



**BID NUMBER: SK8/3/1- 41/2022/23 (WSIG)**

**TENDER DOCUMENT FOR:**

**MABULELA WATER SUPPLY INTERVENTION**

**CIDB CLASS GRADING: 3 CE or Higher**

**TENDER SUBMITTED BY:**

<b>NAME OF TENDERER</b>	
<b>AMOUNT OF TENDER (VAT INCLUSIVE)</b>	
<b>CIDB GRADE</b>	
<b>CSD NUMBER</b>	
<b>TEL (Office) No.</b>	
<b>FAX (Office) No.</b>	
<b>Mobile No.</b>	

**ISSUED BY:**

**SEKHUKHUNE DISTRICT MUNICIPALITY**

Private Bag X 8611

Groblersdal

0470

Tel: 013 262 7300

Fax: 013 262 3688



**EXPANDED PUBLIC WORKS PROGRAMME**

# Contents

Number	Heading	Colour	Page
<b>The Bid</b>			
<b>Part T1: Bidding procedures</b>			
T1.1	Bid Notice and Invitation to Bid	White	3
T1.2	Bid Data	Pink	4-22
<b>Part T2: Returnable documents</b>			
T2.1	List of Returnable Documents	Yellow	23-24
T2.2	Returnable Schedules	Yellow	25-83
<b>The Contract</b>			
<b>Part C1: Agreement and Contract Data</b>			
C1.1	Form of Offer and Acceptance	White	84-87
C1.2	Contract Data	White	88-95
C1.3	Form of Guarantee	White	96-97
C1.4	Occupational Health and Safety	White	98-100
<b>Part C2: Special Conditions of Contract</b>			
C2.1	Special Conditions of Contract	Pink	101-107
<b>Part C3: Schedule of Quantities</b>			
C3.1	Preamble to Schedule of Quantities	Yellow	108-113
C3.2	Schedule of Quantities	Yellow	114-130
C3.3	Data Sheets	Yellow	131
<b>Part C4: Scope of Work</b>			
C4.1	Scope of work	Blue	132-133
C4.2	Drawing Descriptions	Blue	134
C4.3	Procurement	Blue	135
C4.4	Construction	Blue	136-141
C4.5	Management	Blue	142-144
<b>Part C5: Project Specification</b>			
C5.1	Project Specification	Blue	145
C5.2	Portion 1 : The Works	Blue	146-157
C5.2.1	Portion 2.1 : Interpretations And Variations To Standardised Specifications As Shown Under Clause PS 17	Blue	158-189
C5.2.2	Portion 2.2 : Particular Specifications As Shown Under Clause PS 18	Blue	190-233
<b>Part C6: OHS Specification for construction projects</b>			
C6.1	Specification	White	234-257
<b>Part C7: Site Information</b>			
<b>Part C8: Drawings</b>			
			258



**TENDER NOTICE AND INVITATION TO TENDER**  
**MABULELA WATER SUPPLY INTERVENTION**

**BID NUMBER: SK8/3/1- 41/2022/23 (WSIG)**

<b>Description</b>	<b>Date of availability of documents</b>	<b>CIDB Grading</b>	<b>Briefing Venue and site inspection Date</b>	<b>Closing Date and Time</b>	<b>Contact Person for Technical Enquiries</b>
Reticulation to MABULELA WATER SUPPLY INTERVENTION	26 October 2022	3 CE or higher	Date: 02 November 2022  Time: 10:00am  Venue: Mabulela Borehole	Date: 09 November 2022  Time: 12:00am  Bid response documents may be deposited in the bid box situated at AB Sikhosana Fire Station (Groblersdal Fire Station) R33 Groblersdal 0470 on or before the stipulated date and time	Bid Enquiries to Voster Masemola, Manager Supply Chain Management, Tel: 013 262 7669.  Technical Enquiries to K Ramadje Acting Technical Directors for Infrastructure Tel: 013 262 7430 during office hours

Bid documents will be available from 26<sup>th</sup> October 2022 for free at [www.etenders.gov.za](http://www.etenders.gov.za) and/or at the Sekhukhune District Municipality Offices, Bareki Mall, corner Van Riebeek and Chris Wild Street, Groblersdal 0470 at a fee as specified on the advertisement.

Specifications and other conditions are detailed the bid documents.

**NO LATE/TELEPHONIC/FAXED OR EMAILED BIDS WILL BE ACCEPTED**





## SEKHUKHUNE DISTRICT MUNICIPALITY

### T1.2 Bid Data

The conditions of Bid are the Standard Conditions of Bid as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement. (See [www.cidb.org.za](http://www.cidb.org.za)) which are reproduced without amendment or alteration for the convenience of Bidders as an Annex 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 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 Bid are:**

Clause number	Bid Data	
F.1.1	The employer is: Name: <b>Sekhukhune District Municipality</b> Address: <b>Private Bag X8611, GROBLERSDAL</b> Telephone: <b>(013) 262 7300</b> Fax: <b>(013) 262 3688</b>	
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 <b>Part 1: Agreements and contract data</b> C1.1 Form of offer and acceptance C1.2 Contract data C1.3 Form of Guarantee C1.4 Occupational Health and Safety <b>Part 2: Special Conditions of Contract</b> C2.1 Special Conditions of Contract <b>Part 3: Scope of work</b> C3.1 Scope of work C3.2 Drawing Descriptions C3.3 Procurement C3.4 Construction C3.5 Management <b>Part 4: Project Specification</b> <b>Part 5: Drawings</b> <b>Part 6: Site information</b> <b>Part 7: Schedule of Quantities</b> C7.1 Preamble to Schedule of Quantities C7.2 Schedule of Quantities	
F.1.4	The Employer's Agent is:  Name: <b>Sekhukhune District Municipality</b> Address: <b>Private Bag X8611, GROBLERSDAL</b> Telephone: <b>(013) 262 7300</b> Fax: <b>(013) 262 3688</b>	

F.2.1	Only those tenderers who can demonstrate that they will have in their employ management and supervisory staff satisfying the requirement of the scope of work for labour-intensive competencies for supervisory and management staff during the validity of the contract are eligible to submit tenders.
F.2.1	<p>Only those Bidders who are registered with the CIDB or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum Bided for a <b>3 CE or higher</b> class of construction work, are eligible to submit Bids.</p> <p>Joint ventures are eligible to submit Bids provided that:</p> <ol style="list-style-type: none"> <li>1. every member of the joint venture is registered with the CIDB;</li> <li>2. the lead partner has a contractor grading designation in the <b>3 CE or higher</b> class of construction work; and</li> <li>3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum Bided for a <b>3 CE or higher</b> class of construction work.</li> </ol>
F.2.1	<p>The following Bidders who are registered with the CIDB, or are capable of being so registered prior to the evaluation of submissions, are eligible to submit Bids:</p> <ol style="list-style-type: none"> <li>a) contractors who have a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum Bided for a <b>3 CE or higher</b> class of construction work; and</li> <li>b) contractors registered as potentially emerging enterprises with the CIDB who are registered in one contractor grading designation lower than that required in terms of a) above and who satisfy the following criteria: <ol style="list-style-type: none"> <li>i) The Department, following an interview with the management of the enterprise, is satisfied that the enterprise has the potential to develop and qualify to be registered in a higher contractor grading designation; and</li> <li>ii) The Department, following a risk assessment, is able to provide the necessary supportive measures required to enable the enterprise to successfully execute the contract.</li> </ol> </li> </ol> <p>Joint ventures are eligible to submit Bids provided that:</p> <ol style="list-style-type: none"> <li>1. every member of the joint venture is registered with the CIDB;</li> <li>2. the lead partner has a contractor grading designation in the <b>3 CE or higher</b> class of construction work; and</li> <li>3. the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum Bided for a <b>3 CE or higher</b> class of construction work.</li> </ol>
F.2.7	<p>The arrangements for a compulsory clarification meeting are as stated in the Bid Notice and Invitation to Bid.</p> <p>Bidders must sign the attendance list in the name of the Bidding entity. Addenda will be issued to and Bids will be received only from those Bidding entities appearing on the attendance list.</p>
F.2.3	The tenderer is required to complete his/ her tender in full using a black ink. The tenderer is required to initial all pages of the bid document. Failure to complete the form of offer in full is an automatic disqualification. Other contraventions also constitute an incomplete tender and may result in the bid being disqualified.
F.2.7	<p>The arrangements for a compulsory clarification meeting are as stated in the Bid Notice and Invitation to Bid.</p> <p>Bidders must sign the attendance list in the name of the Bidding entity. Addenda will be issued to and Bids will be received only from those Bidding entities appearing on the attendance list.</p>

