the prior consent of the Engineer. This consent will not be given where in the opinion of the Engineer, blasting may give rise to unnecessary risk or damage to surrounding property when other means of excavation are available to the Contractor. Where consent to blasting is given, such consent shall in no way relieve the Contractor of any of his liabilities under the contract.

The Engineer or Inspector of Explosives shall have the power to prohibit the use of explosives in cases where in his opinion, the risk of injury or damage to persons, property or adjoining structures is too high. Such action by the Engineer shall not entitle the Contractor to any additional payment for having to resort to other less economical methods of construction unless otherwise provided in the Contract Data or Bill of Quantities.

It shall be incumbent on the Contractor to make himself aware of restrictions to blasting imposed by electric transmission or telephonic lines, fuel pipelines, or other similar services. Where the presence and location of such services are known or are shown on the Engineer's drawings at tender stage the Contractor must make allowance in his rates and programme for restrictions and delays which may result from the restrictions imposed by the relevant authorities.

Before any blasting is undertaken, the Contractor, together with the Engineer shall examine and measure up any buildings, houses or structures in the vicinity of the proposed blasting and establish and record together with the owners thereof the extent of cracking or damage that may exist before commencement of blasting operations. It is advised that a photographic record will be required of neighbouring structures before blasting

commences. These structures will be pointed out by the Engineer. It shall be the responsibility of the Contractor to make good at his own expense any further damage to such houses, buildings or structures which is a result of the blasting.

Where there is reasonable danger of damage to power and telephone lines or any other property, the Contractor shall suitably adapt his methods of blasting, the size of the charges and use adequate protective measures such as cover blasting in order to limit the risk of damage as far as possible.

PSD.5.2 METHODS AND PROCEDURES (5.2)

PSD.5.2.1.2Conservation of Topsoil

Add the following to the first sentence:
The conservation of topsoil for re-use shall be as specified in the Environmental Management Plan.

PSD.5.2.2.1Excavation for general earthworks and for structures (SUB-Clause 5.2.2.1)

Add the following:
All excavations shall be inspected by the Engineer prior to the placing of the blinding layer.

PSD.5.2.2.3Disposal (Clause 5.2.2.3)
Surplus material or unsuitable material shall be disposed of to a disposal site(s) in accordance with requirements of the Environmental Management Plan and approved by the Engineer.

PSD.5.2.5 Transport for Earthworks (sub-Clause 5.2.5)

PSD.5.2.5.1Freehaul (sub-Clause 5.2.5.1)

Add to the sub-clause:
Freehaul distances must be included in the applicable tender rates as follows::

Spoil/bedding/backfill : 5,0 km
Imported materials : Unlimited

PSD.5.2.5.2Overhaul (sub-Clause 5.2.5.2)

Replace the sub-clause with the following:

Long overhaul will be payable beyond the freehaul distance for the spoil or reuse of surplus or unsuitable material from the site works.

PSD.5.2.6 ERROSION CONTROL BERMS (ADDITIONAL SUB-CLAUSE)

Where instructed by the Engineer, earth berms shall be constructed with 1:1.5 side slopes and a 300mm wide crown, or to the dimensions shown on the drawings or to a detail instructed by the Engineer. The berms to comprise excess fill material from the trench, be hauled by wheelbarrow, placed and hand stamped in layers not exceeding 150mm. The berms are to be slightly overfilled before being shaped to the detail shown on the drawings. The material shall wherever possible be sourced within the freehaul distance. Berms must be grassed in accordance with the specification.

PSD.8 MEASUREMENTS AND PAYMENT (CLAUSE 8)

PSD.8.1 BASIC PRINCIPLES (SUB-CLAUSE 8.1.1)

There will be no additional payment for:
The provision of lateral support;
Work in restricted areas.

Surplus and/or unsuitable materials shall be disposed of at sites to be arranged by the Contractor and to be approved b the Engineer.

Overhaul will be paid in the event of haul distances exceeding the freehaul distance of 5,0km. There will be payment for short haul on this Contract.

PSD.8.3 SCHEDULE ITEMS (SUB-CLAUSE 8.3)

PSD.8.3.2 Bulk excavation (Sub-Clause 8.3.2)……Unit:m3

For this Contract bulk excavation includes the total excavation to a specified level including the preparation of the exposed excavation floor for concrete work.

The rate shall therefore also cover the cost of preparation of the exposed excavation floor including cleaning of this area or treatment of these areas.

PSD.8.3.3 Restricted excavation (Sub-Clause 8.3.3)

"Extra over subitem 8.3.3 (a) for hand excavation ..... Unit: m3

This item shall apply to hand excavation ordered by the Engineer or when the Engineer considers that, owing to circumstances, excavation by mechanical excavators is not practicable. It shall not apply to hand excavation for trimming or finishing an excavation made by mechanical means.

The tendered rate shall include full compensation for the additional cost of excavating by means of hand tools."

PSD.8.3.6 Overhaul (Sub-Clause 8.3.6)

Long Overhaul……..Unit: m3.km

In additional to the provisions of Clause 8.3.6, replace reference to Clauses 5.2.5.1 and 5.2.5.2, with Clauses PS.5.2.5.1 and PS.5.2.5.2

PSD.8.3.16 Working in Eskom Power Line Servitudes……Unit:Sum
The unit shall be the Sum.

The tendered rate will be deemed to include for all additional work associated with working under Eskom Power Lines, or in Eskom servitudes including but not limited to:
Staff training and awarenss;
Compliance with special Eskom working methods

PSD.8.3.8 Existing services

PSD 8.3.8.1 Location

REPLACE THE CONTENTS WITH THE FOLLOWING:

"Item PSA 8.8.4 of SANS 1200 A, as amended, shall apply."

Rate to shall cover the working hours locating the services, the supply and hire the special equipment to locate services and exposing services along and across the proposed facilities.

PSD.8.3.10 Topsoiling ……Unit: m3

CHANGE THE UNIT TO "m3" AND REPLACE THE CONTENTS OF THIS ITEM WITH THE FOLLOWING:

"The unit of measurement shall be the cubic metre and the quantity shall be calculated from the authorized dimensions.

The tendered rate shall include loading of the topsoil from stockpiles, transporting it for the free-haul distance, and off-loading, spreading, shaping and lightly compacting the topsoiL"

PSD.8.3.14 Extra over items 8.3.2 and PSD 8.3.3 for disposing of spoil material on a site provided by the Contractor..... Unit: m3
The tendered rate shall include full compensation for the additional cost of providing a spoil site or other means of disposing of surplus spoil material, for transporting the material regardless of the distance involved, for acceptance charges for such material and for all other incidental costs to dispose of the spoil material. No overhaul shall apply."

PSD.8.3.15 Erosion Control Berms……Unit: m3

Rate to cover construction of berms as per PSD 5.2.6. Rate excludes topsoiling and grassing.
Retained height = 0.3m
Retained height = 0.45m

PSDB EARTHWORKS (PIPE TRENCHES) (SANS 1200 DB)

PSDB.3 MATERIALS (CLAUSE 3)

PSD.2 INTERPRERATIONS (CLAUSE 2)

PSD .2.1 SUPPORTING SPECIFICATIONS (SUB-CLAUSE 2.1.2)

Add to the subclause:

In particular this specification is to be read in conjunction with SANS 1200D as amended by PSD.

PSDB.3.1 CLASSES OF EXCAVATION (SUB-CLAUSE 3.1)

Notwithstanding Sub-Clause 3.1 of SABS 1200DB, no classification will be made for intermediate excavation. The classification for excavation shall be as follows:

Machine Excavation
For machine excavation, No differentiation shall be made between “soft” and “Intermediate excavation”. The unit rate for excavation shall cover all material except rock.

Rock excavation will comprise all material that cannot be removed by any other means than by using compressors and jack hammers, or alternatively by blasting. Boulders larger than 0,5 cubic meter which require blasting or wedging and splitting for removal will also be classified as rock.

Hand excavation
Notwithstanding Clause 3.1 of SANS 1200DB, the classification for hand excavatable material will be made in terms of the Particular Specification PE: Generic Labour Intensive Specification which classification will be in accordance with the Guidelines provided in PE3.

General
Payment for rock excavation will only be approved if the Engineer has classified the excavation as such in writing before commencement of the excavation.

Classes of excavation not stated in the Schedule of Quantities shall not be measured and paid for. The tenderer must allow for all other costs arising from this in the rates of the classes that are stated in the Schedule of Quantities.

PSDB.3.8 SOILCRETE (ADDITIONAL SUB-CLAUSE)

Above is defined as approved backfill material to which 5% cement by volume has been added and thoroughly mixed. Each such prepared quantity will be placed within 1 hour after having been mixed.

PSDB.5 CONSTRUCTION (CLAUSE 5)

PSDB.5.1 PRECAUTIONS (CLAUSE 5.1)

PSDB.5.1.2 Stormwater, Seepage and Dewatering of Excavations (Sub-Clause 5.1.2)

Add the following:

Excessive Water Conditions

In excessive water conditions, over excavation of 100mm will be allowed and backfilled with 13mm single diameter stone. The Engineer to specifically instruct in each of these instances.

Control of Water

Under no circumstances will any claim be entertained for dewatering, or waterlogged conditions. The Contractor will control all surface and sub-surface water during construction, and the cost of such, will be deemed to be included in the rates for excavations.

PSDB.5.1.2.3 Sloping Ground (Sub-Clause 5.1.2.3)

Delete the Sub-Clause and substitute:

The Contractor shall be responsible throughout the duration of the Contract, inclusive of the Defects Liability Period, for the provision of all soil erosion preventative measures necessary to protect the trenches, pipeline(s) and land utilised by the Contractor during the Contract from any adverse effects of soil erosion, settlement, scour, etc., resulting from the construction of the Works.

Cross embankments, generally extending across the full width of the working strip, consisting of low earth mounds shaped to rounded form and so oriented as to have a fall of 1% along their length, shall be constructed with compacted material having a minimum density of 90% modified AASHTO density and minimum dimensions and maximum spacings dependent on the slope of the ground along the length of the pipeline, as indicated in the following table:

Slope of Ground	Minimum Height	Minimum Base Width	Maximum Spacing
0% - 5%	No cross-embankments required		
5% - 10%	300 mm	1,2 m	40 m
10% - 15%	375 mm	1,5 m	30 m
Greater than 15%	450 mm	1,7 m	20 m

The height of the cross-embankments for a distance of 1 metre on either side of the trench centreline shall be raised 150 mm above the remainder of the cross-embankment to allow for settlement. In order to form a satisfactory drainage channel upstream of each cross-embankment (at a slope of 1%) the crown over the backfilled trench shall be removed for a distance of 0,5 m upstream of the cross-embankment.

The berms shall comprise excess fill material from the trench, shall be hauled by wheelbarrow, placed and shall be hand stamped in layers not exceeding 150mm.

Cross-embankments shall be constructed to the same minimum standards and dimensions indicated above wherever artificial slopes have been formed on the working strip or other areas used during construction and, with the approval of the Engineer, are permitted to be so left.

PSDB.5.1.2.4 Sack breakers in Trenches (Additional Sub-Clause)

In steeply sloping trenches (longitudinal slope > 15 %) and where otherwise ordered by the Engineer, the Contractor shall place sacks of earth as sack breakers or cross walls at 20m intervals around and above the pipe up to ground level, prior to backfilling, as a soil erosion measure. Such sacks shall be filled with selected material free of stones in excess of 50 mm maximum dimension. One sack breaker shall consist of these sacks packed tightly against the trench bottom, pipe and actual trench sides, and against each other to form a solid cross wall at least 0,5 m thick from the bottom of the trench to the surface.

Where required, an item will be included in the Bill of Quantities to cover the cost of the supply, installation and maintenance of sack breakers.

PSDB 5.1.5 Existing pipelines

The existing pipes that have to be removed shall be carefully opened up by machine excavation to 300 mm above the pipes after which the whole pipe shall be fully exposed by means of hand excavation. The excavation width shall comply with Subclause 8.2.3.

The pipes shall be removed from the trench in a manner approved by the Engineer, and brought to the surface for inspection by the Engineer.

Pipes that are declared suitable for re-use shall be cleaned and either delivered to the Employer's stores or carefully stacked on a prepared site pointed out by the Engineer.

Pipes declared unfit for re-use shall be disposed of as determined by the Engineer

PSDB 5.2 MINIMUM BASE WIDTHS

REPLACE PARAGRAPH (a) WITH THE FOLLOWING:

'Where two pipes are placed in the same trench, they shall be 300 mm apart and the specified side allowance shall still be applicable."

ADD THE FOLLOWING AFTER PARAGRAPH (b):

"The above is not applicable to trenches for subsurface drains.

Trenches for subsurface drains shall be excavated to the dimensions and gradients shown on the drawings or directed by the Engineer.

The specified width of trenches and the width of the excavation measured for payment shall not be less than 0,5 m, but the Contractor may reduce the actual width with the Engineer's permission."

PSDB.5.4 EXCAVATION (CLAUSE 5.4)

Add the following:

Over Excavations

All over excavations will be backfilled to prescribed levels with granular material and compacted to 93% mod. AASHTO at the Contractors own expense.

Open Excavations

For the construction of the sewers pipes up-to ND400, the length of open trenches at any time shall by no means exceed 522m per front over two fronts, which shall be separated from each other by a gap of at least 300m.

No excavation may commence before pipes to be laid in the trench are on site.

PSDB 5.6 BACKFILING (CLAUSE 5.6)

All trenches shall be overfilled and compacted to specification to allow for settlement and for erosion protection. The compacted overfill shall be to a vertical height of 100mm. Rocks removed from the trenches during excavation shall be placed on top of overfill.

PSDB.5.6.2 Material for Backfilling (Sub-Clause 5.6.2)

Add to the Sub-clause:

Where the Environmental Specifications requires rehabilitation of excavated areas by means of vegetation, the final 150mm of the trench shall be backfilled with topsoil which was previously stockpiled. Care must be taken to ensure that the trench is slightly overfilled so that it does not become a rivulet in wet weather.

PSDB.5.6.3 Disposal of Soft Excavation Material (Sub-Clause 5.6.3)

Add to the Sub-Clause:
Surplus material or unsuitable material shall be disposed of to a disposal site(s) in accordance with requirements of the Environmental Management Plan and approved by the Engineer.

PSDB.5.6.4 Disposal of Intermediate and Hard Rock Material (Sub-Clauses 5.6.4)

Add to the Sub-Clause:
Surplus material or unsuitable material shall be disposed of to a disposal site(s) in accordance with requirements of the Environmental Management Plan and approved by the Engineer.
PSDB.5.6.8 Transport for Earthworks for Trenches (Sub-Clauses 5.6.8)
Delete the Sub-Clause and substitute:
The requirements of Sub-Clause 5.2.5 “Transport for Earthworks” of SANS 1200 D as amended and as applicable shall apply.

PSDB.7 TESTING (CLAUSE 7)

PSDB.7.1 ADDITIONAL CLAUSES AFTER CLAUSE 7.1

The costs for all process control tests, regardless whether the compaction is sufficient or not, shall be for the Contractors account, unless then Contractor has agreed to a shared laboratory.

The following are the minimum frequencies for the process control tests to be done by the Contractor:

a) Pipe bedding: one density test on each 100m of pipe trench, for pipes greater than 50mm in diameter.

b) Normal trench backfilling: one density tests on every second layer for every 100m of pipe trench, for pipes greater than 50mm in diameter.

c) Backfilling in areas subject to vehicle loads: one test on each layer at each road crossing.

The position of these minimum numbers of tests shall be determined by the Engineer randomly and the position thereof shall be noted on the test results.

In the event of a test failure, additional tests shall be carried out 50m on either side of the location of the failed test or as directed by the Engineer. These additional tests shall be paid for by the Contractor.

The results of all control tests shall be submitted to the Engineer and shall indicate to the satisfaction of the Engineer that the compaction of the whole section complies with the Specification.
The Engineer reserves the right to order the Contractor to do additional control tests at any position on any layer.

In the event that these additional tests indicate that the work complies with the specification, the tests shall be paid for by the employer after the submission of invoices by the contractor. However if these tests indicate that the work does not comply, the costs of the tests shall be for the Contractor's account.

PSDB.8 MEASUREMENT AND PAYMENT (CLAUSE 8)

PSDB.8.1 BASIC PRINCIPLES (SUB-CLAUSE 8.1.1)

Surplus and/or unsuitable materials shall be disposed of at sites to be arranged by the Contractor and to be approved by the Engineer.

Overhaul will be paid in the event of haul distances exceeding the freehaul distance of 5,0km. There will be no be payment for short haul on this Contract.

There will be no additional payment for the provision of lateral support to excavations.

Payment for excavating and backfilling will be made as follows:

trench excavation - 70%
backfill completed - 30%

PSDB.8.3 SCHEDULED ITEMS (SUB-CLAUSE 8.3)

PSDB.8.3.2(b) Extra Over to Excavation Clause 8.3.2(a)……Unit: m3

Amend clause 8.3.2(b) as follows:

Delete all reference to intermediate material.

Rock excavation to be determined in accordance with clause PSDB .3.1.

PSDB.8.3.2(d) Extra Over to Excavation Clause 8.3.2(a) for Soilcrete backfill……Unit: m3

The unit of measurement shall be the be cubic meter of soilcrete backfill.

The tendered extra over rate shall include for all costs associated with adding cement to approved backfill material as described in clause PSDB.3.8.

PSDB.8.3.3.4 Overhaul (Clause 8.3.3.4)

Long Overhaul, over 5,0km (Provisional)……..Unit: m3

Delete sub item (a) as well as all references to limited Freehaul in all other clauses and items.

Payment for long over haul shall be in terms of clause PSDB.5.6.9.

PSDB.8.4 Excavation to Prove Existing Services (Depth stated)……..……Unit: m3

The unit of measurement shall be the cubic meter of excavation in the stated depth range.

The unit rate for proving existing services shall include for:

Items of Clause 8.3.2
Extra over cost for permanent reinstatement
Extra over cost for compaction in road reserves
For proving services anywhere within the contract area and in advance of the main excavation; and
Special care in excavation by hand in vicinity of services

PSDB.8.5 Construction of Cross Embankments (Provisional)…… Unit: m3

h=300mm
h=375mm
h=450mm

The unit of measurement shall be the cubic meter of cross embankments constructed.

The tendered extra over rate shall include for all costs associated with constructing cross embankments as described in clause PSDB.5.1.2.3

PSDB.8.6 Construction of Sack Breakers (Provisional)…… Unit: No

The unit of measurement shall be the number of sack breakers units constructed.

PSDB.8.7 Provision of 13mm stone for bed of trench (Provisional)……Unit: m3

The rate shall cover the supply and placing of the stone in accordance with sub-clause PSDB.5.1.2

PSDK GABIONS AND PITCHING

PSDK 3 MATERIALS

PSDK 3.2.1 Stone

REPLACE THE CONTENTS OF TABLE 2 WITH THE FOLLOWING:

'TABLE 2 SIZE AND MASS OF INDIVIDUAL STONES FOR PITCHING

1	2	3	4
Size/mass of pitching	Thickness of pitching mm, min	Least dimension mm, min	Mass kg, min
Extra heavy	600	300	180
Heavy	400	190	50
Medium	300	150	27
Light	200	110	11

PSDK 5 CONSTRUCTION

PSDK 5.3.3 Grouted Pitching

REPLACE THE WORDS "(table 4)" IN THE SECOND LINE OF THE FIRST PARAGRAPH WITH "(table 2)".

PSG CONCRETE STRUCTURAL

PSG 3 MATERIALS

PSG 3.2 CEMENT

PSG 3.2.2 Alternative types of cement (Examples only)

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"Only ordinary Portland cement shall be used.

If the Contractor wishes to use any other type of cement, he shall obtain the Engineer's prior written approval (see 8.1.3.2 and 8.1.3.3)."

PSG 3.2.3 Storage of cement (Compulsory)

ADD THE FOLLOWING:

"Cement shall not be stored for longer than 12 weeks without the Engineer's permission."

PSG 3.4 AGGREGATES

PSG 3.4.3 Storage of aggregates

ADD THE FOLLOWING:

"When aggregates of different chloride content are stored on the Site, their use in the various classes of concrete shall be strictly controlled."

ADD THE FOLLOWING SUBCLAUSES:

PSG 3.9 WATERSTOPS

PVC water stops shall comply with the requirements of CKS 389.

"PSG 3.10 ROOFING FELT

Three-ply roofing felt shall comply with the requirements of SABS 92 for type 40 felt.

PSG 3.11 BUTYL RUBBER SEALING STRIPS

The dimensions of the sealing strip for use in the reservoir are shown on the Drawings. The strips shall have a factory-applied bonding layer on one side and shall be permanently bonded to the prepared concrete surface, in accordance with the manufacturer's instructions.

The strip shall have a breaking elongation of not less than 300% and a tensile strength of 8,0 MPa.
The completed joint shall be guaranteed 100% watertight and resistant to the long term effects of .chemically treated water."

PSG 4 PLANT

PSG 4.1 GENERAL

ADD THE FOLLOWING SUBCLAUSE:

"PSG 4.1.1 Minimum plant

The Contractor shall have the following minimum Plant available and in sound working order:

(a) Two concrete mixers, each of sufficient capacity to complete a section of the wall between horizontal construction joints within 4 hours and without interruption.

(b) Two weigh-batchers to supply the mixers.

(c) Four concrete vibrators, at least one of which shall be powered by an internal combustion engine.

(d) One air compressor.

(e) Suitable and adequate Plant to transport and raise concrete and other material and equipment from ground level to the top of the structure at all stages of construction.

(f) Elevated storage tanks of adequate capacity to ensure that sufficient water will be available before commencement of every major concrete-placing operation.

If the Plant used for placing concrete for the structure is electrically or mechanically powered, the Contractor shall also provide some other approved, non-electrically powered standby means for placing concrete at an adequate rate in the event of a power or mechanical failure of the main Plant.

When the Contractor elects to place a crane inside the walls of the structure during the construction period, he shall communicate with the Engineer in good time to ensure that the design and layout of the panels that form the roof slab and floor allow for such positioning of the crane. When sections of the roof and floor have to be redesigned to accommodate the crane, the redesign cost shall be borne by the Contractor. "

PSG 4.5 FORMWORK

PSG 4.5.1 Design

ADD THE FOLLOWING:

"All formwork or scaffolding required for any part of the Works shall be designed by the Contractor, and before commencing with the erection of any formwork or scaffolding, the Contractor shall submit the methods he proposes to use to the Engineer for approval. The Engineer has the authority to order alterations to the design or the sizes of any part of the formwork or scaffolding. The Contractor shall check the safety and suitability of all such alterations. The fact that the Engineer has approved or altered any part of the formwork of scaffolding shall not be construed as relieving the Contractor of his responsibility with regard to the strength and stability of the formwork or scaffolding."

PSG 4.5.3 Ties

ADD THE FOLLOWING:

"No plugs, bolts, ties or clamps of any description used to hold the formwork will be allowed to project into or through the concrete unless expressly approved by the Engineer.

Only approved tie-rods consisting of solid rods (that remain embedded in the concrete) and with removable ends shall be used to hold the formwork of the walls.
The removable tie-rod ends shall facilitate removal without damage to the concrete, and no permanently embedded parts of such tie-rods shall have less than 50 mm of cover to the finished concrete surface.