F.2.11	Do not make any alterations or additions to the bid documents, except to comply with the instructions issued by employer, or necessary to correct errors made by the bidder. All signatories to the bid offer shall initial all alterations. Erasure and the use of masking fluid are prohibited.
F.2.12	<p>No alternative Bid offers will be considered</p> <p>If a Bidder wishes to submit an alternative Bid offer, the only criteria permitted for such alternative Bid offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Employer's Agent.</p> <p>Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative Bid offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative complies with the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal.</p> <p>Acceptance of an alternative Bid offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the Bidder, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements.</p> <p>The modified Pricing Data must include an amount equal to 5% of the amount Bided for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.</p>
F.2.13.3	Parts of each Bid offer communicated on paper shall be submitted as original.
F.2.13.5	<p>The employer's address for delivery of Bid offers and identification details to be shown on each Bid offer package are:</p> <p><b>Location of Bid box:</b> Tender Box  <b>Physical address:</b> Sekhukhune District Municipality Offices, Bareki Mall, Corner Van Riebeeck &amp; Chris Wild Street, Groblersdal 0470  <b>Postal address:</b> Private Bag X8611, GROBLERSDAL, 0470</p> <p><b>Identification details: CONTRACT No. SK8/3/1-41/2022/23(WSIG): MABULELA WATER INTERVENTION</b></p>
F.2.13 F.3.5	A two-envelope procedure will not be followed.
F.2.15	The closing time for submission of Bid offers is as stated in the Bid Notice and Invitation to Bid.
F.2.15	Telephonic, telegraphic, telex, facsimile or e-mailed Bid offers will not be accepted.
F.2.16	The Bid offer validity period is 90 days
F.2.18	The tenderer must submit to the Employer, names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.
F.2.19	Access shall be provided for inspections, tests and analysis.

F.2.23	<p>The Bidder is required to submit with his Bid a Certificate of Contractor Registration issued by the Construction Industry Development Board and a copy of a <b>valid</b> Tax Clearance Certificate issued by the South African Revenue Services.</p> <p>Where a Bidder satisfies CIDB contractor grading designation requirements through joint venture formation, such Bidders must submit the Certificates of Contractor Registration in respect of each partner.</p>
F.3.4	<p>Bids will be opened immediately after the closing time for Bids at Municipal Offices, at Sekhukhune District Municipality Offices, Bareki Mall, Corner Van Riebeeck &amp; Chris Wild Street, Groblersdal 0470</p>
	<p>The financial offer will be scored using the criteria as per MBD6.1 where the value of <math>W_1</math> is:</p> <p>1) 80 where the financial value inclusive of VAT of all responsive bids received have a value less than R 50 000 000.</p> <hr/> <p>Up to 100 minus <math>W_1</math> Bid evaluation points will be awarded to Bidders who complete the preference schedule and who are found to be eligible for the preference claimed.</p>
F.3.11	<p>A maximum of 100 minus <math>W_1</math> Bid evaluation points will be awarded for the extent to which the Bided Contract Participation Goal exceeds the specified minimum. The basis of award of preference points is:</p> $Np = \frac{(100 - W_1) \times (D - D_s)}{(X - D_s)}$ <p>where    <math>D</math> = Bided Contract Participation Goal.               <math>D_s</math> = the minimum Contract Participation Goal below which no preference will be granted, namely, .....%               <math>X</math> = the maximum Contract Participation Goal above which no further Bid evaluation points are awarded, namely ..... %.</p>
F3.13.1	<p>Bid offers will only be accepted if:</p> <ol style="list-style-type: none"> <li>the Bidder has in his or her possession an original valid Tax Clearance Certificate issued by the South African Revenue Services or has made arrangements to meet outstanding tax obligations;</li> <li>the Bidder is registered with the Construction Industry Development Board in an appropriate contractor grading designation;</li> <li>the Bidder or any of its directors is not listed on the Register of Bid Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector;</li> <li>the Bidder has not: <ol style="list-style-type: none"> <li>abused the Employer's Supply Chain Management System; or</li> <li>failed to perform on any previous contract and has been given a written notice to this effect; and</li> </ol> </li> <li>Bidder has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the Bidder's ability to perform the contract in the best interests of the employer or potentially compromise the Bid process.</li> <li>the Bidder does not have arrears on municipal rates and levies exceeding 3 months.</li> </ol>
F.3.18	<p>The number of paper copies of the signed contract to be provided by the employer is one.</p>
F.3.19	<p>The tenderer must attach original or certified copies of BBEE certificate. In the event where tenderers entered into a JV agreement, they must submit original or certified (JV) combined BBEEE certificate</p>
F.3.20	<p>The tenderer must attach the proof of updated municipal rates and taxes. If the tenderer resides in a non-rateable municipal area, they must attach an affidavit for the company and its directors.</p>



## ADDITIONAL CLAUSES

F.3.11

### 1. Subcontracting as a condition of tender for procurement above R30 million

The minimum requirement for subcontracting is 30% for targeted local enterprises, as a condition of tender; the tenderer must subcontract a minimum of 30% of the value of the contract (excluding contingencies and CPA) to:

- (a) an EME or QSE
- (b) an EME or QSE which is at least 51% owned by black people;
- (c) an EME or QSE which is at least 51% owned by black people who are youth;
- (d) an EME or QSE which is at least 51% owned by black people who are women;
- (e) an EME or QSE which is at least 51% owned by black people with disabilities;
- (f) an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;
- (g) a cooperative which is at least 51% owned by black people;
- (h) an EME or QSE which is at least 51% owned by black people who are military veterans;
- (i) more than one of the categories referred to in paragraphs (a) to (h).

### 2. Definitions

2.1 **"EME"** means an exempted micro enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act. An EME is an enterprise including a sole propriety with an annual total revenue of R10 million or less.

2.2 **"QSE"** means qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act. A QSE is an enterprise with an annual total revenue of between R10 million and R50 million.

2.3 **"Targeted local enterprises"** means the communities situated alongside the project, Fetakgomo/Tubatse Local Municipality and Sekhukhune District Municipality.

### 3. Procedure for subcontracting.

The Contractor will be responsible to identify the type of work that can be sourced out to subcontractors/suppliers in order to obtain the minimum threshold of 30%.

To obtain the 30% minimum threshold the Contractor can appoint any suitable subcontractor/supplier which resides in the targeted area.

Suitable subcontractors/suppliers must first be sourced from within the local communities alongside the project. If enough subcontractors/suppliers cannot be found in the local communities then the Contractor can source from within the Fetakgomo/Tubatse Local Municipality area and then from the Sekhukhune District Municipality area.

The subcontractors/suppliers that the Contractor intends to use must comply with any of the criteria as stipulated in paragraph 1 above.

	The Contractor will be monitored throughout the project to ensure the minimum target of 30% subcontracting will be achieved at completion of the project.
--	---

## Standard Conditions of Bid

### 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 Bidding**

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 **a compulsory 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.
- F.2.10.2** 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 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**

A two-envelope procedure will not be followed in this contract.

#### **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 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

##### Step 1

Bidders will firstly be evaluated on their responsiveness.

This includes the following:

1. Valid Tax Clearance Certificate
2. Attendance of Compulsory Site meeting
3. Authority of Signatory
4. Proof of Company Registration
5. Certified copies of Identity documents
6. JV agreement in case of a Joint Venture
7. Signing of all MBD forms
8. Signing of Form of Offer
9. BOQ filled in using a black pen
10. Initial all the pages of the Bid document
11. Municipal Rates and Taxes
12. Alterations signed
13. CIDB grading
14. A Detailed list of returnable documents as indicated on T2.1

##### Step 2

According to the MFMA Circular No. 53 of the Municipal Finance Act No. 56 of 2003. Bidders will firstly be evaluated on Functionality. The minimum Score for functionality is 60%.

Only the qualifying Tenderers will be evaluated on Method 2.

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

#### FUNCTIONALITY COMPETENCE ACHIEVEMENT SCHEDULES

**TABLE A1: REPUTATION AND REFERENCES**

	<b>TARGETED GOALS</b> <b>Name reference with contact details</b>	<b>TENDERED GOAL</b>	<b>POINTS CLAIMED</b> <b>BY TENDERER</b>	<b>ALLOCATED</b> <b>POINTS</b>
1	Project of similar scope (Water Projects) with minimum value R0m to R1,5m	10		
2	Project of similar scope (Water Projects) with minimum value R1,5m to R3m	20		
3	Project of similar scope (Water Projects) with minimum value R4m and above.	30		
	<b>SUB-TOTAL: Reputation and References</b>	<b>30</b>		

**N.B: TENDERERS TO SUBMIT NAMES COMPLETE WITH VALID CONTACT DETAILS AND APPOINTMENTS AND COMPLETION CERTIFICATES. NON-SUBMISSION WILL RESULT IN LOSS OF POINTS.**

**TABLE A2: EXPERIENCE**

	TARGETED GOALS	YEARS BREAKDOWN	TENDERED POINTS	POINTS CLAIMED BY TENDERER	ALLOCATED POINTS
1	Site agent years of experience in Water Projects construction or related.	0-2	3.5		
		2-4	7.5		
		5 upwards	10		
Sub-Total			10		
2	Site agent years of experience in construction of Water Projects and LIC Projects	0-2	3.5		
		2-4	7.5		
		5 upwards	10		
Sub-Total			10		
TOTAL: Experience			20		

**N.B: TENDERERS TO SUBMIT CURRICULUM VITAE & CERTIFICATES OF SITE AGENTS. NON-SUBMISSION WILL RESULT IN LOSS OF POINTS.**

**TABLE A3: ACADEMIC QUALIFICATIONS**

	TARGETED GOALS	TENDERED GOAL	POINTS Claimed by tenderer	ALLOCATED POINTS
1	No formal education in construction and LIC NQF Level 5	0		
2	Diploma in Civil Engineering or Equivalent and LIC NQF Level 5	7.5		
3	NQF 7 – Degree in Civil Engineering or Equivalent and LIC NQF 5	15		
4	NQF 7-Degree in Civil Engineering or Equivalent and LIC NQF 5 with knowledge in Extended Public Works Programme	20		
<b>TOTAL: Academic Qualifications</b>		<b>20</b>		

**N.B: TENDERERS TO SUBMIT CERTIFICATES & PROOF OF REGISTRATION FOR THE COURSE IN THE CASE OF 1 AS MAY BE APPLICABLE. NON-SUBMISSION WILL RESULT IN LOSS OF POINTS.**

**TABLE A4: PLANT AND EQUIPMENT**

	TARGETED GOALS	Plant & Equipment Break down	TENDERED Points	POINTS Claimed by tenderer	ALLOCATED POINTS
1	1 TLB	1 TLB	5		
2	1 LDV Bakkie	1 LDV Bakkie	2.5		
3	1 Walk Behind Roller	1 Walk Behind Roller	2.5		
4	2 Tipper trucks	1 Tipper truck	2.5		
		2 Tipper truck	5		
Sub-Total: Tipper trucks			5		
5	1 Water truck (10000lt)		5		
	SUB-TOTAL: Plant and Equipment		20		

**N.B: TENDERERS TO SUBMIT VEHICLE/EQUIPMENT OWNERSHIP PROOF OR HIRING AGREEMENT FOR THE PLANT AND EQUIPMENT. NON-SUBMISSION WILL RESULT IN LOSS OF POINTS.**

**TABLE A5: LOCALITY**

	TARGETED GOALS	TENDERED POINTS	POINTS CLAIMED BY TENDERER	ALLOCATED POINTS
1	Tenderer outside Limpopo	2		
2	Tenderer within Limpopo Province	7		
3	Tenderer within Sekhukhune District Municipality	10		

	<b>TOTAL: Locality</b>	<b>10</b>		
--	------------------------	-----------	--	--

**N.B: TENDERERS TO SUBMIT PROOF OF COMPANY ADDRESS. NON-SUBMISSION WILL RESULT IN LOSS OF POINTS.**

**THE MINIMUM SCORE FOR FUNCTIONALITY IS 60%**

**Step 3**

Price and BBBEE Contribution. 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 2: Financial offer, and preferences	1) Score Bid evaluation points for 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 Bidders 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.

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

**F.3.11.2 Scoring Financial Offers**

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

$N_{FO} = W_1 \times A$  where:

$N_{FO}$  = the number of Bid evaluation points awarded for the financial offer.

$W_1$  = the maximum possible number of Bid evaluation points awarded for the financial offer as stated in the Bid Data.

$A$  = a number calculated using either formulas 1 or 2 below as stated in the Bid Data.

Formula	Basis for comparison	Option 1	Option 2
1	Highest price or discount	$(1 + \frac{(P - P_m)}{P_m})$	$P/P_m$
2	Lowest price or percentage commission/fee	$(1 - \frac{(P - P_m)}{P_m})$	$P_m/P$

where:

$P_m$  = the comparative offer of the most favourable Bid offer.

$P$  = the comparative offer of Bid offer under consideration.

**F.3.11.3 Scoring quality (functionality)**

Score quality in each of the categories stated in the Bid Data and calculate total score for quality.

**F.3.12 Insurance provided by the employer**

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

**F.3.13 Acceptance of Bid offer**

**F.3.13.1** Accept Bid offer only if the Bidder satisfies the legal requirements stated in the Bid Data.

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

#### **F.3.14 Notice to unsuccessful Bidders**

After the successful Bidder has acknowledged the employer's notice of acceptance, notify other Bidders that their Bid offers have not been accepted.

#### **F.3.15. Prepare contract documents**

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

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

#### **F.3.16 Issue final contract**

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

#### **F.3.17 Complete adjudicator's contract**

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

#### **F.3.18 Provide copies of the contracts**

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

## SEKHUKHUNE DISTRICT MUNICIPALITY

### T2.1 List of Returnable Documents

Generic	Tick if completed
Authority for Signatory ( <i>Compulsory</i> )	
Certificate of Authority for Joint Venture ( <i>Compulsory where applicable</i> )	
Certified copy of identity documents for directors (required for evaluation)	
Compulsory Enterprise Questionnaire-SCHEDULE 1A ( <i>Compulsory</i> )	
Copy of Company Registration Documents or CK1 for Close Corporations	
Form of offer to be properly signed ( <i>Compulsory</i> )	
Declaration of Interest (mbd4) ( <i>Compulsory</i> )	
Declaration of Bidder's Past Supply Chain Management Practices (MBD8) ( <i>Compulsory</i> )	
Certified B-BEE Status Level Certificate SANAS approved or Sworn affidavit for BBBEE Exempted Micro Enterprises as per bidder's correct turnover category( <i>Required for evaluation</i> )	
Municipal rates ( <i>Compulsory</i> ) - Municipal statement for both Directors and Company not in arrears for more than 90 days in accordance with regulation 38. In case where the Company or Director is from rural areas where the rates are not paid, please attach proof from Local Authority indicating that he/she does not pay municipal rates, this must also be supported by an affidavit from SAPS.	
Valid Tax Clearance Certificate Issued by the South African Revenue Service. ( <i>Compulsory</i> )or PIN issued by SARS	
MBD 5 (required for evaluation) Documentation if Tender Exceeds R10 Million ( <i>Compulsory if Applicable</i> ) -If the bidder is required by law to prepare AFS for Auditing, the AFS for the past three years or since the establishment if Establishment during the past three years -A certificate signed by the bidder certifying that the bidder has no undisputed commitments for municipal services towards a Municipality or other service provider in respect of which Payment is overdue for more than 30 days	
MBD 6.2 (Declaration of Local Production and Content) with Annex C ( <i>Compulsory</i> )	
CSD Registration/CSD Summary Report ( <i>Compulsory</i> )	
Letter of Good Standing (COIDA) ( <i>Compulsory</i> )	
Initial All Pages	

Note:

The meaning of the cursive type for each Form is as follows:

- **Compulsory:** Documentation or Information that may be submitted with the tender (Failing to submit any one of these will result in the tender being deemed non-responsive and then be rejected).
- **Required for evaluation:** Additional documentation is required to be submitted with the tender and will be used as part



*Of the tender evaluation* (Non-submission does not qualify for put right dismissal as a non-responsive tender, although  
It might contribute to an overall recommendation for deemed being non-responsive if the tender constitutes  
under risk  
to the municipality).

**FORM A1: CERTIFICATE OF ATTENDANCE AT SITE VISIT AND CLARIFICATION MEETING**

**Notes to Tenderer:**

**Unless the attendee's name, details and signature also appear on the attendance register this Certificate of Attendance shall not be accepted and the tenderer's offer shall be deemed non-responsive.**

This is to certify that I, .....

.....

representative of (tenderer) .....

of (address) .....

.....

.....

telephone number .....

fax number .....

e-mail.....

attended the clarification meeting and visited the site on (date) .....

conducted by .....

in the presence of (Employer's representative) .....

TENDERER'S REPRESENTATIVE (Signature).....

EMPLOYER'S REPRESENTATIVE (Signature) .....