The cavities left in the concrete when the tie-rod end cones are removed shall be soundly caulked with a cement mortar to which an approved shrinkage-reducing agent has been added, and shall be neatly finished to a smooth surface uniform with that of the surrounding concrete.

The cost of supplying special tie-rods as well as the filling of cavities left by the tie rod cones shall be included in the rates tendered for formwork under the appropriate pay items.

On no account shall formwork be secured to reinforcing bars."

PSG 5 CONSTRUCTION

PSG 5.1 REINFORCEMENT

PSG 5.1.2 Fixing

ADD THE FOLLOWING:

"The Engineer will inspect the reinforcing after it has been fixed in place, the formwork has been cleaned, cover blocks have been positioned, and before concreting commences.

Welding of reinforcing steel will not be permitted."

PSG 5.1.3 Cover

ADD THE FOLLOWING:

"The distance between pipes in the concrete and the reinforcing steel shall nowhere be less than

(a) 40 mm or

(b) 5 mm plus the maximum size of the coarse aggregate, whichever is the largest."

PSG 5.2 FORMWORK

PSG 5.2.1 Classification of finishes

(c) Special

ADD THE FOLLOWING:

"This finish is obtained by first giving the surface a smooth finish with the joints between formwork panels forming an approved regular pattern suitable for the appearance of the structure. All projections shall then be removed, irregularities repaired and the surface rubbed or otherwise treated until it is smooth with an even texture, appearance and colour.

If the finish of exposed surfaces does not comply with the requirements for uniformity of the texture and appearance, the Contractor shall, when instructed to do so by the Engineer, rub down the exposed surfaces of the entire structure or any part thereof as specified below, entirely at his own cost. All repairs must be completed before the rubbing commences.

The surface shall be saturated with water for at least one hour. The initial rubbing of the face shall be carried out with a medium coarse carborundum stone together with a small amount of mortar of the same cement/sand ratio as the concrete being repaired. Rubbing shall continue until all form marks, projections and irregularities have been removed and a uniform surface has been obtained. The paste produced by the rubbing shall be kept in place. The final rubbing shall be carried out with a fine carborundum stone and water. This rubbing shall continue until the entire surface has a smooth, even texture and is uniform in colour. The surface shall subsequently be washed with a brush to remove surplus paste and powder."

PSG 5.3 HOLES, CHASES AND FIXING BLOCKS

ADD THE FOLLOWING:

"Cover blocks for reinforcing and fixtures may be placed into the concrete provided that neither the strength nor any other desirable characteristic (such as the appearance) of the concrete section is affected or impaired in the opinion of the Engineer."

PSG 5.5 CONCRETE

PSG 5.5.1 Quality

PSG 5.5.1.5 Durability

The exposure conditions of the reservoir concrete are classified as "severe".

PSG 5.5.1.7 Strength concrete

ADD THE FOLLOWING:

"The concrete mixes for the reservoir shall be designed by the Portland Cement Institute or a similar approved laboratory."

PSG 5.5.3 Mixing

PSG 5.5.3.2 Ready-mixed concrete

ADD THE FOLLOWING:

"Ready-mixed concrete may be used on the Site. The Contractor shall take samples for testing from every load delivered to the Site."

OR

"Ready-mixed concrete may not be used for construction of the reservoir."

PSG 5.5.5 Placing

ADD THE FOLLOWING:

"Concreting of the wall between horizontal construction joints shall be carried out in both directions from a point on the wall in order to close the gap with fresh concrete."

PSG 5.5.7 Construction joints

ADD THE FOLLOWING:

"Horizontal construction joints are permitted in the reservoir wall in positions indicated on the Drawings or approved by the Engineer. However, vertical joints are not permitted.

The wall shall be cast in lifts of a height that permits each lift to be poured without interruption in one continuous operation during normal working hours."

PSG 5.5.11 Watertight concrete

ADD THE FOLLOWING:

"The minimum cement content for ordinary Portland cement in water-retaining structures shall be 325 kg/m3, and the maximum cement content shall be 400 kg/m3 in reinforced concrete, or 500 kg/m3 in prestressed concrete. Where ordinary Portland cement blended with pulverized fuel ash is permitted, the maximum cement content shall be 450 kg/m3 for reinforced concrete, and 550 kg/m3 for prestressed concrete.

The maximum water: cement ratio for water-retaining structures shall be 0,55 for ordinary Portland cement and 0,50 for ordinary Portland cement blended with pulverized fuel ash, when this is allowed."

ADD THE FOLLOWING SUBCLAUSE:

"PSG 5.5.16 Applied loads

No crushed-stone covering or any other loads shall be placed on the roof of the structure before the concrete has attained its design strength, unless approved supports are provided."

PSG 6 TOLERANCES

PSG 6.2 PERMISSIBLE DEVIATIONS

PSG 6.2.3 Specified permissible deviations

ADD THE FOLLOWING:

"Degree-of-accuracy II is applicable.

Every specified permissible deviation is binding in itself. The cumulative effect of permissible deviations will not be considered. The maximum permissible vertical deviation is subject to the other permissible deviations."

REPLACE SUBCLAUSE 6.2.3(d)(S) WITH THE FOLLOWING:

Permissible deviation		
Degree of accuracy		
III	II	I
mm	mm	mm
5 50	3 30	2 10

"Vertically, per metre of height .....
subject to a maximum of .....

PSG 7 TESTS

PSG 7.1 FACILITIES AND FREQUENCY OF SAMPLING

PSG 7.1.1 Facilities

ADD THE FOLLOWING:

"The Contractor shall provide sufficient storage capacity for the concrete cubes and shall test the cubes by means of an approved, calibrated cube testing press installed on Site in a manner approved by the Engineer, or shall arrange to have them tested by an approved laboratory.

The cost of all testing, including the cost of sampling, storage and transport of samples shall be included in the rates tendered for concrete work."

PSG 7.3 ACCEPTANCE CRITERIA FOR STRENGTH CONCRETE

ADD THE FOLLOWING:

"Test results obtained from the supplier of ready-mixed concrete will not be accepted for evaluation in terms of Subclause 7.3, but samples for testing shall be taken of such concrete at the point of placing."

PSG 8 MEASUREMENT AND PAYMENT

PSG 8.1 MEASUREMENT AND RATES

PSG 8.1.2 Reinforcement

REPLACE THE CONTENTS OF THIS SUBCLAUSE WITH THE FOLLOWING:

"The unit of measurement for steel bars shall be the ton of reinforcement in place, in accordance with the Drawings or as authorized by the Engineer.

The unit of measurement for welded steel fabric shall be the kilogram of fabric reinforcement in place, and the quantity shall be calculated from the net area covered by the mesh, excluding overlaps.

Clips, ties, separators, stools and other steel used for positioning reinforcement will not be measured, unless these are shown on the bending schedules.

The tendered rate shall include full compensation for the supply, delivery, cutting, bending, welding, placing and fixing of the steel reinforcement, including all tying wire, stools, supports and waste."

PSG 8.9 MISCELLANEOUS WORK OTHER THAN METAL WORK……..Unit : as scheduled

Separate items will be scheduled for each type of miscellaneous work.

The tendered rates shall include full compensation for providing all labour, materials and equipment required to carry out the work for all preparatory work, for constructing the work scheduled in a workmanlike manner and for finishing-off and cleaning up when the work has been completed.

PSL MEDIUM-PRESSURE PIPELINES (SABS 1200 L)

PSL 1 SCOPE

The water works consist of the construction (supply and installation) of a 75.0mm diameter HDPE water pipe. The consist of supply and installation the pipe including the water pipe fittings

PSL 3 MATERIALS

PSL 3.1 General

Pipes for water mains shall be HDPE Class 10 pipes complying with the requirements of SABS 966.

Subject strictly to the requirements of Clause 3.1 pipes may be offloaded and strung out in the servitude.

All pipes, specials and valves arriving on site shall be marked clearly with the item number appearing in the Bill of Quantities. Furthermore, the nuts, bolts, washers, and other ancillary equipment for each individual item shall be kept separate in a bag which shall also bear the respective reference number of that item. The cost of such marking will be held to have been included in the rates tendered for the items.

The Contractor shall satisfy the Engineer that the manufacturers' recommendations for transporting, handling, stacking, storing, and installing pipes, pipe fittings, sealing rubbers etc. are being followed. The Engineer shall be given the opportunity to inspect all materials immediately prior to installation and shall have the right to reject any materials which, in his opinion, have suffered damage which may impair the long term durability or strength of said items. Pipes and specials shall be protected against damage during all stages of manufacture, delivery, storage, and handling.

The ends of all steel pipes and specials shall be protected against denting. Steel pipes shall be transported and stacked in such a manner that the pipe barrel is not deformed by more than 2% of its diameter.

Dents which cause a protrusion of more than 1 mm on the inside of the steel special, may result in the special being rejected.

PSL 3.3 Cast iron pipes, fittings and specials

Cast iron specials shall be used with HDPE mains, and shall be provided with standard couplings, unless otherwise specified or shown on the drawings. All cast iron fittings and specials shall be class 16 and shall be coated according to PSL 3.9.1.

PSL 3.4 Steel pipes, fittings, and specials

PSL 3.4.1 General
Steel pipes and fittings shall comply with SS304 and have a minimum thickness of 4.5mm.

The steel pipes shall be manufactured exclusively at the works of such manufacturers as may be approved by the Engineer and at only one works unless otherwise agreed by the Engineer in writing.

All steel pipes and specials shall be clearly marked with the grade and thickness of the steel, the series number of the pipe or special, the item number in the Bill of Quantities, the nominal diameter and the working pressure. If applicable, the drilling pattern shall be stamped on all flanges.

If applicable, the drilling pattern shall be stamped on all flanges.

PSL 3.7Other types of pipes

PSL 3.7.1 PVC-U Pipes
In addition to Clause 3.7.1, solvent welded joints or fittings shall not be used.

*PSL 3.7.3 Specials for PVC-U pipes

All specials (except flanges) shall be suitable for working pressure of not less than 1,600kPa.

Standard specials such as tees, flange adaptors, reducers etc. for PVC-U pipelines shall be fabricated from cast iron. Unless otherwise shown on the drawings, all bends shall be PVC-U.

PSL 3.8Jointing materials

PSL 3.8.3 Flanges and accessories

Flanges shall comply with SABS 1123 and have a minimum working pressure of 1,600kPa. Holes shall be drilled to Table 1600/3 of SABS 1123.

Any item of pipework or special or valve, of which the flanges are incorrectly drilled, will be rejected. The reaming of bolt-holes to oversized dimensions to enable a particular item to fit will not be allowed.

All flanges shall be provided complete with bolts, nuts and washers compliant with SABS 135, and 2mm thick rubber insertions. The insertion piece shall cover the full face of the flange between the ID and OD

PSL 3.9Corrosion protection

All bolts, nuts and washers within water retaining structures or exposed to water shall be fabricated from stainless steel.

PSL 3.9.1 CI Pipes

Cast iron pipes, specials, valves and hydrants shall be fusion-bonded epoxy-coated in accordance with Clause 3.9.2.2(b)(4) as amended by PSL 3.9.2.2(b)(4).

PSL 3.9.2 Steel pipes and specials

All steel pipes and specials shall be stainless steel 304.

PSL 3.9.6 Corrosive Soil

All buried flanged joints, saddles, bolts and nuts shall be protected by means of Denso paste and then wrapped to give a covering of at least three layers of Denso impregnated tape or other means of inhibiting corrosion approved by the Engineer. Denso tape must be carefully moulded over the paste and fitting to expel all air pockets.

PSL 3.10 Valves

Delete the contents of this Clause and replace by:
“Two types of valves are acceptable:

a) Wedge gate type valve,
b) Resilient seal gate type valve.
c)
Valves shall comply with the requirements of SABS 664 1989 as amended and shall bear the SABS quality mark. A test certificate as per Clause 3.5.20 of compliance with SABS 664 will be acceptable.

Valves shall display the following features;
- A minimum of 250 microns coating of fusion bonded epoxy or Rilsan Nylon 11.
- Class 16
- Anti-clockwise closing
- Non-rising spindle type with cap.
- May have spigotted, socketted or flanged end connections. When flanged valves are specified, the drilling shall be to Table 16/11 of BS 4504".
- In the case of resilient seal valves, valve gates shall be fully EPDM rubber lined, internally and externally and the spindle shall be Grade 316 Stainless Steel or equivalent with a double o-ring seal.”

*PSL 3.10.3 Air valves

25mm and 50mm (where scheduled) double acting air valves "Ventomat RBX or RGX" (or similar, approved), suitable for a working pressure of 1 600 kPa, shall be used.

Each air valve or air valve branch shall be fitted with a separate brass gate valve that closes clockwise, and, if required, an extension pipe.

PSL 3.11 Manholes and surface boxes PSL 3.11.6 Surface boxes
All cast-iron surface boxes for valves and hydrants shall be fitted with chains as per SABS 558.

PSL 5 CONSTRUCTION

PSL 5.1Laying

PSL 5.1.3 Keeping pipelines clean

In addition to the requirements of Clause 5.1.3, the Contractor shall ensure that both ends of all pipes and specials strung out above ground along the line of the trench are closed by means of an adequately fixed plastic cap or other approved material, in order to prevent the ingress of foreign material.

Unless otherwise directed by the Engineer, the Contractor shall, when filling the pipeline with water for the first time, use suitable pipe pigs driven by a flush of water to aid the cleaning of all sections of the pipeline(s). If necessary, the pig shall be passed through a section more than once. If necessary, the Contractor shall install special temporary fittings in the pipeline for the insertion and recovery of the pigs. Such temporary fittings shall be removed after the pipeline has been cleaned to the satisfaction of the Engineer.

The Contractor shall satisfy the Engineer that every pig inserted into the pipeline is recovered after use.

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The Contractor shall satisfy the Engineer that every pig inserted into the pipeline is recovered after use.

PSL 5.1.4 Depths and cover

Water pipelines shall be laid to the levels indicated on the drawings. Where no such levels are provided, the following cover shall be provided:

Water mains under roads	:	Minimum cover of 1.0m measured from the finished road level to the crown of the pipe. Maximum cover of 1.25m Water
mains elsewhere	:	Minimum cover 750mm, maximum cover 1.25m
Erf connections	:	Minimum cover 450mm, maximum cover 600mm

PSL 5.1.4.3 Minimum clearance between services
Where the minimum clearance between services would be less than that specified in Clause 5.1.4.3, the water main shall be laid beneath the service crossed, at an invert level which allows for the clear space as specified. The water main shall be laid horizontally at this level for a distance of at least 1.0 m on either side of the centreline of the service crossed and the transition to the specified cover levels obtained as specified in Clause 5.1.4.2.

The Contractor may, at his own expense, increase the cover levels by a maximum of 200 mm. No decrease in cover level or clear space between pipe barrels as specified will be permitted unless otherwise instructed by the Engineer in writing.

PSL 5.6Valve and hydrant chambers
Delete the references to drawings L1, L2 and L3 in Clauses 5.6.1 and 5.6.2 and replace with “the construction drawings”.

Surface boxes shall be painted with two coats of white (valves) or bright yellow (hydrants) oil paint on an approved undercoat.
Markers for valves, fire hydrants and water pipelines are to be supplied and installed by the Contractor at each vale, hydrant and bend on main pipelines. The markers shall be manufactured in accordance with the drawings.

PSL 5.7Manholes

PSL 5.7.1 General

In order to avoid damage to pipes due to differential movement where the pipes enter chambers or other structures, all pipes built, cast or grouted into such structures shall be provided with flexible connections to the details shown on the drawings.

PSL 5.10 Disinfection of pipelines

Notwithstanding the requirements of Clause 5.10, the Contractor shall disinfect the pipelines before connecting into the reticulation.

*PSL 5.11 Connection into existing main

Where shown on the drawing or ordered, the Contractor shall cut into the existing water main and connect in the new main.
Before commencing the excavation of pipe trenches in the vicinity of a proposed connection, the Contractor shall excavate for, expose, survey and record the position and level of the connection point on the existing water main.

The Contractor shall be responsible, through the Engineer, for liaison with the Municipality (or relevant authority) to arrange for turning off the water in order to carry out the connection. These arrangements shall be made at least 5 working days prior to the proposed connection date so that affected consumers can be notified in advance.

The Contractor may cut into the existing water main only after he has received a written instruction from the Engineer to do so.

*PSL 5.12 Maintenance and repairs during defects liability period

Should leaks or defects develop during the Defects Liability Period they will be rectified by the Municipality at the Contractor's expense. This will include the cost of re-testing and subsequent disinfection.

*PSL 5.13 Markers for Fire Hydrants

Markers for Fire Hydrants are to be supplied and placed by the Contractor.

PSL 6 TOLERANCES

PSL 6.2CONTROL POINTS

Add: "Valves shall be located as indicated on the plan layout opposite the boundary peg of the erf, and to within a longitudinal tolerance of 100mm."

PSL 6.3Alignment (plan and level)
Add to last sentence : ", provided this does not result in a reversal of the grade of the pipeline."

PSL 7 TESTING

PSL 7.3Standard hydraulic pipe test

PSL 7.3.1 Test pressure and time of test

Testing of water mains shall be carried out after the installation of erf connections up to and including the meter assembly. The stopcock shall be open for the test and a temporary end cap shall be fitted to the outlet end of the assembly. The permissible leakage rate specified in Clause 7.3.3 shall be that applicable to the length of water main only, and the length shall therefore not include the length of erf connections.

The Contractor's test equipment shall be connected directly to the flange of a hydrant tee and not through the hydrant's screwed outlet, or through a specially adapted end cap, or a short length of pipe.

Notwithstanding Clause 7.3.1.2 and Clause 7.3.1.3, the test pressure for field testing shall be:
1.35MPa for Class 9 PVC-U , Class 10, HDPE pipes; 1.80MPa for Class 12 PVC-U and Class 12 HDPE pipes. Delete Clause 7.3.1.4.

In addition to the requirements of Clause 7.3.1.5 water used to fill the reticulation and during testing shall be water drawn from the Municipal mains and transported in a clean container. Test sections shall be filled from the lowest point of the test section, by a suitably sized pump with sufficient head to lift the water to the highest point of the test section. Test sections may not be filled at the highest point of the test section.

The bleeding off of air trapped within the reticulation shall only be carried out via the fire hydrants, erf connections or at the prescribed connection points to the existing reticulation by a bleeder system fitted to the end caps, or a bleeder system fitted to a short length, say 500mm, of a pipe included at the end of the new reticulation.

PSL 8 MEASUREMENT AND PAYMENT

PSL 8.1 General

Notwithstanding Clause 8.1, no payment will be made for depths of excavation in excess of those specified or shown on the drawings, unless ordered in writing by the Engineer.

PSL 8.2.1 Supply, lay and bed pipes complete with couplings

In addition to Clause 8.2.1, the rates for supplying, laying and bedding pipes shall also cover:

i. the cost of work covered by Clause 8.2.4,
ii. cleaning and disinfecting the pipeline as specified in Clause 5.10 and PSL5.1.3 including the provision and removal of temporary fittings required for the insertion and recovery of the pigs,
iii. testing the pipelines, including the supply of all water
iv. the cost of testing in short sections in accordance with PSL7.3.1.

The rates for the supplying and laying of metal pipes shall include for the cost of corrosion protection as specified.

Notwithstanding Clauses 8.2.7 and 8.2.15, the rates for pipes, valves, specials and couplings shall also cover the cost of mortar lining and sheathing, mortar encasing, wrapping and all other corrosion protection as specified.

Up to a maximum of 75% of the measured lengths of pipes will be certified for payment until such lengths have successfully passed the field test.

PSL 8.2.3 Supplying, fixing and bedding of valves

Hydrants will be measured by number.
The rate shall cover the cost of the supply and installation of all materials from and including the tee (and its joints) on the main up to and including the hydrant outlet and a 0.2m length of flanged 100mm diameter steel pipe between the tee and the gate valve.

PSL 8.2.11 Anchor/thrust blocks and pedestals

Notwithstanding Clause 8.2.11 anchor/thrust blocks and pedestals will be measured by number of each type. The rate shall cover the cost of excavation, concrete, formwork and steel reinforcement (allowing for 0.1t of high tensile steel per cubic metre of concrete).

PSL 8.2.14 Manholes

Where a pipe is to be built into an existing structure, the rate shall cover the cost of casting in the pipe with flexible couplings and cutting out and making good the hole.

*PSL 8.2.16 Connection(s) to existing water main

Connections to existing pipework will be measured by the number of connection points.

The rate shall cover the cost of locating, exposing and backfilling the water main, liaising with the Municipality (authority concerned) to arrange for turning off the water, cutting into the pipe, dealing with water, cutting pipes to fit, including turning if necessary, dealing with water, and the supply and fitting of long collar repair couplings to complete the connection and, if required, the temporary sealing and anchoring of pipe ends for testing purposes and subsequent removal of seals and anchors.

The specials required to make the connection will be measured separately.

*PSL 8.2.17 Markers

Valve, hydrant and pipeline markers will be measured by the number of each type.
The rate shall include for the cost of supply and installation of the markers on the verge as shown in the drawings.

PSLB PIPE BEDDING (SANS 1200LB)
PSLB.3 MATERIALS (CLAUSE 3)

PSLB.3.1 SELECTED GRANULAR MATERIAL (CLAUSE 3.1)

In the second line delete "19 mm" and substitute "6,7 mm".

Add the following:

All selected granular material used for the cradle beneath and surrounding the coated steel pipes shall be fine sand or fine non-cohesive soil, carefully selected, with maximum particle size of 6.7 mm and which shall not cake nor form lumps when drying, and comply with the following requirements:

GRADING ANALYSIS RANGE	
SIEVE SIZE (mm)	PERCENTAGE PASSING
4.750	95 to 100
2.360	90 to 100
1.180	90 to 100
0.600	35 to 50
0.425	35 to 45
0.300	3 to 5
0.150	0 to 3
0.075	0 to 3

The material shall be free of organic matter and shall have a compatibility factor of not more than 0.4.

The material should classify as a silty fine sand having a stiffness ratio of not less than 5.0 MPa. Furthermore, the origin of the materials should be river transported since it is required that the larger grains (4.0 to 6.7 mm in size) be rounded and not sharp and angular.

Selected granular materials shall be compacted to 100% Mod. A.A.S.H.T.O. either by full saturation or mechanical means or a combination of both, approved by the Engineer.

Samples of selected granular material shall be submitted by the Contractor to the Engineer for approval well in advance of construction. Only after the Contractor has received written approval from the Engineer, may he/she proceed with placing sand as selected granular material.

PSLB.3.2 SELECTED FILL MATERIAL (CLAUSE 3.2)

Delete this clause and substitute with the following:

Selected fill material for pipe bedding purposes shall be material that has a PI not exceeding 12 and that is free from vegetation and from lumps and stones of diameter exceeding 26.5 mm.

The material obtained from the trench excavations will generally be suitable for use as selected fill material which is placed above the Selected Granular Material bedding to the pipe.