## FORM A2: CERTIFICATE OF AUTHORITY FOR SIGNATORY

### Notes to tenderer:

The signatory for the tenderer shall confirm his/her authority thereto by attaching on the tendering company's letterhead a duly signed and dated copy of the relevant resolution of the board of directors/partners.

In the event that the tenderer is a joint venture, a certificate is required from each member of the joint venture clearly setting out:

authority for signatory,

undertaking to formally enter into a joint venture contract should an award be made to the joint venture,

name of designated lead member of the intended joint venture, as required by tender condition F.2.13.4.

The resolution below is given as an example of an acceptable format for authorisation, but submission of this page with the example completed shall not be accepted as authorisation of the tenderer's signatory.

By resolution of the board of directors passed at a meeting held on .....

Mr/Ms ..... ,  
whose signature appears below, has been duly authorised to sign all documents in connection with the tender for

**CONTRACT No: SK8/3/1- SK8/3/1-41/2022/23(WSIG)**

: MABULELA WATER SUPPLY .....

..... and  
any contract which may arise therefrom on behalf of (*enter name of tenderer in block capitals*)

.....

SIGNED ON BEHALF OF THE COMPANY: .....

IN HIS/HER CAPACITY AS: .....

DATE: .....

SIGNATURE OF SIGNATORY: .....

WITNESS: .....

SIGNATURE

SIGNATURE

.....  
NAME (PRINT)

.....  
NAME (PRINT)

**FORM A3: MBD 4: DECLARATION OF INTEREST****DECLARATION OF INTEREST**

1. No bid will be accepted from persons in the service of the state<sup>1</sup>.

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.

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

3.1 Full Name of bidder or his or her representative: .....

3.2 Identity Number: .....

3.3 Position occupied in the Company (director, trustee, shareholder<sup>2</sup>): .....

3.4 Company Registration Number: .....

3.5 Tax Reference Number: .....

3.6 VAT Registration Number: .....

3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

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

3.8.1 If yes, furnish particulars. ....

.....

<sup>1</sup>MSCM Regulations: "in the service of the state" means to be –

a member of –

any municipal council;

any provincial legislature; or

the national Assembly or the national Council of provinces;

a member of the board of directors of any municipal entity;

an official of any municipality or municipal entity;

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);

a member of the accounting authority of any national or provincial public entity; or

an employee of Parliament or a provincial legislature.

<sup>2</sup> Shareholder" means a person who owns shares in the company and is actively involved in the management of the company or business and exercises control over the company.

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

3.9.1 If yes, furnish particulars.....

.....  
3.10 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**

3.10.1 If yes, furnish particulars.

.....  
.....

3.11 Are you, aware of any relationship (family, friend, other) between  
any other 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**

3.11.1 If yes, furnish particulars

.....  
.....

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

3.12.1 If yes, furnish particulars.

.....  
.....

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

3.13.1 If yes, furnish particulars.

.....  
.....

3.14 Do you or any of the directors, trustees, managers,  
principle shareholders, or stakeholders of this company  
have any interest in any other related companies or  
business whether or not they are bidding for this contract. **YES / NO**

3.14.1 If yes, furnish particulars:

.....  
.....

**4. FULL DETAILS OF DIRECTORS / TRUSTEES / MEMBERS / SHAREHOLDERS.**

Full Name	Identity Number	State Employee Number

**4. DECLARATION**

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

CERTIFY THAT THE INFORMATION FURNISHED ABOVE IS CORRECT.

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

.....  
Signature    Date

.....  
Position    Name of bidder

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

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

1 Are you by law required to prepare annual financial statements for auditing?

1.1 If yes, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.

**\*YES / NO**

.....

.....

2 Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?

2.1 If no, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.

2.2 If yes, provide particulars.

.....

.....

.....

.....

\* Delete if not applicable

**\*YES / NO**

3 Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of

such contract?

3.1 If yes, furnish particulars

.....  
.....

**\*YES / NO**

4. Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?

**\*YES / NO**

4.1 If yes, 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



## FORM A4: SCHEDULE OF VARIATIONS OR DEVIATIONS BY TENDERER

Notes to tenderer:

The postulated tender **MUST** be priced.

When submitting an alternative tender (including an alternative contract period), the contents of notes 5 and 6 under “Notes to tenderer” under Part T2: Returnable Schedules, shall be followed.

In addition, condition F.2.12 of Part T1.3: Tender Data, shall be followed when submitting an alternative/qualifying tender.

Page	Description

SIGNED ON BEHALF OF TENDERER: .....

**FORM A5: SCHEDULE OF ADDENDA TO TENDER DOCUMENTS**

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

	<b>Date</b>	<b>Title or Details</b>

SIGNED ON BEHALF OF THE TENDERER: .....

## FORM A6: TAX CLEARANCE CERTIFICATE REQUIREMENTS

MBD 2

**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 South African Revenue Service (SARS) to meet the bidder's tax obligations.**

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

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

A Valid 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.

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

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](http://www.sars.gov.za).

Applications for the Tax Clearance Certificates may also be made via eFiling. In order to use this provision, taxpayers will need to register with SARS as eFilers through the website [www.sars.gov.za](http://www.sars.gov.za).



TAX CLEARANCE

TCC 001

**Application for a Tax Clearance Certificate****Purpose**Select the applicable option .....Tenders ☐ Good standing ☐

If "Good standing", please state the purpose of this application


**Particulars of applicant**

Name/Legal name (Initials & Surname or registered name)		
Trading name (if applicable)		
ID/Passport no	Company/Close Corp. registered no	
Income Tax ref no	PAYE ref no	7
VAT registration no	SDL ref no	L
Customs code	UIF ref no	U
Telephone no	Fax no	
E-mail address		
Physical address		
Postal address		

**Particulars of representative (Public Officer/Trustee/Partner)**

Surname		
First names		
ID/Passport no	Income Tax ref no	
Telephone no	Fax no	
E-mail address		
Physical address		

Tender number

Estimated Tender amount R ,

Expected duration of the tender  year(s)

Date started	Date finalised	Principal	Contact person	Telephone number	Amount

Are you currently aware of any Audit investigation against you/the company?.....

If "YES" provide details

YES NO

I the undersigned confirm that I require a Tax Clearance Certificate in respect of  or .

I hereby authorise and instruct  to apply to and receive from SARS the applicable Tax Clearance Certificate on my/our behalf.

—  —

Signature of representative/agent

Name of representative/ agent

I declare that the information furnished in this application as well as any supporting documents is true and correct in every respect.

Signature of applicant/Public Officer

Name of applicant/  
Public Officer

—  —

Signature of applicant/Public Officer

Date

1. It is a serious offence to make a false declaration.
2. Section 75 of the Income Tax Act, 1962, states: Any person who
  - (a) fails or neglects to furnish, file or submit any return or document as and when required by or under this Act; or
  - (b) without just cause shown by him, refuses or neglects to-
    - (i) furnish, produce or make available any information, documents or things;
    - (ii) reply to or answer truly and fully, any questions put to him ...As and when required in terms of this Act ... shall be guilty of an offence ...
3. **SARS will, under no circumstances, issue a Tax Clearance Certificate unless this form is completed in full.**
4. Your Tax Clearance Certificate will only be issued on presentation of your South African Identity Document or Passport (Foreigners only) as applicable.

## FORM A7: CERTIFICATE OF INSURANCE COVER

### Note to tenderer:

In the event of the tenderer being a joint venture/consortium the details of the individual members must also be provided.

The tenderer shall provide the following details of this insurance cover:

Name of Tenderer: .....

Period of Validity: .....

Value of Insurance:

Insurance for Works and Contractor's Equipment

Company: .....

Value: .....

Insurance for Contractor's Personnel

Company: .....

Value: .....

General public liability

Company: .....

Value: .....

SASRIA

Company: .....

Value: .....

SIGNED ON BEHALF OF THE TENDERER: .....

## FORM A8: TENDERER'S BANK DETAILS

### Notes to tenderer:

The tenderer shall attach to this form a letter from the bank at which he declares he conducts his account. The contents of the bank's letter must state the credit rating that it, in addition to the information required below, accords to the tenderer for the business envisaged by this tender. Failure to provide the required letter with the tender submission may render the tenderer's offer unresponsive in terms of tender condition F.3.8.

The tenderer's banking details as they appear below shall be completed.

In the event that the tenderer is a joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.

The tenderer shall provide the following:

Name of Account Holder: .....

Account Number: .....

Bank name: .....

Branch Number: .....

Bank and branch contact details .....

.....

**(See Functionality Criteria – Bank Rating stamped by the bank)**

SIGNED ON BEHALF OF THE TENDERER: .....

## FORM A9: CERTIFICATE OF TENDERER'S LITIGATION HISTORY

### Note to tenderer:

The tenderer shall list below details of any litigation with which the tenderer (including its directors, shareholders or other senior members in previous companies) has been involved with any organ of state or state department within the last ten years. The details must include the year, the litigating parties, and the subject matter of the dispute, the value of any award or estimated award if the litigation is current and in whose favour the award, if any, was made.

Client	Other litigating party	Dispute	Award value	Date resolved

SIGNED ON BEHALF OF THE TENDERER: .....



## FORM A10: SCHEDULE OF CURRENT COMMITMENTS

### Notes to tenderer:

The tenderer shall list below all contracts currently under construction or awarded and about to commence and tenders for which offers have been submitted but awards not yet made. In the event of a joint venture enterprise, details of all the members of the joint venture shall similarly be attached to this form.

The lists must be restricted to not more than 20 contracts and 20 tenders. If a tenderer's actual commitments or potential commitments are greater than 20 each, those listed should be in descending order of expected final contract value or sum tendered.

TABLE 1 CONTRACTS AWARDED				
Client	Project	Expected total value of contract (incl. VAT)	Duration (Months)	Expected completion date

(Attach copy of appointment letter as proof of current commitments)

SIGNED ON BEHALF OF THE TENDERER: .....



## FORM A11: CERTIFICATE OF COMPLIANCE WITH OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 AND CONSTRUCTION REGULATIONS, 2003

### Note to tenderer:

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

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

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

Tenderers are required to satisfy the Employer and the Engineer as to their ability and available resources to comply with the above by answering the following questions and providing the relevant information required below.

1. Is the Contractor familiar with the OHSA (ACT 85 OF 1993) and its Regulations? YES / NO

2. Who will prepare the Contractors Health and Safety Plan? (Provide a copy of the person/s curriculum vitae/s or company profile).

.....

3. Does the Contractor have a health and safety policy? (If yes, provide a copy). YES / NO  
How is this policy communicated to all employees?

.....

4. Does the Contractor keep records of safety aspects of each construction site? YES / NO  
If yes, what records are kept?

.....

5. Does the Contractor conduct monthly safety meetings? If yes, who is the chairperson of the meeting, and who attends these meetings? YES / NO

.....

6. Does the Contractor have a safety officer in his employment, responsible for the overall safety of his company? YES / NO  
If yes, please explain his duties and provide a copy of his CV.

.....

.....

7. Does the Contractor have trained first aid employees? If yes, indicate who. YES / NO

.....

8. Does the Contractor have a safety induction training programme in place? YES / NO  
(If yes, provide a copy).

**The Contractor shall attach to this page his understanding of the scope of works and include in the methodology his baseline Health and Safety Plan.**

SIGNED ON BEHALF OF THE TENDERER: .....

**FORM A12: ..... CERTIFICATE OF REGISTRATION WITH CIDB**

The tenderer shall provide a printed copy of the Active Contractor's Listing off the CIDB website. ([www.cidb.org.za](http://www.cidb.org.za)). In the case of a Joint Venture, a printed copy of the Active Contractor's Listing must be provided for each member of the Joint Venture.

Name of Contractor: .....

Contractor Grading Designation:.....

CIDB Contractor Registration Number: .....

SIGNED ON BEHALF OF THE TENDERER: .....

**FORM A14: ORIGINAL CERTIFIED COPIES OF DIRECTORS / MEMBERS / TRUSTEES  
IDENTITY DOCUMENTS**

The tenderer shall attach to this page original certified copies of the directors / members trustee's identity documents of the tendering entity.

In the case of joint ventures, the required documents shall be submitted for each member of the joint venture.

SIGNED ON BEHALF OF THE TENDERER: .....

## **FORM A15: COPIES OF COMPANY REGISTRATION DOCUMENTS**

The tenderer shall attach to this page copies of the registration documents of the tendering entity.

Any of the following documents for the tendering entity is sufficient:

CK1: Founding Statement for a Close Corporation.

CK2: Amended founding statement for a Close Corporation.

CM1: Certificate of Incorporation for a company.

CM2: Memorandum of Association for a company.

CM9: Certificate of Change of name for a company.

Trust Deed and Letter of Authority to Act as Trustees certified by the High Court.

In the case of joint ventures, the required documents shall be submitted for each member of the joint venture.

## FORM A16: COMPULSORY ENTERPRISE QUESTIONNAIRE

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

**Section 1: Name of enterprise** .....

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

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

**Section 4: Particulars of sole proprietors and partners in partnerships**

Name*	Identity number*	Personal income tax number*

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

**Section 5: Particulars of companies and close corporations**

Company registration number .....

Close corporation number .....

Tax reference number .....

**Section 6: Record in the service of the state**

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

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

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

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

\*insert separate page if necessary



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

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

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

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

\*insert separate page if necessary

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

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

Signed		Date	
Name		Position	
Enterprise name			

SIGNED ON BEHALF OF THE TENDERER: .....

## FORM A17: REGISTRATION ON NATIONAL TREASURY CENTRAL SUPPLIER DATABASE

The tenderer shall provide a printed copy of the Active Supplier Listing on the National Treasury Central Supplier Database. ([www.treasury.gov.za](http://www.treasury.gov.za)). Tenderers who are not registered on the Central Supplier Database should attach proof of their application for. In the case of a Joint Venture, a printed copy of the Active Supplier Listing must be provided for each member of the Joint Venture.

Name of Contractor: .....

Central Supplier Database Supplier Number: .....

Supplier Commodity: .....

Delivery Location: .....

SIGNED ON BEHALF OF THE TENDERER: .....

## FORM C1: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017

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

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

### GENERAL CONDITIONS

The following preference point systems are applicable to all bids:

the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and  
the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

The value of this bid is estimated to not exceed R 50 000 000 (all applicable taxes included) and therefore the 80/20 system shall be applicable.

Preference points for this bid shall be awarded for:

Price; and

B-BBEE Status Level of Contribution.

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

	Points
<b>PRICE</b>	80
<b>B-BBEE STATUS LEVEL OF CONTRIBUTION</b>	20
<b>Total points for Price and B-BBEE must not exceed</b>	<b>100</b>

1.5 Failure on the part of a bidder to fill in and/or to sign this form and submit a B-BBEE Verification Certificate or, if required, a Consolidated 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 a sworn affidavit confirming annual turnover and level of black ownership in case of an EMEs and QSE together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

The employer 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 employer.

## 2. DEFINITIONS

- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- (c) **“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 goods or services, through price quotations, advertised competitive bidding processes or proposals;
- (d) **“Broad-Based Black Economic Empowerment Act”** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003) as amended by Act No 46 of 2013
- (e) **“EME”** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (f) **“functionality”** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- (g) **“prices”** includes all applicable taxes less all unconditional discounts;
- (h) **“proof of B-BBEE status level of contributor”** means:
  - 1) B-BBEE Status level certificate issued by an authorized body or person;
  - 2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
  - 3) Any other requirement prescribed in terms of the B-BBEE Act;
- (i) **“QSE”** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act;
- (j) **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;

## 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:

$$P_s = 80 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right) \quad \text{or} \quad P_s = 90 \left( 1 - \frac{P_t - P_{\min}}{P_{\min}} \right)$$

Where

$P_s$  = Points scored for price of tender under consideration.

$P_t$  = Price of tender under consideration; and

$P_{\min}$  = Price of lowest acceptable tender.

#### Points awarded for B-BBEE Status Level of Contribution

5.1 In terms of Regulation 6 (2) and 7 (2) of the Preferential Procurement Regulations, 2017, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

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

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

5.3 EMEs and 51% black owned QSEs must submit a Valid B-BBEE Affidavit as prescribed by the B-BBEE Act.

5.4 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, A provided that they submit a Consolidated B-BBEE Certificate issued by one of the bodies mentioned in 5.2 above.

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

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

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

## **6. BID DECLARATION**

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

## **7. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.3 AND 5.1**

7.1 B-BBEE Status Level of Contribution..... = ..... (maximum of 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 an Affidavit or 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 DECLARATIONS WITH REGARD TO COMPANY/FIRM**

9.1 Name of company/firm .....

9.2 VAT registration number : .....

9.3 Company registration number .....

9.4 TYPE OF COMPANY/ FIRM

[TICK APPLICABLE BOX]

- ☐ Partnership/Joint Venture / Consortium
- ☐ One person business/sole propriety
- ☐ Close corporation
- ☐ Company
- ☐ (Pty) Limited

#### 9.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....  
.....  
.....

#### 9.6 COMPANY CLASSIFICATION

[TICK APPLICABLE BOX]

- ☐ Manufacturer
- ☐ Supplier
- ☐ Professional service provider
- ☐ Other service providers, e.g., transporter, etc.