PSLB.3.3 BEDDING (CLAUSE 3.3)

Add the following:

The ND250 steel pipes and fittings laid under this Contract will be considered as being flexible pipes with flexible pipe bedding. All selected fill material up to the underside of the selected fill blanket backfill shall be measured as selected granular.

No sharp-edged stones shall be allowed to come into contact with the pipes or fittings. Joint holes (pockets) shall be provided in the trench bottom and bedding, at each pipe joint to facilitate welding, and no extra payment will be made for forming or filling the joint holes (pockets) with padding sand.

Pockets shall be left at lifting sling positions to allow holiday testing of the coating to the bottom of the pipe after removal of the slings.

PSLB.3.4 SELECTION

PDLB.3.4.1 Suitable Bedding Material Available from Trench Excavations (Sub-Clause 3.4.2)

It is anticipated that some bedding will be obtained from trench excavations and the contractor will not have to import all the bedding material. The contractor will where required screen or sieve material so as to conform to the bedding material requirements. .

The Engineer will however instruct the Contractor to import bedding material if deemed necessary.

Notwithstanding the requirements of Sub Clause 3.7 of SANS 1200DB (Earthworks – Pipe trenches) and Sub Clause 3.4.1 of SANS 1200LB regarding the use of selective methods of excavation, the contractor shall use selective methods of excavating and shall provide and use methods that will enable him to avoid burying or contaminating material that is suitable and is required for bedding.

PDLB.3.4.2 Suitable Bedding Material not Available from Trench Excavations (Sub-Clause 3.4.2)

Borrow pits have not identified by the Engineer. The contractor will have to import some bedding material from commercial or other sources. The rate for materials imported from commercial sources shall include all haulage costs.

PSLB.5 CONSTRUCTION (CLAUSE 5)

PSLB.5.1 GENERAL (SUB-CLAUSE 5.1)

PSLB.5.1.4 COMPACTING (CLAUSE 5.1.4)

Delete the second line and substitute:

top of the pipeline) shall be 100% mod AASHTO.

Add to Sub-Clause 5.1.4:

Steps will have to be taken by the Contractor to ensure that flexible pipes do not deform excessively in cross-section during and after construction and backfilling operations. The maximum deflection which will be acceptable at any stage during or after construction is 2% of the pipe diameter horizontally or vertically. The Contractor will be required to provide the necessary apparatus and to monitor deflection during construction.

Pipe deformations will only be maintained within the specified tolerances by correct backfilling practice. No heavy compaction equipment will be permitted for compaction of any pipe bedding, only pneumatic or hand rammers being acceptable. To this end, and to achieve the 100% compaction specified it is required that the bedding material be brought up evenly on either side of the pipe. The use of complete saturation of the material as a method of achieving the specified compaction may, subject to the Engineer's approval, be used. However, in this regard, Tenderers are advised that the presence of excessive quantities of water in the pipe trench could lead to flotation of the pipe.

Prior to the commencement of pipe laying the Contractor will be required to submit, to the Engineer, for his approval, his proposed methods of placing, and compacting methods which he proposes to implement in order to ensure compliance with the specification.

PSLB.5.2.6 STONE DRAINAGE LAYER BENEATH BEDDING (ADDITIONAL SUB-CLAUSE)

Add new Sub-Clause:

Where indicated on the drawings, or as otherwise indicated by the Engineer, a 200 mm thick layer of commercially sourced single sized 13,2mm or 19 mm stone shall be placed beneath the bedding layer to act as a drainage channel for excessive groundwater. This layer shall be wrapped in “Bidim GRADE A4 or similar” geofabric filter surround extending the full width of the trench and provided with outlet pipes if and where indicated.

The excavation for these drains will be measured in cubic metres at the contract rate applying to unsuitable excavation below the bottom of the trench. The stone filling will be paid for per cubic metre and the geofabric filter will be paid for per square metre. All measurements in this connection will be to a width equal to the base widths and depths ordered.

PSLB.5.3 PLACING AND COMPACTING OF FLEXIBLE PIPES (SUB-CLAUSE 5.3)

Bedding Cradle

In addition to the requirements of clause 5.3(a), add the following:

Due to the slenderness of the steel pipes, the placing and compaction of the blanket material need to be carefully controlled in order to avoid ovality. Blanket material shall be brought up evenly on either side of the pipe barrel in layers not exceeding 100mm measured loose, and compacted to the required density utilising the required compaction method. Movement and deflection of the pipe shall be avoided.

Particular attention shall be paid to compaction of material in the pipe haunch area. Compaction shall be achieved by hand punning horizontally and obliquely with a suitably sized and shaped hand tool. The Contractor shall take the necessary precautions not to inflict damage to the pipe line coating when compacting the cradle and the blanket material.

When the blanket material has been backfilled and compacted to the crown of the pipe, and pipe trench backfilling and compaction has been completed, the deflection of the pipe as result of its slenderness shall not exceed 0.5% of its Nominal Diameter.

Compaction of bedding materials (for cradle and blanket material) to 100 % Mod. A.A.S.H.T.O. is required for the entire contract, unless approved otherwise by the Engineer.

All costs for providing the water required for the saturation of the material, temporary retaining measures to prevent backfill material from " flowing " away from point of application, and or retaining measures to terminate a specific backfill section for whatever reason, shall be deemed to be included in the tendered rates for supply, place and compact of bedding material.

The Contractor shall carry out his own quality control testing of the proposed bedding material to ensure that it meets this specification.

At least one grading analysis should be carried out for every 300 metres of bedding placed. The results of these tests shall be forwarded to the Engineer within 24 hours of completion of the test. Should the material not comply with the specification, the Contractor shall remove and replace material not complying with the specification, with approved material at his own cost.

Should the Contractor change the source of the bedding material, samples of the proposed material shall be supplied to the Engineer, inclusive of the analysis of the characteristics of the material. Only after the Contractor has received written approval from the Engineer, may he proceed with placing of the new selected granular bedding material.

The costs for the grading analysis tests shall be included in the tendered rates for the supply, placement and compaction of the selected granular material.

Completion of the bedding cradle and placing of the selected fill blanket, and the main fill, shall commence as soon as possible after pipe laying has been completed. The Contractor shall meet all costs of operation ordered by the Engineer to remedy defects in the trench caused by lengthy exposure.

200mm selected fill blanket

In addition to the requirements of clause 5.3(b), add the following:

Pipeline to be constructed beneath existing road.
In this case the selected fill material shall be taken to the underside of the proposed new layerworks construction where the new road will match the existing road layers or will be constructed to a new design specification. In this case the selected fill material will be placed from the top of the pipe bedding to the bottom of road subgrade level and compacted to minimum 97% Mod AASHTO density. Thereafter the structural road layers will be constructed. This procedure is necessary to limit settlement beneath roads.

PSLB.6 TOLERANCES (CLAUSE 6)

PSLB.6.1 MOISURE CONTENT AND DENSITY (CLAUSE 6.1)

Add the following:

The permissible deviations applicable are to be those for Degree of Accuracy II class of work.

PSLB.8 MEASUREMENT AND PAYMENT (CLAUSE 8)

PSLB.8.1 PRINCIPLES (CLAUSE 8.1)

PSLB.8.1.3 Volume of Bedding materials (Sub-Clause 8.1.3)

Add the following to Clause 8.1.3
c) The area to be used in the calculation of the volume of bedding and selected fill shall exclude the cross sectional area of the pipe.

PSLB.8.2 SCHEDULED ITEMS (CLAUSE 8.2)
PSLB8.2.1 Provision of Bedding from Trench Excavations ……Unit: m3

The requirements of clause SABS1200LB.8.2.1 shall apply, with the following amendment:

Replace “0,5km” with “5,0km”

PSLB8.2.2.3 Supply only of Bedding by Importation
Selected granular material
Selected fill material
13,2mm single size stone (Provisional)

The requirements of clause SABS1200LB.8.2.2.2 shall apply, with the following amendments:

Replace “0,5km” with “5,0km”

PSLB.8.2.5 Overhaul of Material for bedding cradle and selected fill blanket ……..Unit: m3km

The requirements of clause SABS1200LB.8.2.5 shall apply, with the following amendment:

Replace “0,5km” with “5,0km”

PSLB8.2.6 Supply only of Geofabric……Unit: m2

Grade A4 geofabric (Provisional)

The unit of measurement shall be the square meter (m2), measured in accordance with the authorized dimensions on the drawings.

The requirements of clause SABS1200LB.8.2.2.3 shall apply the following amendment:

Replace “bedding” with ‘bedding ancillary”

PSLB8.2.7 Extra Over item 8.2.1 for sieving or screening……Unit: m3

For yield over 80% m3
For yield between 60% and 80% m3
For yield between 40% and 60% m3

The unit of measurement shall be the cubic meter (m3), measured in accordance with the authorized dimensions on the drawings.

The tendered rate shall be deemed full compensation for additional sieving required to meeting bedding grading requirements.

PSLD SEWERS

PSLD 3 MATERIALS

PSLD 3.5 MANHOLES, CHAMBERS, ETC

PSLD 3.5.2 Precast concrete sections)

ADD THE FOLLOWING:

Sectional spun-concrete cylinders shall be manufactured from dolomitic aggregate.

PSLD 3.6 MARKER POSTS

REPLACE THE WORDS "Project Specification" WITH "Drawings".

PSLD 5 CONSTRUCTION

PSLD 5.9 CONNECTING SEWERS

PSLD 5.9.1 Location and details

DELETE THE FOLLOWING FROM THE FIRST PARAGRAPH:

"or required in terms of the Project Specifications."

DELETE THE SECOND PARAGRAPH.

PSLD 8 MEASUREMENT AND PAYMENT

PSLD 8.2 SCHEDULED ITEMS

PSLD 8.2.11 Connection to existing sewer at

REPLACE THIS ITEM WITH THE FOLLOWING:

"PSLD 8.2.11 Connection to existing sewer ..... Unit: Sum

The tendered sum shall include full compensation for excavation, making an opening in the existing manhole, installing new pipes in the new opening, for breaking out and modifying the channelisation inside the manhole to suit the new pipe layout, ensuring the watertightness of the new connection, supplying all the necessary materials, removing surplus material and debris, all labour and equipment required to make the connection, and liaison with the local authorities."

ADD THE FOLLOWING ITEM:

"PSLD 8.2.13 Breaking into existing sewer and building a new manhole
(Example only) .... Unit: number

The tendered rate shall include full compensation for excavation, building a new manhole over the sewer, breaking into the existing sewer, building the channelisation under wet conditions, ensuring the watertightness of the new connection, supplying all the necessary materials, removing surplus material, all labour and equipment required to make the connection, and liaison with the local authorities."

PSLE STORMWATER DRAINAGE

PSLE 3 MATERIALS

PSLE 3.1 CULVERT UNITS AND PIPES

(d) Skewed ends

ADD THE FOLLOWING:

"Skewed ends for pipe culverts may be cut on Site."

PSLE 3.4 MANHOLES, CATCHPITS, AND ACCESSORIES

PSLE 3.4.1 Bricks

ADD THE FOLLOWING:

"Bricks shall be engineering bricks complying with the requirements of SABS 227."

ADD THE FOLLOWING SUBCLAUSE:

"PSLE 3.6 MATERIALS FOR SUBSURFACE DRAINS

(a) Pipes and fittings

Pipes for subsurface drains shall be normal duty, perforated or slotted uPVC pipes complying with SASS 791. Fittings shall be heavy duty and shall also comply with SABS 791.

The size of the perforations in perforated pipes shall in all cases be 8 mm in diameter ± 1,5 mm, and the number of perforations per metre shall not be less than 26 for 100 mm pipes and 52 for 150 mm pipes. Perforations shall be spaced in two rows for 100 mm pipes and in four rows for 150 mm pipes, as shown on the Drawings.

Slotted pipes shall have a slot width of 8 mm with a tolerance of 1,5 mm in width. The arrangement of the slots is subject to the Engineer's approval, but the total slot area shall not be smaller than that specified for perforations.

(b) Crushed stone

Crushed stone shall be 19 mm single-sized and shall comply with the requirements of SABS 1083.

(c) Geotextiles

Geotextiles shall be a non-woven, spun or thermic-bonded continuous filament fabric consisting of at least 85% by mass of polypropylene, polyester or other approved material and manufactured for civil-engineering applications by a recognized manufacturer."

PSLE 5 CONSTRUCTION

PSLE 5.2 BEDDING AND LAYING

PSLE 5.2.2 Pipe culverts

ADD THE FOLLOWING:

"The class of bedding required for the various pipe culverts is shown on the Drawings. "

ADD THE FOLLOWING SUBCLAUSE:

"PSLE 5.8 CONSTRUCTION OF SUBSURFACE DRAINS

After the completion of the excavations, the bottom portion of the trench shall be lined with geotextile sheeting as shown on the Drawings. The top edges of the vertical portions of the geotextile sheeting shall be tacked to the sides of the excavations with nails or by another suitable approved means. An overlap of at least 200 mm shall be provided at each joint. Geotextile sheeting damaged during the installation or construction shall be replaced at the Contractor's cost.

A layer of crushed stone of the thickness shown on the Drawings shall be placed on the geotextile and be lightly tamped and finished to the required gradient.

Pipes of the required size shall be firmly bedded on the permeable material, true to level and grade, and coupled where required. The trench shall then be backfilled with crushed stone to the height above the pipes shown on the Drawings or as directed by the Engineer.

Crushed stone shall be placed in layers of not more than 300 mm at a time and shall be lightly compacted. Care shall be taken to prevent the contamination of crushed stone during construction of the subsurface drains and all material contaminated by soil or silt shall be removed and replaced by the Contractor at his own expense.

Perforated and slotted pipes shall be joined by couplers. Perforated pipes shall be laid with the perforations at the top or at the bottom, as directed. The higher end of subsurface drain pipes shall be sealed off with a loose concrete cap of class 20/19 concrete, as shown on the Drawings and at the lower end of the pipe shall

be built into a concrete head wall providing a positive outlet, or it shall be connected to the storm water pipes or culverts.

After all the crushed stone filter material has been placed, the protruding vertical filter material has been placed, the protruding vertical sections of the geotextile sheeting shall be folded back across the filter material so that the filter material will be completely enwrapped in the geotextile. An overlap of at least 200 mm shall be provided between the portions folded back.

The remainder of the trench shall be immediately backfilled with approved impermeable material preferably obtained from the excavations, in layers not exceeding 150 mm and compacted to 90% of modified AASHTO density, unless otherwise ordered by the Engineer. The trench shall be specially protected against the ingress of water, soil and silt until the backfilling with impermeable material has been completed.

Permeable material in subsoil drains shall not be taken to the surface but shall be discontinued at such heights as will be determined by the Engineer.

Any section of a subsurface drain constructed with pipes without perforations or slots shall be backfilled with impermeable backfill material as described above. Suitable excavated material may be used for backfilling. Payment for excavations as well as for backfilling with impermeable material will be made under SABS 1200 DB."

PSLE 8 MEASUREMENT AND PAYMENT

PSLE 8.2 SCHEDULED ITEMS

ADD THE FOLLOWING ITEMS:

"PSLE 8.2.14 Pipes in subsurface drains:

(a) Normal duty uPVC pipes complete with couplings:

(i) (Diameter and whether perforated or not, indicated) ..... Unit: m

(ii) Etc for other diameters

(b) Heavy duty fittings:

(i) (Type and diameter indicated) ..... Unit: number.

(ii) Etc for other types and diameters

The tendered rates per metre of pipe measured in place along its centre line including the length of fittings shall include full compensation for procuring, furnishing, laying and jointing the pipes as specified.

The tendered rates for fittings shall include full compensation for procuring, furnishing, laying and jointing the fittings as specified, irrespective of the type of fitting.

PSLE 8.2.15 Geofabric (description of type, grade, etc))..... Unit: m2

The filter fabric will be measured, in place after installation.

The tendered rate shall include full compensation for procuring, supplying, cutting, overlap, jointing, placing and protecting the filter fabric as specified, as well as for wastage.

PSLE 8.2.16 Crushed stone in subsurface drains:..... Unit: m3

The tendered rate shall include full compensation for procuring, supplying, transporting and placing the material as specified. The quantity shall be calculated from the authorized dimensions.

Impermeable material will be paid under SABS 1200 DB.

PSLE 8.2.11 Grade 20 MPa/19 mm concrete outlet structures for subsurface drains (including framework)..... Unit: m3

The tendered rate shall include full compensation for procuring and supplying of all materials, the provision and erection of formwork, reinforcing and the mixing, transporting and placing of concrete.

PSLE 8.2.18 Concrete caps for subsurface drain pipes ..... Unit: number

The tendered rate shall include full compensation for supplying and installing the concrete caps.

PSLE 8.2.19 Jointing with existing network..... Unit: Sum

The tendered sum shall include full compensation for the cost of all labour, plant, materials, excavation, backfilling, compaction and overheads to join the subsurface drains to the existing storm water network.

PSLE 8.2.20 Break into existing manhole and install:

(a) (State pipe diameter and type) ..... Unit: Sum

(b) Etc for other diameters and types

The tendered rates shall include full compensation for the supply of all labour, plant and materials, for making an opening in the existing manhole, for installing the new pipe in the new opening, for sealing around the pipe, for breaking out the existing benching and channels where required and reconstructing them complete with rendering to suite the new pipe arrangement, for disposal of all debris to the dumping site and for backfilling around the manhole with selected material.

PSLE 8.2.21 Break into existing storm water pipe, install new pipe and build new manhole:

(a) (State new pipe diameter and type) ..... Unit: number

(b) Etc for other new pipe diameters and types

The tendered rates shall include full compensation for the supply of all labour, plant and materials, for removing a section of the existing storm water pipe, for installing the new pipe, for the complete construction of the new manhole, for sealing around the pipes, for disposal of all debris to the dumping site and for backfilling around tile manhole with selected material."

PARTICULAR SPECIFICATION

PA FENCING
CONTENTS

PA 01 SCOPE

This is a Particular Specification and covers the erection of new fences.

PA 02 TYPE OF FENCE

The fence shall be a security fence and shall be erected in accordance with the dimensions shown on the Drawings.

PA 03 MATERIALS

PA 03.1 POSTS, STAYS AND STANDARDS

Posts, stays and standards shall be of the type and size indicated on the Drawings.
Posts shall include gate posts, straining posts and corner posts.

Metal posts, stays and standards shall comply with the requirements of CKS 82 and SABS 280. "Acceptable" in CKS 82 means "acceptable to the Engineer".

Tubular posts, standards and stays shall be galvanized in accordance with SABS 763 Table 1 for type B-articles. All rail and V-sections shall be provided with a protective coating of tar or other approved material.

Corner, gate and straining posts shall be suitably drilled for stay bolts or gate fittings as indicated on the Drawings.

PA 03.2 BOLTS FOR STAYS

Bolts shall be of mild steel and galvanized in accordance with SABS 763 Table 1 for type C-articles. The length and diameter of the bolts shall be as shown on the Drawings. All the necessary bolts, together with nuts and washers, shall be supplied with each post.

PA 03.3 WIRE

All wire shall conform to the requirements of SABS 675 and shall be class B galvanized, except where otherwise specified below.

(a) Barbed wire

Barbed wire shall be one or both of the following types:

(i) High-tensile grade, oval shaped, single-strand wire, 2,60 mm x 2,00 mm.

(ii) Mild-steel grade, double strand, uni-directional twist wire, each strand 2,50 mm in diameter.

Barbs shall be spaced at not more than 150 mm intervals.

(b) Smooth wire

Smooth wire shall be of the types specified below:

(i) Straining wire shall be mild-steel wire, 4,00 mm in diameter.

(ii) Fencing wire shall be high-tensile-grade 2,24 mm diameter wire.

(iii) Tying wire or binding wire shall be 2,50 mm diameter, mild-steel, class C galvanized wire for tying fencing wire to standards and 1,60 mm diameter, and mild-steel, class C galvanized wire for tying wire mesh to fencing wire.

(c) Barbed-tape concertinas

Barbed-tape concertinas shall comply with the requirements for type A in CKS Specification 592 and shall consist of close-coiled high-tensile wire with a continuous strip of flat steel barbs (barbed tape) crimped to the wire along the entire length of the wire. The coils shall further be attached together by clips to give a concertina configuration when pulled apart. The coils shall be of the diameter as shown on the Drawings. Each concertina shall have a minimum of 55 coils, and the maximum effective length of open concertina, when pulled apart, shall depend on the diameter of the roll, but shall be at least 12 m.

The high-tensile wire shall be class B galvanized and the barbed tape shall be made of cold-rolled carbon steel galvanized to class Z450. The concertina clips shall be manufactured from steel strip galvanized to class Z450

PA 03.4 PRECAST CONCRETE FENCING

Pre-stressed Concrete palisade

The wire strength for the pre-stressed palisade beams it should be 1700 MPa.

Testing

All concrete palisades are to be tested to a pressure of 40 MPa as established by SANS 5836 in order to provide quality the ISO certification and concrete strength test should be provided by the supplier. All concrete elements should have a minimum cover of 12mm, as per SABS 1372-1983.
Beams and poles
8mm produced steel wire is used to reinforce all poles.
All of the poles include slots for two pre-stressed beams.
The wire strength of our pre-stressed palisade beams is 1700 MPa.
Pressure strength of around 40Mpa, with a ten-year warranty.
Our beams are pre-stressed with 9 holes tapered to fasten upright with galvanized bolts measuring 100mm x 8mm.
Each beam weighs about 66 kilograms on average.
All holes are grouted with a poxy to prevent any tampering of holes.
All of our goods have a concrete hue and a smooth surface.

Workmanship and Finish:

All concrete elements are made of sound concrete that is free of structural flaws. On three sides, all concrete parts have an off-shutter treatment, with a wood floated finish on the fourth. All concrete elements have a minimum cover of 12mm, as per SABS 1372-1983.

Dimension and shape:

As noted in 2.1, 3.1, and 4.1, all elements must maintain the needed shape and be true to the respective and specified dimensions.

Performance requirements (strength):

All pre-fabricated elements must have a minimum concrete compressive strength of 30 MPa at 28 days, as established by SANS 5836.

The curing process:

All concrete elements must be treated in accordance with SANS5836 requirements.

Additional strength:

All steel used for reinforcing in prefabricated elements must be high yield steel with a minimum characteristic strength of 410 MPa and conform to SABS 920 and SABS 920.

SABS 4482 is a standard in the South Africa.

Rust, loose scale, flux, grease, or oil substances must be removed from all reinforcing steel wires.

Post:

The posts are to be 3.0m long and slotted to receive the horizontal load-bearing rails. The back piece is 140mm wide and tapers to 80mm in the front. The post's thickness must be 225mm.
In a concrete foundation, posts must be spaced at 2.0m intervals. The top of the post is at a 45-degree angle.

Each post is must contain four high-yield carbon steel bars measuring 4mm by 2900mm in length.

Paling or pales:

The pales are to be 2.4 meters long and include two 10mm holes for 8mm carriage bolts. The pales must have a 75mm thickness. A total of 9 pales are installed per 2-meter segment, spaced at +/- 200mm centers.

Each pale must contains four high-yield carbon steel bars of 4mm x 2350mm in length. The pales are to be angled at 45 degrees at the top and bottom.