[TICK APPLICABLE BOX]

#### 9.7 Total number of years the company/firm has been in business?

.....

9.8 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-BBEE 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.

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.

recommend that the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted by the National Treasury 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 forward the matter for criminal prosecution

**WITNESSES:**

<p>WITNESSES</p> <p>1. ....</p> <p>2. ....</p>	<p>..... SIGNATURE(S) OF BIDDERS(S)</p> <p>DATE: .....</p> <p>ADDRESS .....</p> <p>.....</p> <p>.....</p>
--	---

**THE TENDERERS BBBEE CERTIFICATE SHOULD BE ATTACHED TO THIS PAGE**



## DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This Municipal Bidding Document (MBD) must form part of all bids invited. It contains general information and serves as a declaration form for local content (local production and local content are used interchangeably).

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2011 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

### 1. General Conditions

- 1.1. Preferential Procurement Regulations, 2011 (Regulation 9) makes provision for the promotion of local production and content.
- 1.2. Regulation 9. (1) prescribes that in the case of designated sectors, where in the award of bids local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3. Where necessary, for bids referred to in paragraph 1.2 above, a two-stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4. A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5. The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by the South African Reserve Bank (SARB) at 12:00 on the date of advertisement of the bid as required in paragraph 4.1 below.

**The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp) at no cost.**

1.6. A bid may be disqualified if –

- (a) this Declaration Certificate and the Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation; and
- (b) the bidder fails to declare that the Local Content Declaration Templates (Annex C, D and E) have been audited and certified as correct.

## 2. Definitions

2.1. **“bid”** includes written price quotations, advertised competitive bids or proposals;

2.2. **“bid price”** price offered by the bidder, excluding value added tax (VAT);

2.3. **“contract”** means the agreement that results from the acceptance of a bid by an organ of state.

2.4. **“designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;

2.5. **“duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility (close corporation, partnership or individual).

2.6. **“imported content”** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour and intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;

2.7. **“local content”** means that portion of the bid price, which is not included in the imported content, provided that local manufacture does take place;

2.8. **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and

2.9. **“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.

## 3. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:

Description of services, works or goods

Stipulated minimum threshold

Description of services, works or goods	Minimum Threshold
50mm diameter HDPE PIPES CLASS 12 (PLASTIC)	100%
Submersible pump	70%
2 x 10kl steel tanks and stand	100%

4. Does any portion of the services, works or goods offer have any imported content?

(Tick applicable box)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

- 4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.5 of the general conditions must be the rate(s) published by the SARB for the specific currency at 12:00 on the date of advertisement of the bid.

The relevant rates of exchange information is accessible on **www.reservebank.co.za**.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

NB: Bidders must submit proof of the SARB rate (s) of exchange used.

5. Were the Local Content Declaration Templates (Annex C, D and E) audited and certified as correct?

(Tick applicable box)

YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
-----	--------------------------	----	--------------------------

- 5.1. If yes, provide the following particulars:

- (a) Full name of auditor: .....
- (b) Practice number: .....
- (c) Telephone and cell number: .....
- (d) Email address: .....

(Documentary proof regarding the declaration will, when required, be submitted to the satisfaction of the Accounting Officer / Accounting Authority)

6. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the Accounting Officer / Accounting Authority provide directives in this regard.

**LOCAL CONTENT DECLARATION**  
**(REFER TO ANNEX B OF SATS 1286:2011)**

**LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)**

**IN RESPECT OF BID NO. ....**

**ISSUED BY:** (Procurement Authority / Name of Municipality / Municipal Entity):  
.....

NB

1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.

2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on <http://www.thedti.gov.za/industrialdevelopment/ip.jsp>. Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ..... (full names),  
do hereby declare, in my capacity as .....  
of .....(name of bidder  
entity), the following:

(a) The facts contained herein are within my own personal knowledge.

(b) I have satisfied myself that

- (i) the goods/services/works to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011; and
- (ii) the declaration templates have been audited and certified to be correct.

(c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

**If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.**

(d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.

(e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

**SIGNATURE:** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**WITNESS No. 1** \_\_\_\_\_

**DATE:** \_\_\_\_\_

**WITNESS No. 2** \_\_\_\_\_

**DATE:** \_\_\_\_\_



## Annex D

## Imported Content Declaration - Supporting Schedule to Annex C

(D1) Tender No. \_\_\_\_\_

(D2) Tender description: \_\_\_\_\_

(D3) Designated Products: \_\_\_\_\_

(D4) Tender Authority: \_\_\_\_\_

(D5) Tendering Entity name: \_\_\_\_\_

(D6) Tender Exchange Rate: \_\_\_\_\_ Pula \_\_\_\_\_

Note: VAT to be excluded from all calculations

EU R 9,00

GBP R 12,00

## A. Exempted imported content

Calculation of imported content										Summary	
Tender item no's	Description of imported content	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Exchange Rate	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Exempted imported value
(D7)	(D8)	(D9)	(D10)	(D11)	(D12)	(D13)	(D14)	(D15)	(D16)	(D17)	(D18)

(D19) Total exempt imported value

This total must correspond with Annex C - C 21

## B. Imported directly by the Tenderer

Calculation of imported content										Summary	
Tender item no's	Description of imported content	Unit of measure	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Tender Qty	Total imported value
(D20)	(D21)	(D22)	(D23)	(D24)	(D25)	(D26)	(D27)	(D28)	(D29)	(D30)	(D31)

(D32) Total imported value by tenderer

## C. Imported by a 3rd party and supplied to the Tenderer

Calculation of imported content										Summary	
Description of imported content	Unit of measure	Local supplier	Overseas Supplier	Foreign currency value as per Commercial Invoice	Tender Rate of Exchange	Local value of imports	Freight costs to port of entry	All locally incurred landing costs & duties	Total landed cost excl VAT	Quantity imported	Total imported value
(D33)	(D34)	(D35)	(D36)	(D37)	(D38)	(D39)	(D40)	(D41)	(D42)	(D43)	(D44)

(D45) Total imported value by 3rd party

## D. Other foreign currency payments

Calculation of foreign currency payments					Summary of payments	
Type of payment	Local supplier making the payment	Overseas beneficiary	Foreign currency value paid	Tender Rate of Exchange	Local value of payments	
(D46)	(D47)	(D48)	(D49)	(D50)	(D51)	

(D52) Total of foreign currency payments declared by tenderer and/or 3rd party

Signature of tenderer from Annex B

(D53) Total of imported content &amp; foreign currency payments - (D32), (D45) &amp; (D52) above

Date: \_\_\_\_\_

This total must correspond with Annex C - C 23

## Annex E

## Local Content Declaration - Supporting Schedule to Annex C

(E1)	Tender No.	
(E2)	Tender description:	
(E3)	Designated products:	
(E4)	Tender Authority:	
(E5)	Tendering Entity name:	

Note: VAT to be excluded from all calculations

Local Products (Goods, Services and Works)	Description of items purchased	Local suppliers	Value
	(E6)	(E7)	(E8)
	(E9) Total local products (Goods, Services and Works)		

(E10) **Manpower costs** (Tenderer's manpower cost)

(E11) **Factory overheads** (Rental, depreciation & amortisation, utility costs, consumables etc.)

(E12) **Administration overheads and mark-up** (Marketing, insurance, financing, interest etc.)

(E13) Total local content

This total must correspond with Annex C - C24

Signature of tenderer from Annex B

Date: \_\_\_\_\_



## **FORM C2: TENDERER'S DIRECT PARTICIPATION OF TARGETED LABOUR JOB CREATION**

### **1. Definitions**

#### **Targeted Labour**

Individuals, employed by the contractor in the performance of the contract, who are defined as the target group in the contract and who permanently reside in the target area or who are recognized as being residents of the target area on the basis of identification and association with and recognition by the residents of the target area

#### **Target Group**

For this project the contract does not specify the target group based on gender, age or disability. However, specifically excluded from the Target Group is the contractor's own staff unless such staff are also from the Target Area.

#### **Target Area**

For this project, the target area is defined as: Maebe, Sekhukhune District Municipality, Limpopo Province

### **2. Supporting Targeted Labour / Job Creation Calculation**

***The Tenderer must complete the table below to reflect the anticipated jobs created in completing this Contract.***

The minimum Job Creation content is as specified in Clause F.3.19 of the Tender Data.

Row No.	Description	A	B	C	D
		No. persons to employ	No. Days Employed	No. Labour Days (A x B)	No FTE Jobs to Create (C/230)
1	Unskilled Labourers				
2	Semi-skilled Labourers				
3	Skilled Site Personnel (Operators, Section Leaders, Etc.)				
4	Skilled Office Personnel (Clerks, Safety Agents, Lab Staff)				
5	Site Management Personnel				
6	Off Site Office Personnel				
7	Other (Specify)				
8	Other (Specify)				
9	<b>TOTAL (Sum Rows 1 to 8)</b>				*
10	<b>TOTAL Tendered Contract Price (from Form of Offer and Acceptance)</b>				
11	<b>Contractual Number of FTE Jobs to Create ((Row 10 / 1,000,000) x 1.25)</b>				

### Notes

\* This amount should be greater than or equal to the amount in Row 11.

The tender will be non-responsive if the minimum job creation content is not achieved.

The above information will be monitored by the Engineer during the construction phase. This undertaking by the Contractor will be part of the minimum Procurement Targets and penalties for non-conformance will be calculated according to those specified in the Tender Data.

SIGNED ON BEHALF OF THE TENDERER: .....

## **FORM C3: CONTRACT PARTICIPATION GOALS FOR TENDERER'S DIRECT PARTICIPATION OF TARGETED ENTERPRISES**

### **Definitions**

The following definitions shall apply to this schedule:

#### **Targeted Enterprise**

Enterprises who are based in the Limpopo Province, shall contribute **10%** of the contract value.

#### **Targeted Partners**

No targeted partners have been defined for the contract.

#### **Conditions associated with the construction participation goals (CPG)**

The tenderer, undertakes to:

engage one or more targeted enterprise in accordance with the provisions of the SANS 1914 -4 as varied in sections 3 hereunder;

deliver to the Employer, within 5 working days of being requested in writing to do so, a completed Joint Venture Disclosure Form (Annex D of SANS 1914-1) and a joint venture agreement, should a joint venture be proposed at prime contract level with Targeted Partners to satisfy Contract Participation Goal undertakings

deliver to the Employer, within 5 working days of being requested in writing to do so, a targeted Enterprise Declaration Affidavit in respect of all Targeted Enterprises engaged at prime contract level to satisfy Contract Participation Goal undertakings.

accept the sanctions set out in Section 4 below should such conditions be breached;

complete the Contract Participation Goal commitment form contained in Section 5 below; and

complete the Supporting Contract Participation Goal Calculation contained in Section 6 below.

#### **Variation to the targeted construction procurement specification SANS 1914-4**

The variations to SANS 1914-4 are set out below. Should any requirements of the variations conflict with requirements of SANS 1914-4 the requirements of the variations shall prevail.

Points for maximum and minimum contract participation goals shall be as set out in clause D1003 of the contract document. Calculations of the contract participation goals shall be based as a % of targeted enterprises costs of the Net Amount ( $N_A$ ) and not calculated in accordance with methods 1 or 2 in Annexure A of SANS 1914-4.

#### **Sanctions**

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

$$P = 0,50 \times \frac{(D - D_0)}{(100)} \times N_A$$

Where  $D$  = tendered Contract Participation Goal percentage.

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

$N_A$  = Net Amount

$P$  = Rand value of penalty payable

### Contract Participation Goal in respect of targeted enterprises

I/We hereby tender a Contract Participation Goal of .....%.

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the tenderer confirms that he/she understands the conditions under which such Contract Participation Goals are approved and confirms that the tender satisfies the conditions pertaining to Contract Participation goals for direct participation of targeted enterprises.

Signature: .....

Name: .....

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

Telephone: .....

Fax: .....

### Supporting contract participation goal calculation

SCHEDULE ITEM NO	NAME OF SMME/BE	ITEM DESCRIPTION/GOODS AND SERVICES TO BE PROVIDED	VALUE (RANDS)
<b>Total</b>			
<b>Tender Sum(<math>N_A</math>)</b>			
<b>% of Tender Sum</b>			

SIGNED ON BEHALF OF THE TENDERER: .....

**FORM C4: ..... JOINT VENTURE COMMITMENT**

**Tenderers who are Joint Ventures shall complete this form.**

The commitment and type of work to be performed by the joint venture partner(s) shall be entered into the table below:

<b>JOINT VENTURE COMPANY NAME(S)</b>	<b>VALUE OF WORK TO BE ASSIGNED (R VALUE)</b>	<b>NATURE OF WORK TO BE ASSIGNED</b>	<b>PROPORTION HOLDING IN JV AGREEMENT (%)</b>

**JOINT VENTURES SHALL ATTACH THEIR JOINT VENTURE AGREEMENT TO THIS PAGE**

**SIGNED ON BEHALF OF THE TENDERER: .....**

## FORM D1: SCHEDULE OF WORK EXPERIENCE

### Note to tenderer:

The tenderer shall enter in the spaces provided below a complete list of the last ten civil-engineering contracts with the focus being water and sanitation orientated, awarded to him. This information is deemed to be material to the award of the contract.

Employer	Engineer *	Nature of Works	Value of Works	Duration and Completion Date

***Failure to detail the required information, shall signify that the tender is submitted by an inexperienced tenderer.***

SIGNATURE OF TENDERER: .....

DATE: .....

\* State firm, contact person and telephone number.

## FORM D2: SCHEDULE OF CONTRACTOR'S EQUIPMENT

### Note to tenderer:

State with relevant symbol in the availability column.

The tenderer shall state below what constructional plant will be immediately available for this contract, what constructional plant will become available by virtue of outstanding orders, and what further constructional plant will be acquired or hired for the work should he be awarded the contract.

CONSTRUCTIONAL PLANT IMMEDIATELY AVAILABLE (I)

CONSTRUCTIONAL PLANT ON ORDER (O)

(State details of arrangements made, with delivery dates)

CONSTRUCTIONAL PLANT THAT WILL BE ACQUIRED OR HIRED (H)

(State details of delivery arrangements)

DESCRIPTION, SIZE, CAPACITY	NUMBER	AVAILABILITY (I) (O) (H)

SIGNED ON BEHALF OF TENDERER: .....

## FORM-T: PROPOSED KEY STAFF

The Tenderer shall list below the key personnel (including first nominee and the second choice alternate), whom he proposes to employ on the Contract should his tender be accepted, both at his headquarters and on the Site, to direct and for the execution of the work, together with their qualifications, experience, positions held and their nationalities. CV's of qualified key personnel must be attached

**Refer to Form where specific information must be provided.**

[illegible]



## FORM-U: QUALITY CRITERIA SCHEDULES

Please provide adequate supporting information in order for the Employer to score the following schedules. Do not refer to Form A3 for information.

Form A13 requires far more information than what is provided in Form A3 which is normally only a concise list or summary.

Provide detailed attachments to support the claimed points for the items required in the various categories.  
Example

[illegible]

## FORM D4: SCHEDULE OF SPECIALIST SUBCONTRACTORS

With regard to sub-clause 4.4 of the General Conditions of Contract:

### Note to tenderer:

**The tenderer shall list below the specialist items of work on this contract. Alternatives may be mentioned.**

**The tenderer shall state whether he intends to carry out any specialised work himself.**

Acceptance of this tender shall not be construed as approval of all or any of the listed specialist subcontractors. Should any or all of the specialist subcontractors not be approved subsequent to the acceptance of the tender, it shall in no way invalidate this tender, and the tendered unit rates for the various items of work shall remain final and binding, even in the event of a subcontractor not listed below being approved by the engineer.

SPECIALISED ITEM	NAME OF SPECIALIST SUBCONTRACTOR

SIGNED ON BEHALF OF TENDERER:.....

## **FORM D5: INDICATIVE CONSTRUCTION PROGRAMME**

### **Note to tenderer:**

The tenderer shall attach a preliminary programme, reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this contract. The programme shall be in accordance with the information provided in form D2: Schedule of contractor's equipment, form D5: Schedule of estimated monthly expenditure, and with all other aspects of the tender.

SIGNED ON BEHALF OF TENDERER: .....

## FORM D6: SCHEDULE OF ESTIMATED MONTHLY EXPENDITURE

### Note to tenderer:

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

The tenderer shall state his estimated value of the work to be completed every month, based on his preliminary programme and his tendered unit rates, in the table below.

MONTH	VALUE
1	R .....
2	R .....
3	R .....
4	R .....
5	R .....
6	R .....
7	R .....
FINAL*	R .....
TOTAL: R .....	

\* Final payment at end of Defects Notification Period is for balance of retention and any other payments due.

SIGNED ON BEHALF OF TENDERER: .....