Cross beams or rails

The rails are to be 1.98 meters long and have nine x 10mm holes for carriage 8mm bolts. The rails must be 150mm in width and 80mm in depth. The rails are slid into the posts and grouted with a 2 to 1 sand/cement mixture.
Each rail is must contain four high-yield carbon steel bars measuring 4mm by 1900mm in length

Fasteners:

Mild steel nuts, bolts, and washers were utilized to erect the fence. At an additional cost, electro galvanised (zinc and chrome) fasteners are to be supplied as an option (coastal application).
All bolt holes are filled with cement mortar, thus no electro galvanized fasteners are required. A 2 to 1 sand/cement mix is used in the grout.

Construction:

Each post is set in a 450mm × 450mm concrete foundation hole with a 600mm depth.
The sizes stated in par. 6.1 are for firm soils; for softer yielding soils, these sizes may need to be increased.
At 28 days, the foundation must have a minimum pressure of 15 MPa.

PA 03.5 STEEL PALISADE

PA 03.5.1 GATES

All gates are to be steel palisade type, the fence should be Hot Dipped Galvanised or Polyester Powder Coated to any standard RAL colour.

Palisade Gates can be made to open in a sliding motion.

PA 03.6 CONCRETE

Concrete used for fencing shall comply with the requirements of SASS 1200 G.

PA04 CLEARING OF FENCE LINE

Strip clearing for the fence shall be carried out in accordance with SASS 1200 C and will be measured and paid for under Section 1200 C of the Schedule of Quantities.

PA 05 INSTALLING POSTS AND STANDARDS

Straining posts shall be erected at all ends, corners and bends in the line of fencing and at all junctions with other fences. Straining posts shall not be spaced further apart than shown on the Drawings. The height of the posts above the ground shall be such that the correct clearance between the lowest wire and the ground can be obtained.

Posts shall be accurately set in holes and, where indicated, shall be provided with concrete bases to the dimensions shown on the Drawings.

Holes shall be dug to the full specified depth. Where, due to the presence of rock, the holes cannot be excavated by hand or by pneumatic tools and the Contractor has to resort to the use of explosives, he will be paid separately for the drilling and blasting operations required.

Corner, gate, end and straining posts shall be braced by means of stays or anchors, as shown on the Drawings. Pipe stays shall be bolted to the posts. Gate posts shall not be used as straining posts, but at each gate post a straining post shall be placed as shown on the Drawings and stayed by means of an anchor consisting of six strands of wire.

Standards shall be firmly planted in the ground at the spacing shown on the Drawings or as directed by the Engineer. The spacing of standards between any two straining posts shall be uniform. In rock or hard material standards shall either be driven or set in holes drilled into the rock. The size of drilled holes shall be such that a tight fit is obtained. Care shall be taken not to buckle or damage the standards when driven. Where indicated, standards shall be provided with concrete bases to the dimensions shown on the Drawings.

All posts and standards shall be accurately aligned and set plumb and shall be planted with the overhang as shown on the Drawings and at right angles to the direction of the fence. After posts and standards have been firmly set in accordance with the foregoing requirements, the fencing wire shall be attached thereto as described below.

PA 06 INSTALLING WIRE

All fencing wire shall be carefully stretched and hung without sag and with true alignment, and care shall be taken not to stretch the wire so tightly as to cause breaking, to pull up straining posts, or to be easily damaged during veld fires.

Each strand of fencing wire shall be securely fastened in the correct position to each standard with galvanized binding wire. The binding wire for each horizontal fence wire shall pass through a hole or notch in the standard, and the ends of the wire shall be wound at least four times around the fencing wire.
At the end, comer, straining and gate posts the fencing wire shall be securely wrapped twice around the post and secured against slipping by tying the end tightly around the wire by means of at least six snug, tight twists. In the case of high-tensile wire, two long windings must first be made before the six tight twists, to prevent the wire from breaking at the first twist. Where smooth wire is used, the loose end shall be bent back and hooked into the opening between the fencing wire and the first winding.

Splices in the fencing wire will be permitted if made in the following manner with the use of a splice tool: The end of each wire at the splice shall be carried at least 75 mm past the splice tool and wrapped snugly around the other wire for not less than six complete turns, after which the two separate wire ends shall be wound in opposite directions. After the splice tool has been removed, the space left by it in the splice wire shall be closed by pulling together the wire ends. The unused ends of wire shall be cut close, to leave a neat splice.

The gaps between gate posts and the adjacent straining posts shall be fenced off with short fencing wires.

PA 07 INSTALLING DIAMOND MESH

Where indicated on the Drawings, diamond mesh shall be stretched against the fence and properly tied to the fencing wire. The diamond mesh shall be secured by means of binding wire at 1,2 m centres along the top and bottom wires and at 3 m centres along each of the other fencing wires, unless shown otherwise on the Drawings.

PA 08 INSTALLING BARBED-TAPE CONCERTINAS

Barbed-tape concertinas shall be positioned on the fence as shown on the Drawings. The concertinas shall be fastened to the appropriate fencing wires at each standard as well as at 1,0 m maximum intervals between standards. -

Rolls of barbed-tape concertinas shall be joined with binding wire at four points, spaced at equidistant intervals around the circumference of the loop. Joints shall be made to coincide with the positions of standards.

PA 09 CLOSING OPENINGS UNDER FENCES

At ditches, streams, drainage channels or other hollows where the fence cannot follow the general ground contour, the Contractor shall close the opening under the fence by means of horizontal barbed wires 150 mm apart and stretched between additional straining posts as shown on the Drawings. The opening shall be covered with strips of diamond mesh, 1 000 mm wide, fixed to the barbed wires.

In the case of larger streams, the opening below the lower fencing wire shall be closed by means of loose-hanging wire nets as shown on the Drawings. These mats shall be erected at streams only on the instructions of the Engineer.

PA 10 INSTALLING GATES

Gates shall be installed at the positions indicated on the Drawings or pointed out on Site. The gates shall be hung on gate fittings in accordance with the details shown on the Drawings. Gates shall be so erected that they swing in a horizontal plane at right angles to the gate posts and clear of the ground in all positions. Double swing gates shall close to have a gap of not more than 25 mm between them, and other gates shall close to be not further than 25 mm from the gate post.

PA 11 GENERAL REQUIREMENTS AND TOLERANCES

The completed fences shall be plumb, taut, true to line and to the ground contour, and with all posts, standards and stays firmly set.

The height of the lower fencing wire above the ground at posts and standards shall not vary by more than 25 mm from that shown on the Drawings. Other fencing wires shall not vary by more than 10 mm from their prescribed relative vertical positions.

Anchoring of a fence to structures shall be done as shown on the Drawings.

The Contractor shall, on completion of each section of fence, remove all cut-offs and other loose wire or mesh so as to leave the fence with a neat and finished appearance.

PA 12 MEASUREMENT AND PAYMENT

PA.01 SUPPLY AND ERECTION OF NEW FENCING MATERIAL:

(a) Barbed wire (grade, size and type of wire indicated) ..... Unit: m

(b) Smooth wire (grade and size indicated) ..... Unit: m

(c) Barbed tape concertinas (coil diameter indicated) ..... Unit: m

The unit of measurement shall be the metre of each type of fencing wire and barbed tape concertinas measured between end posts. Binding wire and wire used for the bracing and anchoring of posts shall not be measured for payment.

(d) Concrete Palisade Fence..... Unit: m

The unit of measurement shall be the metre of fence and the quantity shall be calculated on the prescribed length between straining posts or gate posts, or the length of strips for covering openings under fences, or the length used for the covering of gates.

(e) Corner, end, and straining posts, including anchors
(type, size and length indicated) ..... Unit: number

The unit of measurement shall be the number of posts erected in accordance with the maximum specified spacing or such lesser spacing as authorized by the Engineer.

(f) Standards (length and type indicated) ..... Unit: number

The unit of measurement shall be the number of standards erected in accordance with tile maximum specified spacing or such lesser spacing as authorized by the Engineer.

(g) Droppers (length and type indicated) ..... Unit: number

The unit of measurement shall be the number of droppers erected in accordance with the maximum specified spacing or such lesser spacing as authorized by the Engineer.

The tendered rates shall include full compensation for all excavations, concrete, binding wire, straining wire, bolts, washers and nuts, for the drilling of holes for standards, and for the complete erection of the fence as specified and as shown on the Drawings. The tendered rate for posts shall make provision for the construction of the stays of the types shown on the Drawings.

The quantity of material used shall be determined by measuring the quantities of individual items of material installed in the completed fence. No linear measure of completed fence shall be applicable.

PA.02 NEW GATES:

(a) Single leaf (size and type indicated) ..... Unit: number

(b) Double leaf (size and type indicated) ..... Unit :.number

The unit of measurement shall be the number of new gates erected. A pair of gates shall be measured as one.

The tendered rate shall include full compensation for gate posts, hinges, bolts, concrete, locking mechanism and straining wire, and for the erection of the gates complete as specified and as shown on the Drawings. It shall not include compensation for any fencing wire or mesh used on the gate.

PA.03 THE DRILLING AND BLASTING OF HOLES FOR POSTS AND ANCHORS..... Unit: number

The unit of measurement shall be the number of holes for posts and anchors made by drilling and blasting where excavation by hand tools or pneumatic tools cannot be done economically.

The tendered rate shall include full compensation for drilling and blasting the holes and for all other expenses in connection with the provision, storage, transportation and use of explosives.

GENERIC LABOUR-INTENSIVE SPECIFICATION

PO.1 SCOPE

This specification establishes general requirements for activities which are to be executed by hand.

PO.2 PRECEDENCE

Where this specification is in conflict with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this specification shall prevail.

PO.3 HAND EXCAVATEABLE MATERIAL

Hand excavatable material is material:

a) Granular materials:

whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or

where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;

b) Cohesive materials:

whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or

where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note: 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.

A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60º with respect to the horizontal) into the material being used.

Table 1: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in upto 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.

Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation.	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point.

PO.4 COMPACTION OF BACKFILLING TO TRENCHES (AREAS NOT SUBJECT TO TRAFFIC)

Where trenches are to be Backfilled to by hand, trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers:

to 93% MOD AASHTO density;
such that in excess of 5 blows of a dynamic come penetrometer (DCP) is required to penetrate 100 mm of the backfill, provided that backfill does not comprise more than 10% gravel of size less than 10mm and contains no isolated boulders, or
such that the density of the compacted trench backfill is not less than that of the surrounding undisturbed soil when tested comparatively with a DCP.

PO.5 EXCAVATION

All hand excavatable material including topsoil classified as hand excavatable shall be excavated by hand. Harder material may be loosened by mechanical means prior to excavation by hand.

The excavation of any material which presents the possibility of danger or injury to workers shall not be excavated by hand.

PO.6 STONE PITCHING AND RUBBLE CONCRETE MASONRY

All stone required for stone pitching and rubble concrete masonry, whether grouted or dry, must to be collected, loaded, off loaded and placed by hand.

Sand and stone shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150m.

Grout shall be mixed and placed by hand.

PP PARTICULAR SPECIFICATION FOR WELDING

PP.1 SCOPE

This particular specification shall be read in conjunction with the latest version of the American Petroleum Institute Standard (API) 1104, covering the welding of pipelines and related facilities.

PP.2 CONSTRUCTION

PP.2.1 Codes, Procedures and Certification of Welders

Field welding of steel pipelines shall be carried out in accordance with the relevant requirements of the latest version of API 1104.

In particular, The Contractor, prior to commencement of welding, shall produce a qualified Welding Procedure in accordance with the latest version of API 1104 for the intended sizes, processes, positions and

consumables to be used on this project. The Welding Procedure shall be approved by the Engineer prior to commencement of welding.

Welding shall be carried out by welders who are competent in terms of the procedure approval test given in API 1104. Prior to commencement of welding, the current qualification of each welder shall be produced in accordance with the welding procedure. Should constant repairs be required on welds carried out by one particular welder, the Engineer may require that the welder be re-tested or removed from the project.

PP.3 MATERIALS

Welding electrodes shall comply with SABS 455. They shall bear the SABS mark unless prior approval has been obtained from the Engineer to use non-mark-bearing electrodes.
See API 1104 for further details.

PP.4 GENERAL REQUIREMENTS

For all critical welds the Contractor shall prepare welding procedures and test samples and submit same to the Inspection Authority for evaluation and approval.

Surfaces to be welded shall be free of filing, rust, grease, paint and other foreign materials which may adversely affect the quality of the weld.

Components shall be properly lined up and not distorted or bent after welding.

All welds shall be full penetration welds with no undercut.

PP.5 MEASUREMENTS AND PAYMENT (CLAUSE 8)

PP.5.1 BASIC PRINCIPLES (SUB-CLAUSE 8.1.1)

PP.5.1.1 No separate payment shall be made for welding.

PP.5.1.1 The cost of testing shall be borne by the Employer except for the following costs which shall be borne by the Contractor:

Testing of operators

Testing of welding procedures

Any retests necessitated by defects

Any tests which, in the opinion of the Engineer, have been necessitated by failure of the Contractor to comply with the requirements of the relevant specification(s).

PQ.8.5. SCHEDULE ITEMS (SUB-CLAUSE A.8.3)

Refer to Clause PSA.8.5.1 on Acceptance Testing.

PQ OHSA 1993 HEALTH AND SAFETY SPECIFICATION

PQ.1 SCOPE

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 82 and amendment Act No 181) 1993, and the corresponding Construction Regulations 2003, and all other safety codes and specifications referred to in the said Construction Regulations.

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Construction Regulations 2003.

This safety specification and the Contractor's own Safety Plan as well as the Construction Regulations 2003, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

Deep excavations in soils requiring shoring or reducing of slopes;
Potentially dangerous existing services such as water lines, electrical cables both buried and overhead;
Blasting of hard rock or demolition of concrete;
Movement of construction vehicles on site, taking into consideration steep slopes, other traffic and existing services;
Exposure to possible injuries due to mishandling or failure of power and hand tools;
Risks related to general safety and security on site.

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

PQ.2 DEFINITIONS

For the purpose of this contract the following shall apply:

Employer" where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as "Client" as defined in the Construction Regulations 2003. "Employer" and "Client" is therefore interchangeable and shall be read in the context of the relevant document.

"Contractor" wherever used in the contract documents and in this specification, shall have the same meaning as "Contractor" as defined in the General Conditions of Contract.

In this specification the terms "principal contractor" and "contractor" are replaced with "Contractor" and "subcontractor" respectively.

For the purpose of this contract the Contractor will, in terms of OHSA 1993, be the mandatory, without derogating from his status as an employer in his own right.

(b) "Engineer" where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

PQ.3 TENDERS

The Contractor shall submit the following with his tender:

(a) A documented Health and Safety Plan as stipulated in Regulation 5 of the Construction Regulations. The Safety Plan must be based on the Construction Regulations 2003 and will be subject to approval by the Employer;
(b) A declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2003;
(c) A declaration to the effect that he made provision in this tender for the cost of the health and safety measures envisaged in the Construction Regulations; and

(d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

PQ.4 NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor shall, in terms of Regulation 3, notify the Provincial Director of the Department of Labour in writing if the following work is involved:

(a) The demolition of structures and dismantling of fixed plant of height of 3,0m or more;
(b) The use of explosives;
(c) Construction work that will exceed 30 days or 300 person-days;
(d) Excavation work deeper than 1,0m; or
(e) Working at a height greater than 3,0m above ground or landings

The notification must be done in the form of the pro forma included under Section C1.1) (Contract Data) of the tender document.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

PQ.5 RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor shall have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 7 of the Construction Regulations 2003).

The risk assessment shall identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it shall include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified.

The risk assessment shall be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

PQ.6 APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

PQ.6.1 Health and safety plan

The Contractor shall appoint his employees and any subcontractors to be employed on the contract, in writing, and he shall provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor shall ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

PQ.6.2 Health and safety induction training

The Contractor shall ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone a health and safety training pertaining to hazards prevalent on site.

The Contractor shall ensure that every employee on site shall at all times be in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

PQ.7 APPOINTMENT OF SAFETY PERSONNEL

PQ.7.1 Construction supervisor

The Contractor shall appoint a full-time Construction Supervisor with the duty of supervising the performance of the construction work.

He may also have to appoint one or more competent employees to assist the construction supervisor where justified by the scope and complexity of the works.

PQ.7.2 Construction safety officer

Taking into consideration the size of the project and the hazards or dangers that can be expected, the Contractor shall appoint in writing a full-time or part-time Construction Safety Officer if so decided by the Inspector of the Department of Labour.

PQ.7.3 Health and safety representatives

In terms of Section 17 and 18 of the Act (OHSA 1993) the Contractor, being the employer in terms of the Act for the execution of the contract, shall appoint a health and safety representative whenever he has more than 20 employees in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

PQ.7.4 Health and safety committee

In terms of Sections 17 and 18 of the Act (OHSA 1993) the Contractor (as employer), shall establish one or more health and safety committee(s) where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

In function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and to keep record of recommendations and reports made by the committee.

PQ.7.5 Competent persons

In accordance with the Construction Regulations the Contractor has to appoint in writing competent persons responsible for supervising construction work on each of the following work situations that may be expected on the site of the works.

(a) Risk assessment and induction training as described in Regulation 7 of the Construction Regulations;
(b) Fall protection as described in Regulation 8;
(c) Formwork and support work as described in Regulation 10;
(d) Excavation work as described in Regulation 11;
(e) Demolition work as described in Regulation 12;
(f) Scaffolding work as described in Regulation 14;
(g) Suspended platform operations as described in Regulation 15;
(h) Material hoists as described in Regulation 17
(i) Batch plant operations as described in Regulation 18
(j) Explosive powered tools as described in Regulation 19
(k) Cranes as described in Regulation 20;
(l) Construction vehicle and mobile plant inspections on a daily basis by a

(m) Competent person as described in Regulation 21 (1);
(n) Control of all temporary electrical installation on the construction site as described in Regulation 22;
(o) Stacking and storage on construction sites as described in Regulation 26; and
(p) Inspections of fire equipment as described in Regulation 27

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent person to supervise parts of the construction work does not relieve the Contractor form any of his responsibilities to comply with all requirements of the Construction Regulations.

PQ.8 RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

(a) A copy of the OHSA 1993 Construction Regulations 2003;
(b) A copy of this Health and Safety Specification;
(c) A copy of the Contractor's Health and Safety Plan (Regulation 4);
(d) A copy of the notification of construction work (Regulation 3)
(e) A health and safety file in terms of Regulation 5 (7) with inputs by the Construction Safety Officer (Regulation 6 (7);
(f) A copy of the risk assessment described in Regulation 7;
(g) A full protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 8;
(h) Drawings pertaining to the design of structures (Regulation 9(3)) and formwork and support work structures (Regulation 10(d)) must be kept on site;
(i) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 11 (3) (h));
(j) A copy of the certificate of the system design for suspended platforms (Regulation 15(3))

(aa)A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists (Regulation 7(5));
(bb)Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 17(8));
(cc)A record of any repairs to or maintenance of a batch plant must be kept on site (Regulations 18(9));
(dd)A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 19(2);
(ee)A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 21 (1)(j)).

PQ.9 CONTRACTORS RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2003.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status us mandatory (employer) for the contract under consideration.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2003, and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

(a) Contractor's position in relation to the Employer (client) (Regulation 4)

In accordance with Section 4 of the Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

The principal contractor and contractor (Regulation 5)
The Contractor is in terms of the definition in Regulation 2(b) the equivalent of Principle Contractor as defined in the construction Regulations, and he shall comply with all the provisions of Regulation 5.

Any subcontractors employed by the Contractor must be appointed in writing, setting out the terms of the appointment in respect of health and safety. An independent subcontractor shall however provide and demonstrate to the Contractor a suitable, acceptable and sufficiently documented health and safety plan before commencement of the subcontract. In the absence of such a health and safety plan the subcontractor shall undertake in writing that he will comply with the Contractor's Safety plan, the health and safety specifications of the Employer and the Construction Regulations 2003.
(c) Supervision of construction work (Regulation 6)

The Contractor shall appoint the safety and other personnel and employees as required in terms of
Regulation 6 and as set out in paragraph 7 above. Appointment of hose personnel and employees does not relieve the Contractor from any of the obligations under
Regulation 6.

(d) Risk assessment Regulation 7

The Contractor shall have the risk assessment made as set out in paragraph 7 above before commencement of the work and it must be available on site for inspection at all times. The Contractor shall consult with the Health and safety committee or health and safety representative(s) etc. on a regular basis to ensure that all employees, including subcontractors under his control, are informed and trained by a competent person regarding health hazards and related work procedures.

No subcontractor, employee or visitor shall be allowed to enter the site of works without prior health and safety induction training, all as specified in Regulation 7.

(e) Fall protection (Regulation 8)

Fall protection, if applicable to this contract shall comply in all respects with Regulation 8 of the Construction Regulations.

(f) Structures (Regulation 9)

The Contractor will be liable for all claims arising from collapse or failure of structures if he failed to comply with all the specifications, project specifications and drawings related to the structures, unless it can be proved.

That such collapse or failure can be attributed to faulty design or insufficient design standards on which the specifications and the drawings based.
In addition the Contractor shall comply with all aspects of Regulation 9 of the Construction Regulations.

(g) Formwork and support work (Regulation 10)

The Contractor will be responsible for the adequate design of all formwork and support structures by a competent person.

All drawings pertaining to formwork shall be kept on site and all equipment and materials used in formwork, shall be carefully examined and checked for suitability by a competent person.

The provisions of Regulation 10 of the Construction Regulations shall be followed in every detail.

(h) Excavation work (Regulation 11)

It is essential that the Contractor shall follow the instructions and precautions in the Standard Specifications and Project Specifications as well as the provisions of the Construction Regulations to the letter as unsafe excavations can be a major hazard on any construction site. The Contractor shall therefore ensure that excavation work is carried out under the supervision of a competent person, that inspections are carried out by a Professional Engineer or Technologist, and that all work is done in such a manner that no hazards are created by unsafe excavations and working conditions.

Supervision by a competent person will not relieve the Contractor from any of his duties and responsibilities under Regulation 11 of the Construction Regulations.

(i) Demolition work (Regulation 12)

Whenever demolition work is included in a contract, the Contractor shall comply with all the requirements of Regulation 12 of the Construction Regulations. The fact that a competent person has to be appointed by the Contractor does not relieve the Contractor from any of his responsibilities in respect of safety of demolition work.

(j) Tunneling (Regulation 13)

The Contractor shall comply with Regulation 13 wherever tunneling of any kind is involved.

(k) Scaffolding (Regulation 14)

The Contractor shall ensure that all provisions of Regulation 14 of the Construction Regulations are complied with. (Note: Reference in the Regulations to “Section 44 of the Act” should read “Section 43 of the Act”).

(l) Suspended platforms (Regulations 15)

Wherever suspended platforms will be necessary on any contract, the Contractor shall ensure that copies of the system design issued by a Professional Engineer are submitted to the Engineer for inspection and approval. The Contractor shall appoint competent persons as supervisors and competent scaffold erectors, operators and inspectors and ensure that all work related to suspended platforms are done in accordance with Regulation 15 of the Construction Regulations.

(m) Boatswain’s chain (Regulation 16)

Where boatswain’s chains are required on the construction site, the Contractor shall comply with Regulation 16.

(n) Material hoists (Regulation 17)

Wherever applicable, the Contractor shall comply with the provisions of Regulations 17 to the letter.

(o) Batch plants (Regulation 18)

Wherever applicable, the Contractor shall ensure that all lifting machines, lifting tackle, conveyors, etc. used in the operation of a batch plant shall comply with, and that all operators, supervisors and employees are strictly held to the provisions of Regulation18. The Contractor shall ensure that the General Safety Regulations (Government Notice R 1031 of 30 May 1986), the Driven Machinery Regulations (Government Notice R 2271 of 11/10/1995) are adhered to by all involved.

In terms of the Regulations, records of repairs and maintenance shall be kept on site.

(p) Explosive powered tools (Regulation 19)

The Contractor shall ensure that, wherever explosive-powered tools are required to be used, all safety provisions of Regulation 19 are complied with.

It is especially important that warning notices are displayed and that the issue and return of cartridges and spent cartridges be recorded in a register to be kept on site.

(q) Cranes (Regulation 20)

Wherever the use of tower cranes becomes necessary, the provisions of Regulation 20 shall be complied with.

(r) Construction vehicles and mobile plant (Regulation 21)

The Contractor shall ensure that all construction vehicles and plant are in good working condition and safe for use, and that they are used in accordance with their design and intended use. The vehicles and plant shall only be operated by workers or operators who have received appropriate training, all in accordance with all the requirements of
Regulation 21.

All vehicles and plant must be inspected on a daily basis, prior to use, by a competent person and the findings must be recorded in a register to be kept on site.

(s) Electrical installation and machinery on construction sites (Regulation 22)

The Contractor shall comply with the Electrical Installation Regulations (Government Notice R2920 of 23 October 1992) and the Electrical Machinery regulations (Government Notice R1953 of 12 August 1993). Before commencement of construction, the Contractor shall take adequate steps to ascertain the presence of, and guard against dangers and hazards due to electrical cables and apparatus under, over or on the site.

All temporary electrical installations on the site shall be under the control of a competent person, without relieving the Contractor of his responsibility for health and safety of all workers and persons on site in terms of Regulation 22.

(t) Use of temporary storage of flammable liquids on construction (Regulation 23)

The Contractor shall comply with the provisions of the General Safety Regulations (Government Notice R1031 of 30 May 1986) and all the provisions of Regulation 23 of the Construction Regulations to ensure a safe and hazard-free environment to all workers and other persons on site.

(u) Water environments (Regulation 24)

Where construction work is done over or in close proximity to water, the provisions of Regulation 24 shall apply.

(v) Housekeeping on Construction sites (Regulation 25)

Housekeeping on all construction sites shall be in accordance with the provisions of the environment Regulations for workplaces (Government Notice R2281 of 16 October 1987) and all the provisions of Regulation 25 of the Construction Regulations.

(w) Stacking and storage on construction sites (Regulation 26)

The provisions for the stacking of articles contained in the General Safety Regulations (Government Notice R1031 of 30 May 1986) as well as all the provisions Regulation 26 of the Construction Regulations shall apply.

(x) Fire precautions on construction sites (Regulation 27)

The provisions of the Environmental Regulations for Workplaces (Government Notice R2281 of 16 October 1987) shall apply.
In addition the necessary precautions shall be taken to prevent the incidence of fires, to provide adequate and sufficient fir protection equipment, sirens, escape routes etc. all in accordance with Regulation 27 of the Construction Regulations.

(y) Construction welfare facilities (Regulation 28)

The Contractor shall comply with the construction site provisions as in the Facilities Regulations (Government Notice R1593 of 12 August 1988) and the provisions of Regulation 28 of the Construction Regulations.

(z) Non-compliance with the Construction Regulations 2003

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

PQ.10 MEASUREMENT AND PAYMENT

PQ.10.1 Principles

It is a condition of this contract that Contractors who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

PQ.10.2 Contractor's initial obligation in respect of the Occupational Health and Safety Act and Construction Regulations

The unit of measurement shall be the Lump Sum.

The rate shall be deemed full compensation for all the Contractor’s initial obligations as described in the Health and Safety Specification under items PD.4, PD.5, and PD.6. Payment will be made once all the obligations have been met.

PQ.10.3 Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations.

The unit of measurement shall be the Lump Sum.

The rate shall be deemed full compensation for all the Contractor’s initial obligations as described in the Health and Safety Specification under item PD.7, PD.8, and PD.9. Interim payments will be made throughout the duration of the contract, provided that the Contractor meets his obligations to the satisfaction of the Client, acting as the Safety Agent.

PQ.10.4 Penalty for late submission of the Health and Safety file.

The unit of measurement shall be the Sum.

The penalty shall be a once off sum of R5000, and a further sum of R500 per week. The penalty can only be enforced after the Contractor has been put on notice, in writing by the Engineer.

PARTICULAR SPECIFICATION – REHABILITATION AND COMPLIANCE WITH EMP

PR.1 SCOPE

This particular specification covers the rehabilitation and re-instatement of the topsoil and vegetation following the disturbance caused by the activities of the works. The Contractor shall comply with the requirements of the “Kwahlokohloko Environmental Management Plan” (EMP) which is included in the contract documentation. Where there is a discrepancy between this Particular Specification and the EMP, the EMP shall prevail.

PR.2 CONSTRUCTION

PR.2.1 FINAL GRADING

PR.2.1.1 REINSTATEMENT OF COMPACTED AND DISTURBED AREAS

The Contractor shall restore the surface of the ground for the full width of the working areas to a condition as near as may be equivalent to that which existed at the time of beginning construction operations on each such areas.
In all areas of the working space the surface area shall be free of bumps and hollows caused by the construction activities and, where required by the Engineer, bumps shall be cut away and hollows filled and lightly compacted to leave the surface of the site in a smooth, even and tidy condition.
The surface of access ways to residential properties shall be reinstated to the owner's satisfaction and any stones, gravel or other deleterious material left from spoil piles shall be removed and disposed of to the satisfaction of the ER. All stormwater channels and drains shall be cleaned.
Veld grass areas shall be cleared of surplus spoil, where required, but clearing operations shall be carried out by methods that will cause as little disturbance as possible to the grass root systems.
Where the Contractor is instructed to spread surplus material over the trench width and on either side of the backfilled trench, the completed work shall be free of bumps and hollows and shall be graded to be smooth in appearance, even and tidy, all to the satisfaction of the Engineer.

PR.2.1.2 HAND TRIMMING

Cut and fill slopes shall be shaped and trimmed to reflect the natural condition and contours as closely as possible. Cut and fill slopes shall be left as rough as possible and shall be shaped to contain ridges that would facilitate the accumulation of topsoil.

Prior to re-vegetation, the Contractor shall ensure that the area is clear of any building materials and other foreign debris.

All visible weeds shall be removed from the area before replacing topsoil. Compacted soil shall be ripped along the contour and hand-trimmed, topsoil shall then be spread evenly over the surface.
The final prepared ground surface shall be furrowed to follow the natural contours of the land and not smooth.

PR.2.2 SOIL IMPROVEMENTS

PR.2.2.1 FERTILIZER

Type of fertilizer to be specified by the Engineer before commencement of this item.

The use, storage and handling of fertilizer shall be strictly controlled by the Contractor.

Fertilizers shall be suitably stored in sealed containers in areas approved by the ER.

Care shall be taken when using fertilizers near "No-Go" areas, watercourses and wetland areas and other sensitive natural areas.

Soil shall be well watered and moist before any fertilizer is applied.

PR.2.3 VEGETATION RE-ESTABLISHMENT

PR.2.3.1 GRASS-SEEDING

Seed collection shall be an ongoing exercise throughout the construction period (at least twice a year) in order to ensure that sufficient seed is collected for use in re-vegetation.

Only if the harvested seed quantities are not sufficient may additional seed be bought. Any procurement of seed for use in re-vegetation shall be from reputable sources only. The seed mix quantities and purity levels shall be as specified in the approved method statement.

Indigenous seed shall be harvested from areas that are free of alien vegetation, either within construction areas prior to site clearing or from suitable neighbouring areas with the consent of the relevant landowners.

Harvested seed shall be free of excessive quantities of organic and/or substrate material.

If it is required to collect seed from selected species by hand, this seed shall be treated and stored separately.

Following harvesting, seed shall be dried under cool airy conditions. Seed shall be insect-free and shall be stored in suitable containers under cool conditions that are free of rodents or insects. No wet, mouldy or otherwise damaged seed is acceptable.

The Contractor shall provide adequate facilities for the storage of collected seed in rodent- and insect-free, cool, dry conditions to the satisfaction of the ER.

PR.2.3.2 HYDROSEEDING/HYDROMULCHING

Hydroseeding/hydromulching is expected to be the most suitable method of revegetation for most areas.

The hydroseeder shall be capable of pumping the specified seed mix, fertiliser, soil stabiliser, etc. at the specified rates over the areas to be seeded, according to the Method Statement approved by the ER.

The hydroseeder shall have an agitation system, which shall be sufficient to agitate, suspend and homogeneously mix the specified slurry.

The slurry distribution lines shall be large enough to prevent stoppage. The discharge line shall be equipped with hydraulic spray nozzles suitable for the even distribution of the slurry on the various slopes to be seeded.

Where hydroseeding was undertaken, the commencement of watering may be postponed until seeds have germinated and growth begins.

PR.2.3.3 MAINTENANCE

The Contractor shall be responsible for ensuring that all re-vegetated areas remain free of all alien and indigenous weed species during the contract and establishment period.

Weeding, removal methods and storage of this material shall be undertaken in such a manner that prevents the re-infestation of the cleaned areas.

All dead plant material shall be removed immediately as it may become a fire hazard and disposed of at a DWA registered landfill site.

The Contractor shall ensure that all plants are disease and pest free. Any methods used to control any diseases and/or pests, including the use of herbicides and pesticides, must be approved by the ER.

Re-vegetation of construction areas shall take place as soon as possible after completion of construction works. The timing of re-vegetation shall take cognisance of maintenance requirements and provision shall be made for any irrigation requirements.

No construction equipment, vehicles or unauthorised personnel shall be allowed onto areas that have been re-vegetated.

PR.3 ENVIRONMENTAL MANAGEMENT PLAN

Environmental Management Plan (EMP) attached in Annexure C.

PR.4 MEASUREMENT AND PAYMENT

PR.4.1 Principles

It is a condition of this contract that Contractors who submit tenders for this contract, shall make provision in their tenders for the cost of compliance with the requirements of the EMP during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates.

PR.4.2 Contractor's initial obligation in respect of the Environmental Management Plan (EMP) and Environmental Regulations ……Unit: Lump Sum

The unit of measurement shall be the Lump Sum.

The rate shall be deemed full compensation for all the Contractor's initial obligations as described in the EMP. Payment will be made once all the obligations have been met.

PR.4.3 Contractor's time related obligations in respect of the Environmental Management Plan (EMP) and Environmental Regulations ……Unit: Lump Sum

The unit of measurement shall be the Lump Sum.

The rate shall be deemed full compensation for all the Contractor's on-going obligations as described in the EMP. Interim payments will be made throughout the duration of the contract, provided that the Contractor meets his obligations to the satisfaction of the Environmental Control Officer (ECO).

PR.4.4 Provision of Environmental Liaison Officer (ELO)……Unit: Month

The unit of measurement shall be the month or part thereof.

The rate shall be deemed full compensation for all the Contractor's costs associated with providing an ELO. Payment will be made provided that the ELO meets his obligations to the satisfaction of the Environmental Control Officer (ECO).

PR.4.5 Fines for transgressions of the EMP. (Type stated)……..Unit: No.

The unit of measurement shall be the number No. of transgressions.

The fine shall be a sum per transgression of a given requirement as stated in the EMP. These fines can only be enforced after the Contractor has been put on notice, in writing by the Engineer.

PR.4.6 Penalties for General Non-compliance

(a) Recovery of actual costs (Type stated)……..Unit: Sum
(b) Penalty for Non-compliance……Unit: %

The unit of measurement for (a) shall be the Sum

The sum deducted under this item shall be the amount of the environmental rehabiliation cost as stated in the Bill of Quantities, and shall be deducted only once a certified invoice has been received for the rehabilitation cost.

The unit of measurement for (b) shall be the percentage (%).

The non-compliance penalty shall be % of the actual certified rehabilitation cost in (a) for the stated type of non-compliance as stated in the EMP. These penalties can only be enforced after the invoice for environmental rehabilitation work has been received.

PR.4.7 Penalty for unauthorized removal of Trees. (Tree girth stated)……..Unit: No.

The unit of measurement shall be the number No. of transgressions.

The fine shall be a sum per transgression as stated in the EMP. These penalties can only be enforced after the Contractor has been put on notice, in writing by the Engineer. One notice for unauthorized removal or damage to trees within any of the stated girth ranges would serve as notice for all of the stated girth ranges.

PR.4.8 Ripping of compacted and disturbed areas to 150mm depth……Unit: ha

The unit of measurement shall be the hectare (Ha)

Payment on this item will only be made upon the written instruction from the Engineer for an area to be ripped and recompacted. This operation would follow preparation measures as contained in PR.2.1 above. All areas deemed affected areas affected by the Engineer are to be carefully ripped as stated using suitable plant.

PR.4.9 Hand trimming……..……Unit:m2

The unit of measurement shall be the square meter (m2)

Payment on this item will only be made upon the written instruction from the Engineer for an area to be hand trimmed. Refer to requirements of PR.2.1.2. above. Rate to include for all labour and tools required.

PR.4.10/
D.8.3.10 Topsoiling……..……Unit: m2

In addition to the requirements of SABS 1200D.8.3.10. The final topsoil thickness to be 150mm. The top 50mm of the lightly compacted topsoil shall be scarified by hand with suitable tools such as flat steel rakes and trimmed for preparation for grassing.

PR.4.11 Fertilizer (Type stated)……..……Unit: ton

The unit of measurement shall be the ton (t)
The quantity of fertilizer shall be measured based on the area of soil fertilizered at the authorized depth to the authorized application rate.

The rate shall be deemed to be full compensation for all costs associated with supplying and applying the stated fertilser.

PR.4.12/D.8.3.11 Grassing or other Vegetation Cover (Type stated)..……..……..Unit: m2

In addition to the requirements of SABS 1200

D.8.3.11, the rate shall include for activities described in PR.2.3.1-PR.2.33 above.

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C3: Scope Of Work:

C3.6 Health and Safety Specification

C3.6 OCCUPATIONAL HEALTH AND SAFETY ACT 1993: HEALTH AND SAFETY SPECIFICATION

CONTENTS

C3.6.2.1 Introduction

In terms of the Construction Regulation 4(1) (a) of the Occupational Health and Safety Act, No. 85 of 1993, Roads Agency Mpumalanga (Pty) Ltd (RAL), as the Client, is required to compile a Health & Safety Specification for any intended project and provide such specification to any prospective tenderer.

The Client's further duties are as in C3.4.1.2.1. below and in the Construction Regulations, 2003.

This specification has as objective to ensure that Principal Contractors entering into a Contract with the Roads Agency Mpumalanga (Pty) Ltd (RAL) achieve an acceptable level of OH&S performance. This document forms an integral part of the Contract and Principal and other Contractors should make it part of any Contracts that they may have with Contractors and/or Suppliers.

Compliance with this document does not absolve the Principal Contractor from complying with minimum legal requirements and the Principal Contractor remains responsible for the health & safety of his employees and those of his Mandataries.

C3.6.2.2 Scope

Development of a health & safety specification that addresses all aspects of occupational health and safety as affected by the abovementioned contract work.

The specification will provide the requirements that Principal Contractors and other Contractors will have to comply with in order to reduce the risks associated with the abovementioned contract work that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable.

C3.6.2.3 General Occupational Health & Safety Provisions

(a) Hazard Identification & Risk Assessment (Construction Regulation 7)

(i) Risk Assessments

Annexure 3 contains a list of Risk Assessment headings that have been identified by RAL as possibly applicable to the abovementioned contract work. It is, by no means, exhaustive and is offered as an assistance to Contractors intending to tender.

Based on the Risk Assessments, the Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the OH&S aspects of the construction.

The Risk Assessments, together with the site-specific OH&S rules must be submitted to the RAL before mobilisation on site commences.

Despite the Risk Assessments listed in Annexure 3, the Principal Contractor is required to conduct a baseline Risk Assessment and the aforesaid listed Risk Assessments must be incorporated into the base-line Risk Assessment. The baseline Risk Assessment must further include the Standard Working procedures (SWP) and the applicable Method Statements based on the Risk Assessments

All out-of-scope work must be associated with a Risk Assessment.

(ii) Review of Risk Assessments

The Principal Contractor is to review the Hazard Identification, Risk Assessments and SWP's at each Production Planning and Progress Report meeting as the Contract work develops and progresses and each time changes are made to the designs, plans and construction methods and processes.

The Principal Contractor must provide the Client, other Contractorsand all other concerned-parties with copies of any changes, alterations or amendments as contemplated in above.

(b) Legal Requirements

All Contractors entering into a Contract with the RAL shall, as a minimum, comply with the

- Occupational Health & Safety Act and Regulations (Act 85 of 1993). A current, up-to-date copy of the OHS Act must be available on site at all times
- Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993). The principal Contractor will be required to submit a letter of Registration and "good-standing" from the Compensation Insurer before being awarded the Contract. A current, up-to-date copy of the COID Act must be available on site at all times.
- Where work is being carried out on mines' premises the Contractor will have to comply with the Mine Health & Safety Act and Regulations (Act. 29 of 19960 and any other OH&S requirements that the mine may specify. A current, up-to-date copy of the OHS Act must be available on site at all times.

(c) Structure and Responsibilities

(i) Overall Supervision and Responsibility for OH&S

* It is a requirement that the Principal Contractor, when he appoints Contractors (Sub-contractors) in terms of Construction Regulations 5(3), (5), (9), (10) and (12) he includes an OHS Act Section 37(2) agreement: “Agreement with Mandatary” in his agreement with such Contractors.

* Any OH&S Act (85/1993), Section 16(2) appointee/s as detailed in his/her/their respective appointment forms

(ii) Further (Specific) Supervision Responsibilities for OH&S

The Contractor shall appoint designated competent employees and/or other competent persons as required by the Act and Regulations. Below is a list of identified appointments and may be used to select the appropriate appointments for the current contract:

	Ref. Section/Regulation in OHSAct
Batch Plant Supervisor	(Construction Regulation 6(1)
Construction Vehicles/Mobile Plant/Machinery Supervisor	(Construction Regulation 21)
Demolition Supervisor	(Construction Regulation 12)
Drivers/Operators of Construction Vehicles/Plant	(Construction Regulation 21)
Electrical Installation and Appliances Inspector	(Construction Regulation 22)
Emergency/Security/Fire Coordinator	(Construction Regulation 27)
Excavation Supervisor	(Construction Regulation 11)
Explosive Powered Tool Supervisor	(Construction Regulation 19)
Fall Protection Supervisor	(Construction Regulation 8)
First Aider	(General Safety Regulation 3)
Fire Equipment Inspector	(Construction Regulation 27)
Formwork & Support work Supervisor	(Construction Regulation 10)
Hazardous Chemical Substances Supervisor	(HCS Regulations)
Incident Investigator	(General Admin Regulation 29)
Ladder Inspector	(General Safety Regulation 13A)
Lifting Equipment Inspector	(Construction Regulation 20)
Materials Hoist Inspector	(Construction Regulation 17)
OH&S Committee	(OHS Act Section 19)
OH&S Officer	(Construction Regulation 6(6)
OH&S Representatives	(OHS Act Section 17)
Person Responsible for Machinery	(General Machinery Regulation 2)
Scaffolding Supervisor	(Construction Regulation 14)
Stacking & Storage Supervisor	(Construction Regulation 26)
Structures Supervisor	(Construction Regulation 9)
Suspended Platform Supervisor	(Construction Regulation 15)
Tunneling Supervisor	(Construction Regulation 13)
Vessels under Pressure Supervisor	(Vessels under Pressure Regulations)

Working on/next to Water Supervisor (Construction Regulation 24)
Welding Supervisor (General Safety Regulation 9)

The appointments must be in writing and the responsibilities clearly stated together with the period for which the appointment is made. This information must be communicated and agreed with the appointees.

Copies of appointments must be submitted to the RAL together with concise CV's of the appointees. All appointments must be officially approved by RAL. Any changes in appointees or appointments must be communicated to RAL forthwith.

The Principal Contractor must, furthermore, provide RAL with an organogram of all Contractors that he/she has appointed or intends to appoint and keep this list updated on a weekly basis.

In addition, RAL may require that a Traffic Safety Officer be appointed for any project.

(iii) Designation of OH&S Representatives (Section 18 of the OHS Act)

OH&S Representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

(iv) Duties and Functions of the OH&S Representatives (Section 19 of the OHS Act)

The Principal Contractor must ensure that the designated OH&S Representatives conduct a minimum monthly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal Contractor

OH&S representatives must be included in accident/incident investigations

OH&S representatives must attend all OH&S committee meetings.

(v) Appointment of OH&S Committee (Section 20 of the OHS Act)

The Principal Contractor must establish an OH&S Committee consisting of all the designated OH&S Representatives together with a number of management representatives that are not allowed to exceed the number of OH&S representatives on the committee and a representative of the Client who shall act as the chairman without a vote. The members of the OH&S committee must be appointed in writing.

The OH&S Committee must meet minimum monthly and consider, at least, the following Agenda:

1. Opening & Welcome
2. Present/Apologies/Absent
3. Minutes of previous Meeting
4. Matters Arising from the previous Minutes
5. OH&S Reps Reports
6. Incident Reports & Investigations

7. Incident/Injury Statistics
8. Other Matters
9. Endorsement of Registers and other statutory documents by a representative of the Principal Contractor
10. Close/Next Meeting

(d) Administrative Controls and the Occupational Health & Safety File

(i) The OH&S File (Construction Regulation 5 (7))

As required by Construction Regulation 5(7), the Principal Contractor and other Contractors will each keep an OH&S File on site containing the following documents as a minimum:

* Notification of Construction Work (Construction Regulation 3.)
* Copy of OH&S Act (updated) (General Administrative Regulation 4.)
* Proof of Registration and good standing with a COID Insurer (Construction Regulation 4 (g))
* OH&S Programme agreed with the Client including the underpinning Risk Assessment/s & Method Statements (Construction regulation 5 (1))
* Copies of OH&S Committee and other relevant Minutes
* Designs/drawings (Construction Regulation 5 (8))
* A list of Contractors (Sub-Contractors) including copies of the agreements between the parties and the type of work being done by each Contractor (Construction Regulation 9)
* Appointment/Designation forms as per (a)(i) & (ii) above.
* Registers as follows:
* Accident/Incident Register (Annexure 1 of the General Administrative Regulations)
* OH&S Representatives Inspection Register
* Asbestos Demolition & Stripping Register
* Batch Plant Inspections
* Construction Vehicles & Mobile Plant Inspections by Controller
* Daily Inspection of Vehicles. Plant and other Equipment by the Operator/Driver/User
* Demolition Inspection Register
* Designer's Inspection of Structures Record
* Electrical Installations, -Equipment & -Appliances (including Portable Electrical Tools)
* Excavations Inspection
* Explosive Powered Tool Inspection, Maintenance, Issue & Returns Register (incl. cartridges & nails)

* Fall Protection Inspection Register
* First Aid Box Contents
* Fire Equipment Inspection & Maintenance
* Formwork & Support work Inspections
* Hazardous Chemical Substances Record
* Ladder Inspections
* Lifting Equipment Register
* Materials Hoist Inspection Register
* Machinery Safety Inspection Register (incl. machine guards, lock-outs etc.)
* Scaffolding Inspections
* Stacking & Storage Inspection
* Inspection of Structures
* Inspection of Suspended Platforms
* Inspection of Tunnelling Operations
* Inspection of Vessels under Pressure
* Welding Equipment Inspections
* Inspection of Work conducted on or Near Water
* All other applicable records

RAL will conduct an audit on the OH&S file of the Principal Contractor from time-to-time.

(e) OH&S Goals & Objectives & Arrangements for Monitoring & Review of OH&S Performance

The Principal Contractor is required to maintain a CIFR of at least 8 (See Annexure 1. to this document: “Measuring Injury Experience) and report on this to RAL on a monthly basis

(f) Notification of Construction Work (Construction Regulation 3.)

The Principal Contractor must, where the Contract meets the requirements laid down in Construction Regulation 3, within 5 working days, notify the Department of Labour of the intention to carry out construction work and use the form (Annexure A in the Construction Regulations) for the purpose. A copy must be held on the OH&S File and a copy must be forwarded to RAL for record keeping purposes.

(g) Training, Awareness and Competence

The contents and syllabi of all training required by the Act and Regulations are to be included in the Principal Contractor’s OH&S Plan.

(i) General Induction Training

All members of Contractor's Site management as well as all the persons appointed as responsible for OH&S in terms of the Construction and other Regulations will be required to attend a general induction session by the Client

All employees of the Principal and other Contractors to be in possession of proof of General Induction training.

(ii) Site Specific Induction Training

The Principal Contractor will be required to develop Contract work project specific induction training based on the Risk Assessments for the Contract work and train all employees and other Contractors and their employees in this.

All employees of the Principal and other Contractors to be in possession of proof of Site Specific OH&S Induction training at all times.

(iii) Other Training

All operators, drivers and users of construction vehicles, mobile plant and other equipment to be in possession of valid proof of training.

All employees in jobs requiring training in terms of the Act and Regulations to be in possession of valid proof of training as follows:

OH&S Training Requirements: (as required by the Construction Regulations and as indicated by the OH&S Specification & the Risk Assessment/s):

* General Induction (Section 8 of the Act)
* Site/Job Specific Induction (also visitors) (Sections 8 & 9 of the Act)
* Site/Project Manager
* Construction Supervisor
* OH&S Representatives (Section 18 (3) of the Act)
* Training of the Appointees indicated above
* Operators & Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
* Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction regulation 27)
* Basic First Aid (General Safety Regulations 3)
* Storekeeping Methods & Safe Stacking (Construction Regulation 26)
* Emergency, Security and Fire Co-coordinator

(iv) Awareness & Promotion

The Principal Contractor is required to have a promotion and awareness scheme in place to create an OH&S culture in employees.

The following are some of the methods that may be used:

- Toolbox Talks
- OH&S Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as OH&S Safety circles.

(v) Competence

The Principal Contractor shall ensure that his and other Contractors personnel appointed are competent and that all training required to do the work safely and without risk to health, has been completed before work commences

The Principal Contractor shall ensure that follow-up and refresher training is conducted as the contract work progresses and the work situation changes.

Records of all training must be kept on the OH&S File for auditing purposes.

(h) Consultation, Communication and Liaison

OH&S Liaison between the Client, the principal Contractor, the other Contractors, the Designer and other concerned parties will be through the OH&S committee as contemplated in above.

In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.

Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S committee and their elected Trade Union Representatives, if any.

The Principal Contractor will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/ situations etc.

The Principal Contractor will be required to do Site Safety Walks with RALat least on a basis to be determined between the two parties.

The Principal and other Contractors will be required to conduct Toolbox Talks with their employees on a weekly basis and records of these must be kept on the OH&S File. Employees

must acknowledge the receipt of Toolbox Talks which record must, likewise be kept on the OH&S File.

The Principal Contractors most senior manager on site will be required to attend all RAL OH&S meetings and a list of dates, times and venues will be provided to the Principal Contractor by RAL.

(i) Checking, Reporting and Corrective Actions

(i) Monthly Audit by Client (Construction Regulation 1(d))

RAL will be conducting a Monthly Audit to comply with Construction Regulation 4(1)(d) to ensure that the principal Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

(ii) Other Audits and Inspections by RAL:

RAL reserves the right to conduct other ad hoc audits and inspections as deemed necessary. This will include Site Safety Walks.

(iii) Conducting an Audit

A representative of the Principal Contractor must accompany RAL on all Audits and Inspections and may conduct his/her own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results.

(iv) Contractor's Audits and Inspections

The Principal Contractor is to conduct his own monthly internal audits to verify compliance with his own OH&S Management system as well as of with this specification.

(v) Inspections by OH&S Representative's and other Appointees

OH&S Representatives must conduct weekly inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments e.g. vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

(vi) Recording and Review of Inspection Results

All the results of the abovementioned inspections to be in writing, reviewed at OH&S committee meetings, endorsed by the chairman of the meeting and placed on the OH&S File.

(vii) Reporting of Inspection Results

The Principal Contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 2: "SHE Risk Management Report"

(j) Incident Reporting and Investigation

Reporting of Accidents and Incidents (Section 24 and General Administrative Regulation 8 of the OHS Act)

The Principal Contractor must report all incidents where an employee is injured on duty to the extent that he/she:

* dies
* becomes unconscious
* loses a limb or part of a limb
* is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

OR where:

* a major incident occurred
* the health or safety of any person was endangered
* where a dangerous substance was spilled
* the uncontrolled release of any substance under pressure took place
* machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
* machinery ran out of control

To RAL within two days and to the Provincial Director of the Department of Labour within seven days (Section 24 of the Act & General Administrative Regulation 8.) EXCEPT that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both RAL and the Provincial Director of the Department of Labour forthwith by telephone, telefax or E-mail.

The Principal Contractor is required to provide RAL with copies of all statutory reports required in terms of the Act within 7 days of the incident occurring.

The Principal Contractor is required to provide RAL with copies of all internal and external accident/incident investigation reports including the reports contemplated below within 7 days of the incident occurring.

Accident and Incident Investigation (General Administrative Regulation 9)

The Principal Contractor is responsible for the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to be referred for medical treatment by a doctor, hospital or clinic

The results of the investigation to be entered into the Accident/Incident Register listed in above.

The Principal Contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24 (1) (b) & (c) of the Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The RAL reserves the right to hold its own investigation into an incident or call for an independent external investigation.

C 3.6.2.4 Operational Control

(a) Emergency Preparedness, Contingency Planning and Response

The Principal Contractor must appoint a competent person to act as Emergency Controller/Coordinator.

The Principal Contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that RAL may have in place.

The Principal Contractor and the other Contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

(b) First Aid (General Safety Regulation 3)

The Principal Contractor must provide First Aid equipment (including a stretcher) and have qualified First Aider/s as required by General Safety Regulation 3 of the OHS Act.

The Contingency Plan of the Principal Contractor must include the arrangements for speedily and timeously transporting injured/ill person/s to a medical facility or of getting emergency medical aid to person/s that may require it.

The Principal Contractor must have firm arrangements with his other Contractors in place regarding the responsibility of the other Contractors injured/ill employees

(c) Security

The Principal Contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees will not be allowed on site unaccompanied.

The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period

(d) Fall Protection (Working in Elevated Positions (Construction regulation 8.)

A pre-emptive Risk Assessment will be required for any work to be carried out above two metres from the ground or any floor level and will be classified as “Work in Elevated Positions”.

As far as is practicable, any person working in an elevated position will work from a platform, ladder or other device that is at least as safe as if he/she is working at ground level and whilst working in this position be wearing a single belt with lanyard that will be worn to prevent the

person falling from the platform, ladder or other device utilised. This safety belt will be, as far as is possible, secured to a point away from the edge over which the person might fall and the lanyard must be of such a length that the person will not be able to move over the edge.

Alternatively, any platform, slab, deck or surface forming an edge over which a person may fall may be fitted with guard rails at two different heights as prescribed in SABS 085: Code of Practice for the Design, Erection, Use and Inspection of Access Scaffolding.

Where the requirement in is not practicable, the person will be provided with a full bodyharness that will be worn and attached above the wearer's head at all times and the lanyard must be fitted with a shock absorbing device OR the person must be attached to an approved, by RAL, fall arrest system.

Where the requirements are not practicable, a suitable catch net must be erected.

Workers working in elevated positions must be trained to do this safely and without risk to health

Where work on roofs is carried out, the Risk Assessment must take into account the possibility of persons falling through fragile material. Skylights and openings in the roof.

C3.6.2.5 Measurement and Payment

Payment for the contractor's obligations in respect of the Occupational Health and Safety act and Construction Regulations shall be made through three payment items described below. The three payment items together shall include full compensation for all personnel (including a dedicated full time Construction Safety Officer), cost and incidentals in respect of compliance with the enforcement of the Health and Safety Specifications, which shall include for the compilation, presentation, implementation and maintenance of the Health and Safety Plan as contemplated. In tendering rates for thethree items the contractor shall ensure that the sum of the amounts for the three items shall not be less than one percent (1%) of the Tender Amount.

Item		Unit
C1.1	**Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations**	Lump Sum

The full amount will be paid in one instalment only once: -

(a) The contractor has notified the Provincial Director of the Department of Labour in writing of the project.

(b) The contractor has made the required initial appointments of employees and sub-contractors.

(c) The client has approved the contractor's Health and Safety Plan.

(d) The contractor has set up his Health and Safety File.

Item	Unit
C1.2 Contractor's time-related obligations in respect of the Occupational Health and Safety Act and Construction Regulations	Month

The tendered monthly amount shall represent full compensation for that part of the contractor's general obligations in terms of the Occupational Health and Safety Act and the Construction Regulations which are mainly a function of time. This includes inter alia payment of all costs for the appointment of all staff contemplated in the construction regulations and the transport of employees on site. Payment will be monthly only after payment for Item **C1.1** has been made.

Item	Unit
C1.3 Submission of the Health and Safety File	Lump Sum

The tendered lump sum shall represent full compensation for the contractor meeting all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and for the preparation and submission of his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

This amount will be paid only once the contractor has met all his obligations in respect of the Occupational Health and Safety Act and the Construction Regulations and has submitted his Health and Safety File complete as envisaged on this specification to the Client's satisfaction.

C3.6.2.6 Project/Site Specific Requirements

See Annexure 3

Annexure 1: Measuring Injury Experience

Annexure 2: SHE Risk Management Report

Annexure 3. List of Risk Assessments

ANNEXURE 1: MEASURING INJURY EXPERIENCE

Injury experience has traditionally been measured by the use of a disabling injury frequency rate, the so-called “DIFR”. The DIFR is calculated by multiplying the number of disabling injuries by 1 million and dividing by the number of man-hours worked.

Lately the DIFR has been replaced internationally with a DIIR: disabling injury incidence rate. The only difference between the two rates are that the 10 million in the calculation is replaced with 200 000. (200 000 purported to be the number of hours and average person works in a lifetime.)

The use of the two rates above has proved to be somewhat problematical as they are open to manipulation and disabling injuries are often “hidden” by returning the injured employee to the workplace so as not to lose a shift and therefore having to register a disabling injury.

The Construction Industry recently decided to promote the use of a new frequency rate based on the number of compensation injury claims as these are more difficult to hide or manipulate because the reporting of compensable injuries is a legal requirement.

The industry is hoping that adoption of this new measurement of injury experience will enable the industry to monitor itself as far as work related injuries are concerned.

Below follows an explanation of this new rating system.

COMPENSATION INCIDENCE FREQUENCY RATE (CIFR)

FORMULA

No. of Compensation Claims X 200 000 /

*220 man hours X No. of Employees

DEFINITIONS

No. of Compensation

Claims: **The number of claims lodged with the COID insurer for the period under review**

200 000: The fixed factor to align the rate with other rates used internationally

Manhours Worked

Include:
* Hourly Paid Employees
* Sub-CONTRACTOR s (No. of Employees X *220 each)
* Staff (No. of Employees X *220 hours each)

220 manhours: The *average number of hours worked by one employee in one month in the Construction industry.

* Overtime, absence on leave or sick leave, unrecorded after hours time worked by senior and middle management factored into this average.

No. of Employees: The actual or average number of employees employed

for the period under review.

2002/03 CIFR System

ANNEXURE 2: EXECUTIVE SHE RISK MANAGEMENT REPORT

The SAFCEC OH&S committee recently developed the following report in an attempt to standardise on reporting and assist contractors in obtaining a clear picture of their SHE Risk Management performance. It is hoped that clients will also accept this standardised report. Your comments/suggestions for improvement is invited.

EXAMPLE ONLY: ALL INFORMATION IS FICTITIOUS

XYZ CONSTRUCTION

*SHE RISK MANAGEMENT REPORT

PERIOD JANUARY TO MARCH 2002

*(SHE = Safety, Health & Environment)

1. Introduction

We hope that this new format of quarterly SHE Risk Management reporting will provide a clear picture of the company's performance as far as occupational health & safety is concerned.

The first quarter of 2002 generally reflected an improvement in injury experience and shows a decline in the number of injuries. Although Building was the only division where there was an increase in compensation claims, figures are still well down from the average 2001 figures. A sub-contractor experienced one fatality.

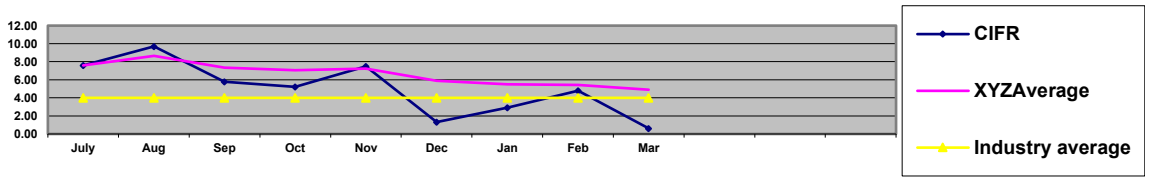
All divisions are eagerly awaiting the final implementation in May of the new electronic SHE Management system that will make the tools to implement the SHE programme available to all management and supervisory staff.

2. Incident Statistics

Compensation Incident Frequency Rate (CIFR)

CIFR = Total No. of Claims against the Workmen's Compensation Fund X 200 000

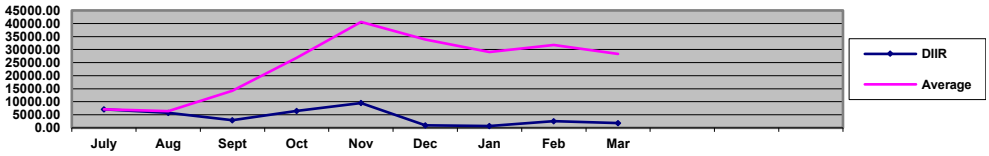
Manhours worked



2.2.

Disabling Injury Incidence Rate (DIIR)

DIIR = No. Disabling Injuries X 200 000 / Manhours worked



2.3. Other Major Incidents

Three other major incidents were experienced in the period under review:

2.3.1. A major trench collapsed at Job. 00123: XYZ Head Office, Bochum: No personnel injured, extensive damage to foundations: 3 days delay.

2.3.2. A concrete dumper ran away when its brakes failed. It smashed into the glass façade of the building on Job 00332: McDonalds, Polokwane. The driver jumped off and was not injured. Cost of damage to façade: R45 000.

2.3.3. A storage hut on Job 00567: BP Petrol Station, Swartruggens was demolished by fire when the night watchman made a fire inside the storage hut which contained concrete vibrators and levelling machines. Cost of replacing the hut and machines: R30 000

3. RISK AREAS

The following items of concern need priority consideration by management:

3.1. New employees must undergo pre-employment medical examinations to:

- protect XYZ from claims at a later stage
- ensure that only healthy persons are employed
- prevent injuries and illness in the workplace
- enhance XYZ image

3.2. Vehicle drivers and plant operators must be instructed to inspect their vehicles daily before start-up using the prescribed checklists to ensure that these are safe to operate and in good condition.

4. MONTHLY AUDITS

The SHE audits shall be completed monthly, and a report must be submitted and kept to record the contractor's compliance.

Example: Three SHE audits were conducted in February and March:

4.1. Job 00432: Gillooly's Mall Compliance: 56%(*)

Job 00786: Cullinan Head Office Compliance: 83%(****)

Job 00589: Cleveland Station Compliance: 76%(***)

5. OHS ENDUCTIONS OR TRAINING

The Contractor must ensure that all local labour and stakeholders shall undergo training prior to the commencement of the project; the record of such training must be kept and files.

Example: One hundred and forty-two employees, representing 7% of employees, attended nine training courses. *Our objective is to train 5,5% of employees quarterly.

Month	No. of Employees Trained	Course	Source
January	26 15 3	Induction OH&S Reps Crane Drivers	Internal Consultant External
February	23 17	Induction OH&S Reps	Internal Consultant
March	43 9 3 3	Induction OH&S Reps Bomag Rollers First Aiders	Internal Consultant Supplier St. John's

6. LEGAL ISSUES

6.1. An inspector of the Department of Labour issued an improvement notice on Job 00987: Gillooly's Mall. The notice requires that all scaffolding comply with the SABS standards for the Erection and Maintenance of Access Scaffolding (SABS 085). This is currently being attended to and the inspector will return on 15 April 2002 to ascertain if the notice has been complied with.

8. OCCUPATIONAL AND OTHER HEALTH MATTERS

8.1. HIV Aids

The proposed SAFCEC clinic will soon be operational, and we will then be able to send our employees who have tested positive to the clinic for counselling and eventual treatment when necessary

The mobile clinic saw and tested fifty employee volunteers at 3 sites this month. Eighteen of them tested positive.

8.2. Tuberculosis

The mobile clinic will be calling at Gillooly's Mall and Cleveland Station on 15 and 16 October respectively to screen employees for TB.

8.3. Noise

All suspected noise pollution areas have been tested and the results are awaited. Employees working in areas testing over 85dBa will be issued with suitable hearing protectors.

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C3: Scope of Work:

C3.7 Environmental Specifications

ENVIRONMENTAL MANAGEMENT PLAN

CONTENTS

C3.7.1. SCOPE

This environmental management plan (EMP) sets out the methods by which proper environmental controls are to be implemented by the contractor. The duration over which the contractor's controls shall be in place cover the construction period of the project as well as the limited time after contract completion defined by the General Conditions of Contract, and the project specifications, as the defects notification period (maintenance period).

The provisions of this EMP are binding on the contractor during the life of the contract. They are to be read in conjunction with all the documents that comprise the suite of documents for this contract. In the event that any conflict occurs between the terms of the EMP and the project specifications or Record of Decision, the terms herein shall be subordinate.

The EMP is a dynamic document subject to similar influences and changes as are brought by variations to the provisions of the project specification. Any substantial changes shall be submitted to the Roads Agency Limpopo in writing for approval.

The EMP identifies the following:

Construction activities that will impact the environment. Specifications with which the contractor shall comply in order to protect the environment from the identified impacts. Actions that shall be taken in the event of non-compliance.

C3.7.2. DEFINITIONS

Alien Vegetation: Alien vegetation is defined as undesirable plant growth which shall include, but not be limited to, all declared category 1 and 2 listed invader species as set out in the Conservation of Agricultural Resources Act (CARA) regulations. Other vegetation deemed to be alien shall be those plant species that show the potential to occupy in number, any area within the defined construction area and which are declared to be undesirable.

Construction Activity: a construction activity is any action taken by the contractor, his subcontractors, suppliers or personnel during the construction process as defined in the South African National Roads Agency Limited and National Roads Act, 1998 (Act No. 7, 1998)

Environment: environment means the surroundings within which humans exist and that could be made up of -

- the land, water and atmosphere of the earth;
- micro-organisms, plant and animal life;
- any part or combination of (i) and (ii) and the interrelationships among and between them; and
- the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

Environmental Aspect: an environmental aspect is any component of a contractor's construction activity that is likely to interact with the environment.

Environmental Impact: an impact or environmental impact is the change to the environment, whether desirable or undesirable, that will result from the effect of a construction activity. An impact may be the direct or indirect consequence of a construction activity.

C3.7.3 IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

The contractor shall identify likely aspects before commencing with any construction activity. Examples of environment aspects include:

- waste generation
- stormwater discharge
- emission of pollutants into the atmosphere
- chemical use operations
- energy use operations
- water use operations
- use of natural resources
- noise generation

Thereafter the contractor shall programme his work in such a way that each cause and effect of a construction activity is also identified and the activity planned so as to prevent any impact from happening. If prevention is not practicable, or in the event of mishap or misapplication, the contractor shall provide plans and measures for the engineer's approval, which will limit and contain the magnitude, duration and intensity of the impact. The contractor shall demonstrate that he/she is capable of carrying out any repair and reinstatement of the damaged environment. These requirements shall be concurrent with the time constraints to produce an approved construction programme according to subclause 8.3 as amended by Particular Condition of the general conditions of contract and clause B1204 of these project specifications.
Listed below are some environmental impacts that could adversely alter an aspect of the environment through usual construction activities:

- Pollution of atmosphere, soil or water
- Destruction or removal of fauna and flora and effect on biological diversity
- Deformation of the landscape
- Soil erosion
- Destruction of historical/heritage sites
- Effect on the built environment
- Effect on agricultural land and wetlands
- General good construction practice will play an important role in avoiding the occurrence of an Impact. The contractor's attention is drawn, in this regard, to C1008. Environmental Management of Construction Activities

C.3.7.3 LEGAL REQUIREMENTS

a) General
Construction will be according to the best industry practices, as identified in the project documents. This EMP, which forms an integral part of the contract documents, informs the contractor as to his duties in the fulfilment of the project objectives, with particular reference to the prevention and mitigation of environmental impacts caused by construction activities associated with the project. The contractor should note that obligations imposed by the EMP are legally binding in terms of environmental statutory legislation and in terms of the additional conditions to the general conditions of contract that pertain to this project. In the event that any rights and obligations contained in this document contradict those specified in the standard or project specifications then the latter shall prevail.

b) Statutory and other applicable legislation
The contractor is deemed to have made himself conversant with all legislation pertaining to the environment, including provincial and local government ordinances, which may be applicable to the contract.

C3.7.4 ADMINISTRATION OF ENVIRONMENTAL OBLIGATIONS

a) Appointment of a Designated Environmental Officer (DEO)
For the purposes of implementing the conditions contained herein, the contractor shall submit to the engineer for approval the appointment of a nominated representative of the contractor as the DEO for the contract. The request shall be given, in writing, at least fourteen days before the start of any work clearly setting out reasons for the nomination, and with sufficient detail to enable the engineer to make a decision. The engineer will, within seven days of receiving the request, approve, reject or call for more information on the nomination. Once a nominated representative of the contractor has been approved he/she shall be the DEO and shall be the responsible person for ensuring that the provisions of the EMP are complied with during the life of the contract. The engineer will be responsible for issuing instructions to the contractor where environmental considerations call for action to be taken. The DEO shall submit regular written reports to the engineer, but not less frequently than once a month.
The engineer shall have the authority to instruct the contractor to replace the DEO if, in the engineer's opinion, the appointed officer is not fulfilling his/her duties in terms of the requirements of the EMP or this specification. Such instruction will be in writing and shall clearly set out the reasons why a replacement is required.
There shall be an approved DEO on the site at all times.

b) Administration
Before the contractor begins each construction activity the DEO shall give to the engineer a written statement setting out the following: The type of construction activity. Locality where the activity will take place. Identification of the environmental aspects and impacts that might result from the activity. Methodology for impact prevention for each activity or aspect. Methodology for impact containment for each activity or aspect. Emergency/disaster incident and reaction procedures. Treatment and continued maintenance of impacted environment.

The contractor may provide such information in advance of any or all construction activities provided that new submissions shall be given to the engineer whenever there is a change or variation to the original. The engineer may provide comment on the methodology and procedures proposed by the DEO, but he shall not be responsible for the contractor's chosen measures of impact mitigation and emergency/disaster management systems. However, the contractor shall demonstrate at inception and at least once during the contract that the approved measures and procedures function properly.

c) Good Housekeeping
The Contractor shall undertake "good housekeeping" practices during construction as stated in clause 1217 of the COLTO Standard Specifications for Roads and Bridges and sub-clauses 4.18 and 11.11 of the General Conditions of Contract. This will help avoid disputes on responsibility and allow for the smooth running of the contract as a whole. Good housekeeping extends beyond the

wise practice of construction methods that leaves production in a safe state from the ravages of weather to include the care for and preservation of the environment within which the site is situated.

C.3.7.5 TRAINING

The designated environmental officer (DEO) must be conversant with all legislation pertaining to the environment applicable to this contract and must be appropriately trained in environmental management and must possess the skills necessary to impart environmental management skills to all personnel involved in the contract.
The contractor shall ensure that adequate environmental training takes place. All employees shall have been given an induction presentation on environmental awareness. Where possible, the presentation needs to be conducted in the language of the employees. The environmental training should, as a minimum, include the following:

- The importance of conformance with all environmental policies
- The environmental impacts, actual or potential, of their work activities;
- The environmental benefits of improved personal performance;
- Their roles and responsibilities in achieving conformance with the environmental policy and procedures and with the requirement of DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY's (DPKISLM's) environmental management systems, including emergency preparedness and response requirements;
- The potential consequences of departure from specified operating procedures;
- The mitigation measures required to be implemented when carrying out their work activities.

In the case of permanent staff the contractor shall provide evidence that such induction courses have been presented. In the case of new staff (including contract labour) the contractor shall inform the engineer when and how he/she intends concluding his environmental training obligations.

C.3.7.6. ACTIVITIES/ASPECTS CAUSING IMPACTS

A list of possible causes of environmental impacts that occur during construction activities is given in Table 7/1: Aspects or Activities that Cause Environmental Impacts during Construction Activities, which is to be found at the end of this part. This list is not exhaustive and shall be used for guideline purposes only.

C.3.7.7. ENVIRONMENTAL MANAGEMENT OF CONSTRUCTION ACTIVITIES

a) Site Establishment

i) Site Plan

The contractor shall establish his construction camps, offices, workshops, staff accommodation and testing facilities on the site in a manner that does not adversely affect the environment. However, before construction can begin, the contractor shall submit to the engineer for his approval, plans of the exact location, extent and construction details of these facilities and the impact mitigation measures the contractor proposes to put in place.
The plans shall detail the locality as well as the layout of the waste treatment facilities for litter, kitchen refuse, sewage and workshop-derived effluents. The site offices should not be sited in close proximity to steep areas, as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the offices, and in particular the ablution facilities, aggregate stockpiles, spoil areas and hazardous material stockpiles are located as far away as possible from any water course as possible. Regardless of the chosen site, the contractor's intended mitigation measures shall be indicated on the plan. The site plan shall be submitted not later than the first site meeting. Detailed, electronic colour photographs shall be taken of the proposed site before any clearing may commence. These records are to be kept by the engineer for consultation during rehabilitation of the site.

ii) Vegetation

The contractor has a responsibility to inform his staff of the need to be vigilant against any practice that will have a harmful effect on vegetation.
The natural vegetation encountered on the site is to be conserved and left as intact as possible. Vegetation planted at the site shall be indigenous and in accordance with instructions issued by the engineer. Only trees and shrubs directly affected by the works, and such others as may be indicated by the engineer in writing, may be felled or cleared. In wooded areas where natural vegetation has been cleared out of necessity, the same species of indigenous trees as were occurring, shall be re-established.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien species that propagates during the contract period shall be cleared by hand before seeding. (Read in conjunction with COLTO Specification 5801(b), 5802(b), (c), (d) and (e), 5804, 5805, 5806 and 5807). Fires shall only be allowed in facilities or equipment specially constructed for this purpose. A firebreak shall be cleared and maintained around the perimeter of the camp and office sites.

iii) Rehabilitation

The area where the site offices were erected will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas shall be removed from the site on completion of the contract.

iv) Water for human consumption

Water for human consumption shall be available at the site offices and at other convenient locations on site.
All effluent water from the camp / office sites shall be disposed of in a properly designed and constructed system, situated so as not to adversely affect water sources (streams, rivers, pans dams etc). Only domestic type wastewater shall be allowed to enter this drain.

v) Heating and Cooking fuel

The contractor shall provide adequate facilities for his staff so that they are not encouraged to supplement their comforts on site by accessing what can be taken from the natural surroundings. The contractor shall ensure that energy sources are available at all times for construction and supervision personnel for heating and cooking purposes.

b) Sewage treatment

Particular reference in the site establishment plan shall be given to the treatment of sewage generated at the site offices, site laboratory and staff accommodation and at all localities on the site where there will be a concentration of labour. Sanitary arrangements should be to the satisfaction of project management, the local authorities and legal requirements.

Safe and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak-aways, dry-composting toilets such as “enviro loos”, or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets. Should a soak-away system be used, it shall not be closer than 800 metres from any natural water course or water retention system. The waste material generated from these facilities shall be serviced on a regular basis. The positioning of the chemical toilets shall be done in consultation with the engineer. Read with SABS 1200.

Toilets and latrines shall be easily accessible and shall be positioned within walking distance from wherever employees are employed on the works. Use of the veld for this purpose shall not, under any circumstances, be allowed.
Outside toilets shall be provided with locks and doors and shall be secured to prevent them from blowing over. The toilets shall also be placed outside areas susceptible to flooding. The contractor shall arrange for regular emptying of toilets and shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the engineer.

c) Waste Management

The contractor's intended methods for waste management and waste minimisation shall be implemented at the outset of the contract. All personnel shall be instructed to dispose of all waste in the proper manner.

i) Solid Waste

Solid waste shall be stored in an appointed area in covered, tip proof metal drums for collection and disposal. A refuse control system shall be established for the collection and removal of refuse to the satisfaction of the engineer. Disposal of solid waste shall be at a Department of Water Affairs and Forestry (DWAF) licensed landfill site or at a site approved by DWAF in the event that an existing operating landfill site is not within reasonable distance from the site offices and staff accommodation. No waste shall be burned or buried at or near the site offices, nor anywhere else on the site, including the approved solid waste disposal site. Read with SANS 1200 Specifications.

ii) Litter

No littering by construction workers shall be allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site shall be kept free of litter.
Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse. At all places of work the contractor shall provide litter collection facilities for later safe disposal at approved sites. (SANS 1200 Specifications)

iii) Hazardous waste

Hazardous waste such as bitumen, tar, oils etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care shall be taken to avoid spillage of tar or bitumen products such as binders or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

Under no circumstances shall the spoiling of tar or bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected tar or bituminous products shall be returned to the supplier's production plant. Any spillage of tar or bituminous products shall be attended to immediately and affected areas shall be promptly reinstated to the satisfaction of the engineer.

d) Control at the workshop

The contractor's management and maintenance of his plant and machinery will be strictly monitored according to the criteria given below, regardless whether it is serviced on the site (i.e. at the place of construction activity or at a formalised workshop).

i) Safety

All the necessary handling and safety equipment required for the safe use of petrochemicals and oils shall be provided by the contractor to, and used or worn by, the staff whose duty it is to manage and maintain the contractor's and his subcontractor's and supplier's plant, machinery and equipment.

ii) Hazardous Material Storage

Petrochemicals, oils and identified hazardous substances shall only be stored under controlled conditions. All hazardous materials e.g. tar or bitumen binders shall be stored in a secured, appointed area that is fenced and has restricted entry. Storage of tar or bituminous products shall only take place using suitable containers to the approval of the engineer.

The contractor shall provide proof to the engineer that relevant authorisation to store such substances has been obtained from the relevant authority. In addition, hazard signs indicating the nature of the stored materials shall be displayed on the storage facility or containment structure. Before containment or storage facilities can be erected the contractor shall furnish the engineer with details of the preventative measures, he proposes to install in order to mitigate against pollution of the surrounding environment from leaks or spillage.

The preferred method shall be a concrete floor that is bunded. Any deviation from the method will require proof from the relevant authority that the alternative method proposed is acceptable to that authority. The proposals shall also indicate the emergency procedures in the event of misuse or spillage that will negatively affect an individual or the environment.

iii) Fuel and Gas Storage

Fuel shall be stored in a secure area in a steel tank supplied and maintained by the fuel suppliers. An adequate bund wall, 110% of volume, shall be provided for fuel and diesel areas to accommodate any leakage spillage or overflow of these substances. The area inside the bund wall shall be lined with an impervious lining to prevent infiltration of the fuel into the soil. Any leakage, spillage or overflow of fuel shall be attended to without delay.
Gas welding cylinders and LPG cylinders shall be stored in a secure, well-ventilated area.

iv) Oil and Lubricant Waste

Used oil, lubricants and cleaning materials from the maintenance of vehicles and machinery shall be collected in a holding tank and sent back to the supplier. Water and oil should be separated in an oil trap. Oils collected in this manner, shall be retained in a safe holding tank and removed from site by a specialist oil recycling company for disposal at approved waste disposal sites for toxic/hazardous materials. Oil collected by a mobile servicing unit shall be stored in the service unit's sludge tank and discharged into the safe holding tank for collection by the specialist oil recycling company.

All used filter materials shall be stored in a secure bin for disposal off site. Any contaminated soil shall be removed and replaced. Soils contaminated by oils and lubricants shall be collected and disposed of at a facility designated by the local authority to accept contaminated materials.

e) Clearing the Site

In all areas where the contractor intends to, or is required to clear the natural vegetation and soil, either within the road reserve, or at designated or instructed areas outside the road reserve, a plan of action shall first be submitted to the engineer for his approval.
The plan shall contain a photographic record and chainage/land reference of the areas to be disturbed. This shall be submitted to the engineer for his records before any disturbance/stockpiling may occur. The record shall be comprehensive and clear, allowing for easy identification during subsequent inspections.

The contractor shall be responsible for the re-establishment of grass within the road reserve boundaries for all areas disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for, or from, road construction has to be stored temporarily or otherwise within the road reserve, or at designated or instructed areas outside the road reserve. This responsibility shall extend until expiry of the defects notification period.

f) Soil Management

i) Topsoil

Topsoil shall be removed from all areas where physical disturbance of the surface will occur and shall be stored and adequately protected. The contract will provide for the stripping and stockpiling of topsoil from the site for later re-use. Topsoil is considered to be the natural soil covering, including all the vegetation and organic matter. Depth may vary at each site. The areas to be cleared of topsoil shall include the storage areas. All topsoil stockpiles and windrows shall be maintained throughout the contract period in a weed-free condition.

Weeds appearing on the stockpiled or windrowed topsoil shall be removed by hand. Soils contaminated by hazardous substances shall be disposed of at an approved Department of Water Affairs and Forestry waste disposal site. (Read with SANS 1200 Specifications). The topsoil stockpiles shall be stored, shaped and sited in such a way that they do not interfere with the flow of water to cause damming or erosion, or itself be eroded by the action of water. Stockpiles of topsoil shall not exceed a height of 2m, and if they are to be left for longer than 6

months, shall be analysed, and if necessary, upgraded before replacement. Stockpiles shall be protected against infestation by weeds.

The contractor shall ensure that no topsoil is lost due to erosion – either by wind or water. Areas to be topsoiled and grassed shall be done so systematically to allow for quick cover and reduction in the chance of heavy topsoil losses due to unusual weather patterns. The contractor's programme shall clearly show the proposed rate of progress of the application of topsoil and grassing. The contractor shall be held responsible for the replacement, at his own cost, for any unnecessary loss of topsoil due to his failure to work according to the progress plan approved by the engineer. The contractor's responsibility shall also extend to the clearing of drainage or water systems within and beyond the boundaries of the road reserve that may have been affected by such negligence.

ii) Subsoil

The subsoil is the layer of soil immediately beneath the topsoil. It shall be removed, to a depth instructed by the engineer, and stored separately from the topsoil if not used for road building. This soil shall be replaced in the excavation in the original order it was removed for rehabilitation purposes.

g) Drainage

The quality, quantity and flow direction of any surface water runoff shall be established prior to disturbing any area for construction purposes. Cognisance shall be taken of these aspects and incorporated into the planning of all construction activities. Before a site is developed or expanded, it shall be established how this development or expansion will affect the drainage pattern. Recognised water users / receivers shall not be adversely affected by the expansion or re-development. No water source shall be polluted in any way due to proposed changes.

Streams, rivers, pans, wetlands, dams, and their catchments shall be protected from erosion and from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous or tar products.

The contractor shall submit to the engineer his proposals for prevention, containment and rehabilitation measures against environmental damage of the identified water and drainage systems that occur on the site. Consideration shall be given to the placement of sedimentation ponds or barriers where the soils are of a dispersive nature or where toxic fluids are used in the construction process. The sedimentation ponds must be large enough to contain runoff so that they function properly under heavy rain conditions.

h) Earthworks and Layer works

This section includes all construction activities that involve the mining of all materials, and their subsequent placement, stockpile, spoil, treatment or batching, for use in the permanent works, or temporary works in the case of deviations. Before any stripping prior to the commencement of construction, the contractor shall have complied with the requirements of sections C1008 (e) and C1008 (g). In addition, the contractor shall take cognisance of the requirements set out below.

i) Quarries and borrow pits

The contractor's attention is drawn to the requirement of the Department of Minerals and Energy, that before entry into any quarry or borrow pit, an EMP for the establishment, operation and closure of the quarry or borrow pit shall have been approved by the Department. It is the responsibility of the contractor to ensure that he is in possession of the approved EMP or a copy thereof, prior to entry into the quarry or borrow pit. The conditions imposed by the relevant EMP are legally binding on the contractor and may be more extensive and explicit than the requirements of this specification. In the event of any conflict occurring between the requirements of the specific EMP and these specifications the former shall apply. The cost of complying with the requirements shall be deemed to be included in existing rates in the Bill of Quantities. (Read with SANS 1200 Specifications).

ii) Excavation, hauling and placement

The contractor shall provide the engineer with detailed plans of his intended construction processes prior to starting any cut or fill or layer. The plans shall detail the number of personnel and plant to be used and the measures by which the impacts of pollution (noise, dust, litter, fuel, oil, sewage), erosion, vegetation destruction and deformation of landscape will be prevented, contained and rehabilitated. Particular attention shall also be given to the impact that such activities will have on the adjacent built environment. The contractor shall demonstrate his “good housekeeping”, particularly with respect to closure at the end of every day so that the site is left in a safe condition from rainfall overnight or over periods when there is no construction activity. (Read with SANS 1200 Specifications)

iii) Spoil sites

The contractor shall be responsible for the safe siting, operation, maintenance and closure of any spoil site he uses during the contract period, including the defects notification period. This shall include existing spoil sites that are being re-entered. Before spoil sites may be used proposals for their locality, intended method of operation, maintenance and rehabilitation shall be given to the engineer for his approval. The location of these spoil sites shall have signed approval from the affected landowner before submission to the engineer. No spoil site shall be located within 500m of any watercourse. A photographic record shall be kept of all spoil sites for monitoring purposes. This includes before the site is used and after re-vegetation.

The use of approved spoil sites for the disposal of hazardous or toxic wastes shall be prohibited unless special measures are taken to prevent leaching of the toxins into the surrounding environment. Such special measures shall require the approval of the relevant provincial or national authority. The same shall apply for the disposal of solid waste generated from the various camp establishments. The engineer will assist the contractor in obtaining the necessary approval if requested by the contractor.

Spoil sites will be shaped to fit the natural topography. These sites shall receive a minimum of 75mm topsoil and be grassed with the recommended seed mixture. Slopes shall not exceed a vertical: horizontal ratio of 1:3. Only under exceptional circumstances will approval be given to exceed this ratio.

Appropriate grassing measures to minimise soil erosion shall be undertaken by the contractor. This will include both strip and full sodding. The contractor may motivate to the engineer for other acceptable stabilising methods. The engineer may only approve a completed spoil site at the end of the defects notification period upon receipt from the contractor of a landowner’s clearance notice and an engineer’s certificate certifying slope stability (Read with SANS 1200 Specifications). The contractor’s costs incurred in obtaining the necessary certification for opening and closing of spoil sites shall be deemed to be included in the Tendered rates for spoiling.

iv) Stockpiles

The contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the engineer for his approval, together with the contractor’s proposed measures for prevention, containment and rehabilitation against environmental damage.

The areas chosen shall have no naturally occurring indigenous trees and shrubs present that may be damaged during operations. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. During the life of the stockpiles the contractor shall at all times ensure that they are:

- Positioned and sloped to create the least visual impact;
- Constructed and maintained so as to avoid erosion of the material and contamination of surrounding environment; and
- Kept free from all alien/undesirable vegetation.

After the stockpiled material has been removed, the site shall be re-instated to its original condition. No foreign material generated / deposited during construction shall remain on site. Areas affected by stockpiling shall be landscaped, top soiled, grassed and maintained at the contractor's cost until clearance from the engineer and the relevant Authority is received.
Material milled from the existing road surface that is temporarily stockpiled in areas approved by the engineer within the road reserve, shall be subject to the same condition as other stockpiled materials. Excess materials from windrows, in-situ milling or any detritus of material from road construction activities may not be swept off the road and left unless specifically instructed to do so in the contract drawing or under instruction from the engineer
In all cases, the engineer shall approve the areas for stockpiling and disposal of construction rubble before any operation commences and shall approve their clause only when they have been satisfactorily rehabilitated. (Read with SANS 1200 Specifications).

v) Blasting activities
Wherever blasting activity is required on the site (including quarries and/or borrow pits) the contractor shall rigorously adhere to the relevant statutes and regulations that control the use of explosives. In addition, the contractor shall, prior to any drilling of holes in preparation for blasting, supply the engineer with a locality plan of the blast site on which shall be shown the zones of influence of the ground and air shock-waves and expected limits of fly-rock. The plan shall show each dwelling, structure and service within the zones of influence and record all details of the dwellings/structures/services including existing positions, lengths and widths of cracks, as well as the condition of doors, windows, roofing, wells, boreholes etc. The contractor, alone, shall be responsible for any costs that can be attributed to blasting activities, including the collection of fly-rock from adjacent lands and fields.
The submission of such a plan shall not in any way absolve the contractor from his responsibilities in this regard. The contractor shall also indicate to the engineer the manner in which he intends to advertise to the adjacent communities and/or road users the times and delays to be expected for each individual blast.

i) Batching sites
Asphalt plants are considered scheduled processes listed in the second schedule to the Atmospheric Pollution Prevention Act, 1965 (Act No. 45 of 1965). Should the use of an asphalt plant be considered on site, the contractor shall be responsible to obtain the necessary permit from the Department of Environmental Affairs and Tourism, regardless of where they are sited.
Crushing plants and concrete batching plants, whether sited inside or outside of defined quarry or borrow pit areas, shall be subject to the requirements of the Department of Minerals and Energy legislation as well as the applicable industrial legislation that governs gas and dust emissions into the atmosphere. Such sites will be the subject of regular inspections by the relative authorities during the life of the project. In addition, the selection, entry onto, operation, maintenance, closure and rehabilitation of such sites shall be the same as for those under section C1008(h)(iii), with the exception that the contractor shall provide additional measures to prevent, contain and rehabilitate against environmental damage from toxic/hazardous substances. In this regard the contractor shall provide plans that take into account such additional measures as concrete floors, bunded storage facilities, linings to drainage channels and settlement dams. Ultimate approval of these measures shall be from the relevant national authority, as shall approval of closure. The engineer will assist the contractor in his submissions to the relevant authority.
Effluent from concrete batch plants and crusher plants shall be treated in a suitable designated sedimentation dam to the legally required standards to prevent surface and groundwater pollution. The designs of such a facility should be submitted to the engineer for approval.
The contractor shall invite the relevant department to inspect the site within 2 months after any plant is commissioned and at regular intervals thereafter, not exceeding 12 months apart

j) Spillages
Streams, rivers and dams shall be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and tar or bituminous products. In the event of a spillage, the contractor shall be liable to arrange for professional service providers to clear the affected area.

Responsibility for spill treatment lies with the contractor. The individual responsible for, or who discovers a hazardous waste spill must report the incident to his/her DEO or to the engineer.

The Designated Environmental Officer will assess the situation in consultation with the engineer and act as required. In all cases, the immediate response shall be to contain the spill. The exact treatment of polluted soil / water shall be determined by the contractor in consultation with the DEO and the engineer. Areas cleared of hazardous waste shall be re-vegetated according to the engineer's instructions.

Should water downstream of the spill be polluted, and fauna and flora show signs of deterioration or death, specialist hydrological or ecological advice will be sought for appropriate treatment and remedial procedures to be followed. The requirement for such input shall be agreed with the engineer. The costs of containment and rehabilitation shall be for the contractor's account, including the costs of specialist input.

k) Areas of Specific Importance

Any area, as determined and identified within the project document as sensitive or of special interest within the site shall be treated according to the express instructions contained in these specifications or the approved EMP. The contractor may offer alternative solutions to the engineer in writing should he consider that construction will be affected in any way by the hindrance of the designated sensitive area or feature. However, the overriding principle is that such defined areas requiring protection shall not be changed. Every effort to identify such areas within the site will have been made prior to the project going out to Tender. The discovery of other sites with archaeological or historical interest that have not been identified shall require ad hoc treatment.

i) Archaeological Sites

If an artefact on site is uncovered, work in the immediate vicinity shall be stopped immediately. The contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the engineer of such discovery. The South African Heritage Research Agency (SAHRA) is to be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. (Read with SANS 1200 Specifications)

ii) Graves and middens

If a grave or midden is uncovered on site, or discovered before the commencement of work, then all work in the immediate vicinity of the graves/middens shall be stopped and the engineer informed of the discovery. SAHRA should be contacted and in the case of graves, arrangements made for an undertaker to carry out exhumation and reburial. The Employer will be responsible for attempts to contact family of the deceased and for the site where the exhumed remains can be re-interred. (Read with SANS 1200 Specifications).

l) Noise Control

The contractor shall endeavour to keep noise-generating activities to a minimum. Noises that could cause a major disturbance, for instance blasting and crushing activities, should only be carried out during daylight hours. Compliance with the appropriate legislation with respect to noise, shall be mandatory.
Should noise generating activities have to occur at night the people in the vicinity of the drilling shall be warned about the noise well in advance and the activities kept to a minimum.

m) Dust Control

Dust caused by strong winds shall be controlled by means of water spray vehicles. Dust omission from batching plants shall be subject to the relevant legislation and shall be the subject of inspection by the relevant office of the Department of Minerals and Energy.

n) Alien Vegetation

The contractor shall be held responsible for the removal of alien vegetation within the road reserve disturbed during road construction. This includes, for example, service roads, stockpile areas, stop/go facilities, windrows and wherever material generated for or from road construction has been stored temporarily or otherwise within the road reserve. This responsibility shall extend for the duration of the defects notification period.

C3.6.8 RECORD KEEPING

The engineer and the DEO will continuously monitor the contractor's adherence to the approved impact prevention procedures, and the engineer shall issue to the contractor a notice of non-compliance whenever transgressions are observed. The DEO should document the nature and magnitude of the non-compliance in a designated register, the action taken to discontinue the non-compliance, the action taken to mitigate its effects and the results of the actions. The non-compliance shall be documented and reported to the engineer in the monthly report.

Copies of any record of decision or EMP's for specific borrow pits or quarries used on the project shall be kept on site and made available for inspection by visiting officials from the employer or relevant environmental departments.

C3.7.9 COMPLIANCE AND PENALTIES

The contractor shall act immediately when such notice of non-compliance is received and correct whatever is the cause for the issuing of the notice. Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a dedicated register and the response shall be noted with the date and action taken. This record shall be submitted with the monthly reports and a verbal report given at the monthly site meetings.

Any avoidable non-compliance with the above-mentioned measures shall be considered sufficient ground for the imposition of a penalty

The following penalties shall apply for environmental violations:

a) Unnecessary removal or damage to trees

- **2600mm girth or less: .....R 5 000 per tree**
- **Greater than 2600mm, but less than 6180mm girth: .....R10 000 per tree**
- **Greater than 6180mm girth: .....R30 000 per tree**

b) Serious violations:

- Hazardous chemical/oil spill and/or dumping in
    - non-approved sites. .....: R10 000 per incident
- General damage to sensitive environments. .....: R 5 000 per incident
- Damage to cultural and historical sites. .....: R 5 000 per incident
- Uncontrolled/unmanaged erosion
    - (plus rehabilitation at contractor's cost). .....: R1 000 to R5 000 per incident
- Unauthorised blasting activities. .....: R 5 000 per incident
- Pollution of water sources.....: R 10 000 per incident

The engineer's decision with regard to what is considered a violation, its seriousness and the

penalty imposed shall be final.

c) Less serious violations:

- Littering on site. .....: R1 000 per incident
- Lighting of illegal fires on site. .....: R1 000 per incident
- Persistent or un-repaired fuel and oil leaks. .....: R1 000 per incident
- Excess dust or excess noise emanating from site. .....: R1 000 per incident
- Dumping of milled material in side drains or on grassed areas: .....R1 000 per incident
- Possession or use of intoxicating substances on site. .....: R 500 per incident
- Any vehicles being driven in excess of designated
    - speed limits. .....: R 500 per incident
- Removal and/or damage to flora or cultural or
    - heritage objects on site, and/or killing of wildlife. .....: R2 000 per incident
- Illegal hunting. .....: R2 000 per incident
- Urination and defecation anywhere except in
    - designated areas. .....: R 500 per incident

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. The calculation shall include allied construction activities in the same way as the calculation of reduced payments under section 8200. The imposition of such a penalty shall not preclude the relevant provincial or national authority from applying an additional penalty in accordance with its statutory powers. Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression, as it deems fit.

C3.7.10 MEASUREMENT AND PAYMENT

The cost of complying to this specification shall be deemed to be included in the rates Tendered for this project.

Item ....Unit

01. Penalty for unnecessary removal or damage to trees
for the following diameter sizes

(a) 2600mm girth or less .....number (No)

(b) Greater than 2600mm, but less than 6180mm girth .....number (No)

(c) Greater than 6180mm girth .....number (No)

The unit of measurement shall be the number of trees by diameter size removed unnecessary or damaged. The penalty rates applied shall be those stated in clause C3.5.2.10.

Item ....Unit

02. Penalty for serious violations

- (a)..Hazardous chemical/oil spill and/or dumping in non-approved sites number (No)
- General damage to sensitive environments
- (c)..Damage to cultural and historical sites..... number (No)
- (d)..Pollution of water sources ..... number (No)
- (e)..Unauthorised blasting activities..... number (No)
- (f)...Uncontrolled/unmanaged erosion incident, depending on environment impacts, plus
  .....rehabilitation at contractor's cost)..... number (No)

The unit of measurement for C100.02 (a) to (f) shall be the number of serious violation incidents. The penalty rates to be applied shall be those stated in clause C3.5.2.10.

Item ....Unit

03. Penalty for less serious violations

- Littering on site.....number (No)
- Lighting of illegal fires on site .....number (No)
- Persistent or un-repaired fuel and oil leaks.....number (No)
- Excess dust or excess noise emanating from site .....number (No)
- Dumping of milled material in side drains or on grassed areas .....number (No)
- Possession or use of intoxicating substances on site .....number (No)
- Any vehicles being driven in excess of designated speed limits .....number (No)
- Removal and/or damage to flora or cultural or heritage objects on site, and/or killing of wildlife .....number (No)
- Illegal hunting.....number (No)
- Urination and defecation anywhere except in designated Areas……number (No)

The unit of measurement shall be the number of less serious violation incidents. The penalty rates applied shall be those stated in clause 03.

The engineer's decision with regard to what is considered a violation, its seriousness and the penalty imposed shall be final. The calculation shall include allied construction activities in the same way as the calculation of reduced payments under section 8200. The imposition of such a penalty shall not preclude the relevant provincial or national authority from applying an additional penalty in accordance with its statutory powers.

Any non-compliance with the agreed procedures of the EMP is a transgression of the various statutes and laws that define the manner by which the environment is managed.

Failure to redress the cause shall be reported to the relevant authority for them to deal with the transgression, as it deems fit.

Table 1: Mechanisms that Cause Environmental Impacts during Construction Activities

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (To be completed by compiler)
Camp Establishment	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Housing, Offices and laboratories	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Accommodation of Traffic	Waste treatment Hazardous waste Water supply Spillage Storage Noise/lights Dust control	Selection of site Preserve indigenous vegetation Preserve topsoil Demarcate sensitive areas Maintenance of windrows	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Overhaul	Spillage Storage Noise/lights Dust control Exhaust fumes Washing waste	Turning circles Parking areas	Restrict access to sensitive areas	Protection of indigenous vegetation Preserve topsoil	
Clearing and grubbing	Waste treatment Hazardous waste	Selection of site	Selection of site	Protection of indigenous vegetation	

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (To be completed by compiler)
	Water supply Noise /lights Dust control	Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil	Preserve topsoil	
Drainage	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Borrow pits	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Stockpiling	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Pipe Excavations	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	
Structures	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

CONTENTS	ENVIRONMENTAL IMPACTS				
	POLLUTION TYPE	DEFORMATION OF LANDSCAPE	SOIL EROSION	ALIEN VEGETATION	SENSITIVE AREAS (To be completed by compiler)
Pipe Laying	Waste treatment Hazardous waste Water supply Spillage Storage	Selection of site Preserve indigenous vegetation Preserve topsoil	Selection of site Preserve indigenous vegetation Preserve topsoil	Preserve indigenous vegetation Preserve topsoil Management of weeds	

DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY

APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

C4. Site Information

C4.1 General

1.1 Documentation

The documentation included in this section describes the site as at the time of tender to enable the Tenderer to price this tender, to decide upon his method of working and programming and to evaluate his risks.

1.2 Information

Only actual information about physical conditions of the site and its surroundings (if any available) is included in this Site Information and interpretation thereof is a matter for the Tenderer.

C4.2 Site Location

Project Location and Access

The Project Site is located in Vukuzakhe outside the town of Volksrust in Dr Pixley Ka Isaka Seme Local Municipality under Gert Sibande District Municipality in Mpumalanga Province.

The Coordinates of the project area is as follows:

Item name	S	E
Vukuzakhe Area	27°21'57.26"S	29°54'18.44"E
Volksrust Town	27°22'2.63"S	29°52'53.43"E

Refer to the Locality Plan below for the proposed service area. See Figure 1.

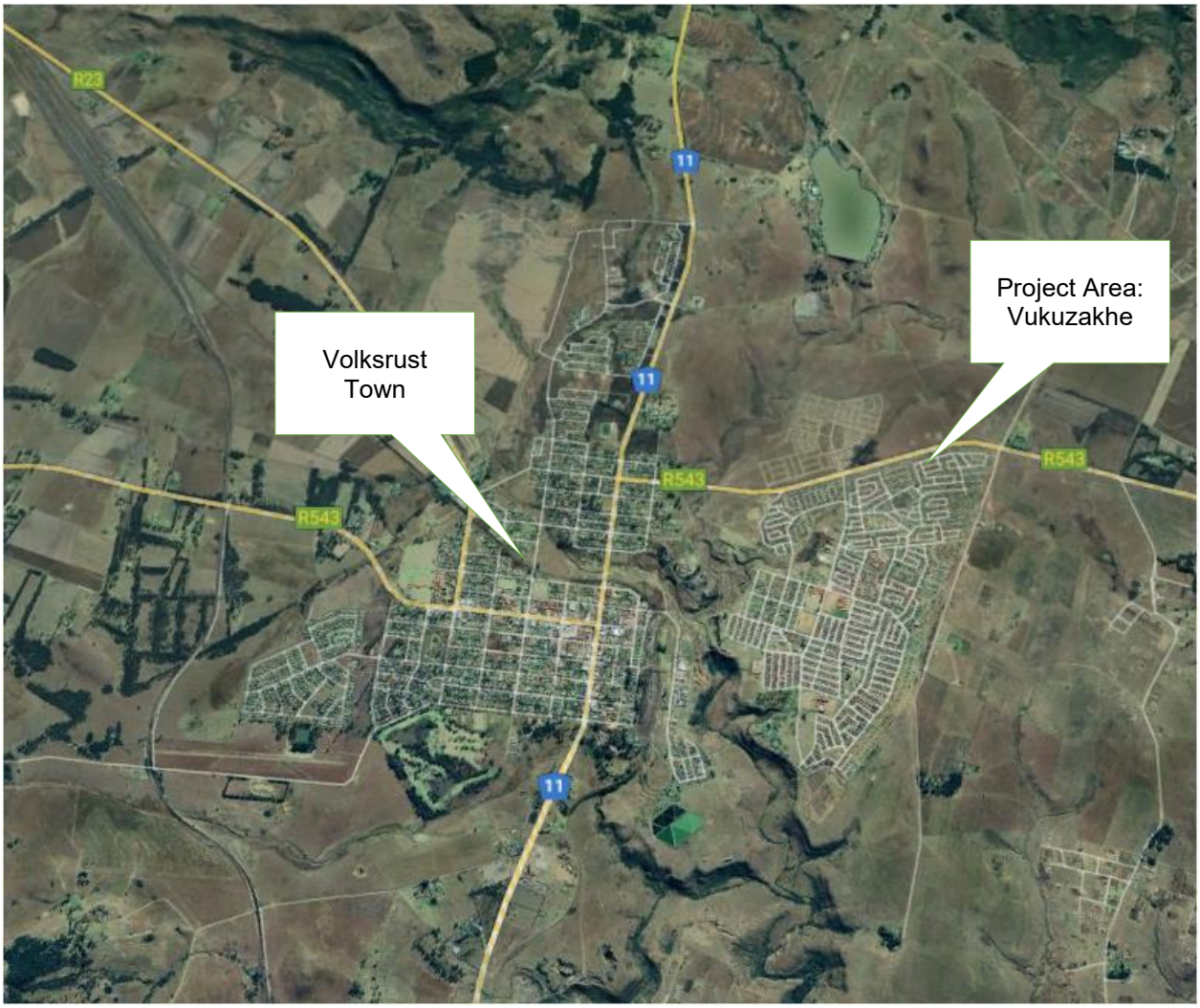


Figure 1: Locality Plan of The Project

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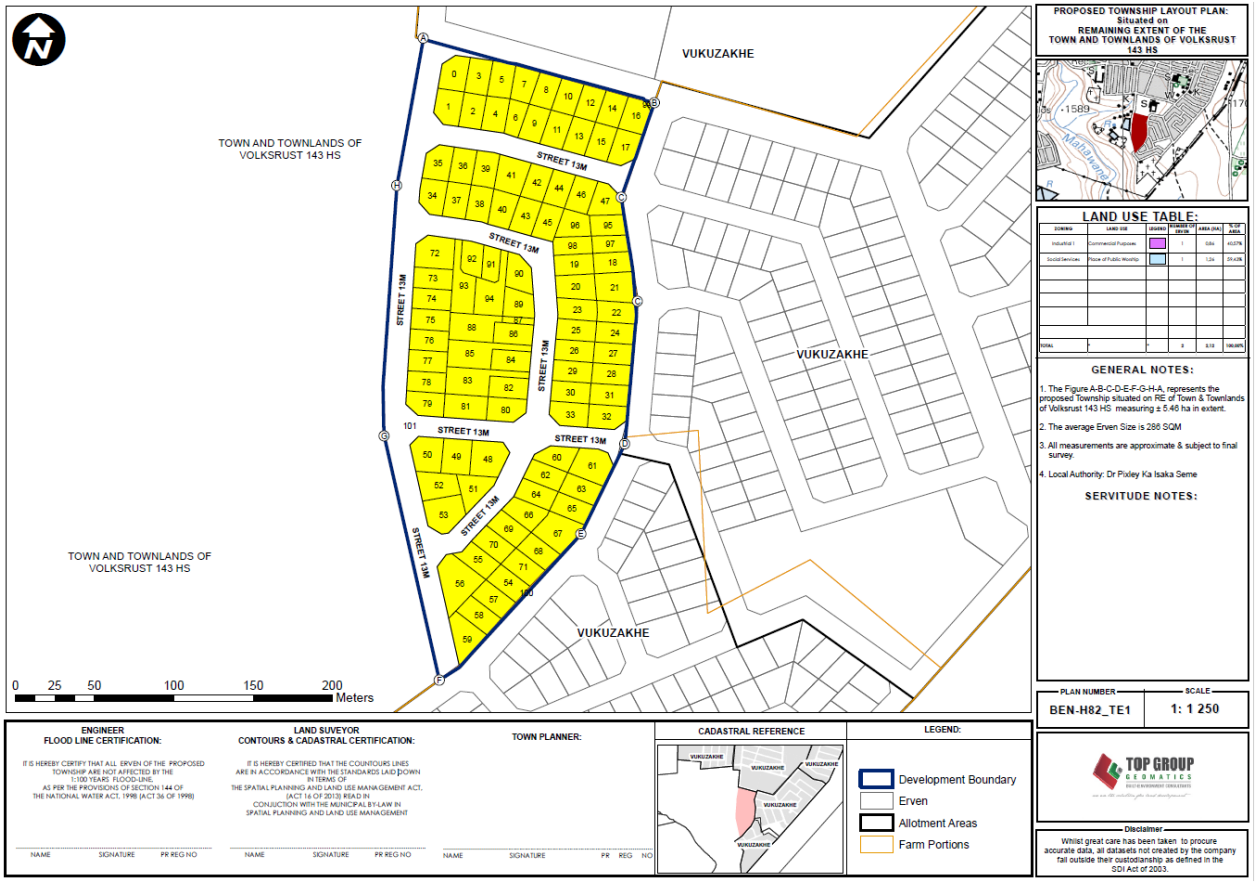
SITE PICTURES

WARD 03 VACAND LAND

WARD 03 TOWN PLANNING LAYOUT


VUKUZAKHE
TOWN AND TOWNLANDS OF VOLKSRUST 143 HS
STREET 13M
Mavuso St
VUKUZAKHE
VUKUZAKHE
TOWN AND TOWNLANDS OF VOLKSRUST 143 HS
Meters


PROPOSED TOWNSHIP LAYOUT PLAN:
Situated on
REMAINING EXTENT OF THE
TOWN AND TOWNLANDS OF VOLKSRUST
143 HS
VUKUZAKHE
TOWN AND TOWNLANDS OF
VOLKSRUST 143 HS
STREET 13M
LAND USE TABLE:
GENERAL NOTES:
1. The Figure A-B-C-D-E-F-G-H-A, represents the proposed Township situated on RE of Town & Townlands of Volksrust 143 HS measuring ± 5.46 ha in extent.
2. The average Erven Size is 286 SQM
3. All measurements are approximate & subject to final survey.
4. Local Authority: Dr Pixley Ka Isaka Seme
SERVITUDE NOTES:
PLAN NUMBER
BEN-H82_TE1
SCALE
1: 1 250
0 25 50 100 150 200 Meters
ENGINEER
FLOOD LINE CERTIFICATION:
LAND SUVEYOR
CONTOURS & CADASTRAL CERTIFICATION:
TOWN PLANNER:
CADASTRAL REFERENCE
LEGEND:
Development Boundary
Erven
Allotment Areas
Farm Portions
TOP GROUP
GEOMATICS
Disclaimer
Whilst great care has been taken to procure accurate data, all datasets not created by the company fall outside their custodianship as defined in the SDI Act of 2003.

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ANNEXURES

ANNEXURE A

SCHEDULE OF PERSONNEL AND EMPLOYEES

The Tenderer shall state below the number of Personnel and Employees to be employed on the Works.

PERSONNEL AND EMPLOYEES	TENDER			TENDER
	FULL TIME	PART TIME	FULL TIME	PART TIME
1. Technical staff 2. Clerical staff 3. Artisans 4. Semi-skilled 5. Unskilled labour				
Total				

State the name, qualifications and experience of permanent Site agent:

Date: ……

SIGNATURE OF TENDERER: ……..

ANNEXURE B

PRELIMINARY PROGRAMME

The Tenderer shall detail below or attach a preliminary programme reflecting the proposed order and rate of progress for each portion of the work comprising this Contract. The programme shall be consistent with and in support of his time required for completion and shall be in accordance with the requirements of this tender.

PROGRAMME														
ACTIVITY	**WEEKS / MONTHS**													
	…	…	…	…	…	…	…	…	…	…	…	…	…	…

SIGNATURE OF TENDERER: ……

ANNEXURE C

FINANCIAL DETAILS, STATEMENTS AND BANK REFERENCES

1. FINANCIAL STATEMENTS

I/We agree, if required, to furnish a copy of the latest audited set of financial statement together with my/our Director's and Auditor's report for consideration by the DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY.

2. DETAILS OF CONTRACTOR'S BANK ACCOUNT

I/We furnish the following information:

a) Account Holder Name:……..

b) Name of Bank:……

c) Branch of Bank: …….

d) Town/city/suburb where bank is situated:…….

e) Contact Person at the Bank:……

f) Telephone number of Bank: Code: …….. Number: ……..

g) Account Number:……..

h) Bank rating (include confirmation from bank or financial institution):……

I/We hereby authorise the Employer to approach the above Bank for a reference.

SIGNED ON BEHALF OF THE TENDERER:……

DATE: ……

ANNEXURE D

SPECIAL CONDITIONS OF CONTRACT

The following Special Conditions of Contract (SCC) shall apply to this contract and the Employer undertakes that the only variations from the General Conditions of Contract are as follows:

SCC 1 Clause 1(1)(1) **"Employer "**means DR. PIXLEY KA ISAKA SEME LOCAL MUNICIPALITY Herein represented by their Nominee.

SCC 2 Clause 1(1) m **"Engineer"** means the Employer's representative.

SCC 3 Clause 14 **Survey References**

The following sub-clause is added at the end of Clause 14(3) and is numbered 14(4):
"The Contractor shall take adequate precautions to preserve any permanent beacons such as erf boundary pegs, reference marks and bench marks which may be present on or in the vicinity on the site, irrespective of whether any such beacon may have been placed before or during the construction period. "Should any such beacon be distributed by any act or omission on the part of the Contractor or any officer, servant, agent or invitee of the Contractor then the Contractor shall arrange for the displaced beacon to be replaced by a registered land surveyor within such limits of time as the Engineer may prescribe and all costs, charges and expenses arising from such replacement shall be borne by the Contractor.
"Survey diagrams relating to the replacement of beacons in the circumstances described in the previous paragraph shall be submitted by the land surveyor concerned to the Director for Works of the Mpumalanga Department of Works for approval. IN this regard, attention is drawn to Clause 35(1) of the Survey Act No. 9 of 1927 (as amended)."

SCC 4 Clause (1) **Drawings and Documents**

The following shall be added to this Sub-Clause:
Upon receipt of the final payment in respect of the Contract, the Contractor shall forthwith return to the Employer's name. "None of the documents herein before mentioned shall be used by either of the parties hereto for any purpose other than the performance of their respective obligations under the Contractor. "Drawings supplied to the Contractor by the Employer or Engineer or supplied by the Contractor and approved of by the Engineer or Employer shall not be departed from without the written instructions of the Engineer or Employer. "All dimensions will be figures on the drawings and are to be considered correct even if not to scale. No dimension shall be obtained by scaling."

SCC 5 Clause 24 **Competent employees**

Add the following:

Approved on-site training of the labour force by the Contractor will be required for all facets of the construction work involved under this contract.

SCC 6 Clause 16(2) **Contractor's copies**

The Contractor will be issued free of charge two sets of paper prints of all drawings, one copy of the tender document and one copy of the signed contract document. Additional copies will be to the Contractor's account.

SCC7 Clause 38(7) **Workmen's compensation**

Amend Clause 38(7) as follows:

The Contractor shall provide proof, that he has paid all contributions required in terms of the provisions of the Workmen's Compensation Act (Act No 30 of 1941, as amended), within 28 days of the Commencement Date.

SCC 8 Clause 45(2) **Extension of Time for Completion**

Where the Engineer grants the Contractor extension of time for the completion of the Works the Contractor shall not be entitled to any additional payment for items included under Quantities in respect of such extension of time. This provision shall, however, not prejudice any claim under Clause 51 of the Conditions of Contract.

SCC 8(b) Shortage of Materials

The Tenderer shall ascertain that materials on which his tender based will be available on a continuous basis for the execution of the contract. No additional remuneration or extension of time will be granted should it become necessary to obtain material from other sources.

SCC 9 Clause 49(2) **Application of Contract Price Adjustment**

These clauses shall be deleted in total. Allowances for escalation must be made in the rates tendered for the items stated in the Schedule of Quantities, ie rates shall remain fixed for the full contract period.

SCC 10 Clause 52(2) **Valuation of Material Brought onto site**

Add the following:

Payment for materials on site will only be made for those materials which are physically on site, for which proof of ownership by the Contractor is given an for which ownership has been ceded to the Employer.

The Contractor shall remain responsible for the materials and shall insure them against all risks until such time as they are used or built into the works and taken over by the Employer.

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APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF WATER RETICULATION IN VUKUZAKHE WARD 3.

ANNEXURE E. TENDER DRAWINGS