## **FORM E1: QUALITY ASSURANCE**

The tenderer shall attach to this Form sufficient details from his Quality Assurance Plan to indicate the processes and policies to be adopted to ensure that the required specifications of the works are achieved during construction.

The Quality Assurance Plan to be submitted to the Engineer after award shall include that of any subcontractors (if applicable).

The minimum details to be given with this tender shall include (where applicable):

TESTING (WHICH TESTS, POINT/S OF TESTING, FREQUENCY)

MANUFACTURE, TRANSPORT, CONSTRUCTION

PERSONNEL EMPLOYED ON ALL ACTIVITIES AND QUALITY CONTROL

ANY OTHER MATTERS WHICH RELATE TO THE QUALITY ASSURANCE PLAN WHICH THE TENDERER CONSIDERS MAY BE OF ASSISTANCE IN TENDER ADJUDICATION

SIGNED ON BEHALF OF TENDERER: .....

**FORM F1: 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)**

I hereby undertake to render services described in the attached bidding documents to **Sekhukhune District Municipality**, in accordance with the requirements and task directives / proposals specifications stipulated in **CONTRACT No: SK8/3/1-41/2022/23**

at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid.

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

Bidding documents, viz.

Invitation to bid;

Tax clearance certificate;

Pricing schedule(s);

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;

General Conditions of Contract; and

Other (specify)

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

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

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

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

NAME (PRINT) .....

CAPACITY .....

SIGNATURE .....

NAME OF FIRM .....

DATE .....

**WITNESSES**

1 .....

2 .....

DATE: .....

# **CONTRACT FORM - RENDERING OF SERVICES**

## **PART 2 (TO BE FILLED IN BY THE PURCHASER)**

I..... in my capacity

as.....accept your bid under reference number

**CONTRACT No:SK8/3/1-41/2022/23(WSIG)** dated.....for the rendering of services

indicated hereunder and/or further specified in the annexure(s).

An official order indicating service delivery instructions is forthcoming.

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)
MAEBE WATER SUPPLY				

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

SIGNED AT .....ON.....

NAME (PRINT) .....

SIGNATURE .....

OFFICIAL STAMP

WITNESSES

1 .....

2 .....

DATE: .....

## FORM F2: DECLARATION OF BIDDERS PAST SUPPLY CHAIN MANAGEMENT PRACTICES

This Standard Bidding Document must form part of all bids invited.

It serves as a declaration to be used by institutions 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.

The bid of any bidder may be disregarded if that bidder, or any of its directors have-

abused the institution's supply chain management system;  
committed fraud or any other improper conduct in relation to such system; or  
failed to perform on any previous contract.

**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 <i>audi alteram partem</i> rule was applied).  <b>The Database of Restricted Suppliers now resides on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) and can be accessed by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
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)? <b>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court outside of the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.4.1	If so, furnish particulars:		



Item	Question	Yes	No
4.5	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 <input type="checkbox"/>	No <input type="checkbox"/>
4.5.1	If so, furnish particulars:		

## CERTIFICATION

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

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

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

.....  
Signature Date

.....  
Position Name of Bidder

## FORM F3: CERTIFICATE OF INDEPENDENT BID DETERMINATION

This Standard Bidding Document (MDB) must form part of all bids<sup>1</sup> 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).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.

3 Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorizes accounting officers and accounting authorities to:

- a. disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
- b. cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.

This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.

In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

<sup>1</sup> *Includes price quotations, advertised competitive bids, limited bids and proposals.*

<sup>2</sup> *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.*

## CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

**CONTRACT No:SK8/3/1-41/2022/23(WSIG) – MABULELA WATER SUPPLY INTERVENTION PROJECT** in response to the invitation for the bid made by:

### **SEKHUKHUNE DISTRICT MUNICIPALITY**

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)

I have read and I understand the contents of this Certificate;

I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;

I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;

Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign the bid, on behalf of the bidder;

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

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<sup>3</sup> will not be construed as collusive bidding.

**<sup>3</sup> 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.**

In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:

prices;

geographical area where product or service will be rendered (market allocation)

- (c) methods, factors or formulas used to calculate prices;
- (d) the intention or decision to submit or not to submit, a bid;
- (e) the submission of a bid which does not meet the specifications and conditions of the bid;
- (f) or bidding with the intention not to win the bid.

In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.

The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.

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

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C1.1 Form of Offer and Acceptance

#### Offer

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

**CONTRACT No. SK8/3/1- 41/2022/23(WSIG): MABULELA WATER SUPPLY INTERVENTION**

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 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 fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the 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** SEKHUKHUNE DISTRICT MUNICIPALITY  
Private Bag X8611  
GROBLERSDAL  
0470

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.

**Please include the following requirement in 73.13.1**

1. Replace **Original Valid Tax Clearance Certificate** with **Valid Tax Clearance Certificate or Pin** issued by the South African Revenue Services
2. Municipal Rates of directors not in arrears for more than three months or lease agreement in the name of the company.
3. Documentation if tender exceeds **R10m** (Compulsory if applicable)

If the bidder is required by law to prepare **AFS** (Annual Financial Statements) for auditing, the AFS for the past three years or since the establishment if established during the past three years.

4. Municipal Rates of the company not in arrears for more than 30 days
5. Form of Offer properly signed
6. Letter of Good Standing (**COIDA**)
7. Attach certificate of Attendance or Briefing Session Attendance Register signed
8. Required to Declare Interest
9. Certificate of Independent Bid Determination
10. Declaration of Bidder's Past Supply Chain Management Practices.
11. Certified copy of BBBEE Certificate

**N.B.: All MBD forms must be included in the tender document.**



## SEKHUKHUNE DISTRICT MUNICIPALITY

### C1.2 Contract Data

The General Conditions of Contract for Construction Works, Third Edition, (2015) published by the South African Institution of Civil Engineering, are applicable to this contract and forms Volume 1 of the Contract Document. Volume 2 is the Contract Drawings Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering from [www.saice.org.za](http://www.saice.org.za).

The General 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.

	<p><b>The additional clauses to the General Conditions of Contract are:</b></p> <p><b>Payment for the labour-intensive component of the works</b></p> <p>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.</p> <p><b>Linkage of payment for labour-intensive component of works to submission of project data</b></p> <p>The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframe stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted.</p> <p><b>Applicable labour laws</b></p> <p>The current Ministerial Determination (also downloadable at <a href="http://www.epwp.gov.za">www.epwp.gov.za</a>), Expanded Public Works Programmes, issued in terms of the Basic Condition of Employment Act of 1997 by the Minister of Labour in Government Notice, shall apply to works described in the scope of work as being labour-intensive and which are undertaken by unskilled workers.</p>
--	--

## **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 SPWP.

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.

## Part 1: Contract Data completed by the Employer

Clause	
1.1.1.13	The Defects Liability Period is 12 calendar months after the final completion date
1.1.1.14	The times for achieving Practical Completion is a maximum of six months after commencement date
1.1.5	Clause 1.1.5 of the GCC is replaced by the following: The "Commencement date" shall be the date the site is handed over to the Contractor.
1.1.15	The name of the Employer is the Sekhukhune District Municipality.
1.2.1.2	The Employer is:  Name: Sekhukhune District Municipality Address: Private Bag X8611, GROBLERSDAL, 0470 Telephone: (013) 262 7300 Fax: (013) 262 3688
1.1.16	The Engineer representing the Employer's Agent is Mr Pieter Meiring (Project Leader)
1.2.1.2	The Engineer's address for receipt of communication is:  ZUTARI (PTY) LTD 08 Watermelon Street Platinum Park, Bendor PO Box 3519 POLOKWANE 0700 Telephone: (015) 287 3800
5.3.1	The documentation required before commencement with works execution are: 1.Health and Safety Plan 2.Initial Programme 3.Security 4.Insurance
5.3.2	The time to submit the documentation required before commencement with works execution is <b>14 days</b> of the Commencement Date.
5.8.1	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 15 <sup>th</sup> December and the first Monday of the subsequent year.
5.13.1	The penalty for failing to complete the Works is <b>1.5% of the contract amount per month or part thereof.</b>
5.16.3	The latent defect period is <b>Ten (10) years</b>
6.5.1.2.3	The percentage allowance to cover overhead charges is <b>15%</b>
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is <b>80%</b>
6.10.3	A Retention Money Guarantee <b>is permitted and required. A penalty will be applied for non-delivery of the Retention Money Guarantee as required. The penalty will be 10% of the value of the completion Retention Money Amount per calendar month for late delivery of the said Retention Money Guarantee.</b>
8.6.1.1.2	The Value of Plant and material supplied by the Employer to be included in the insurance sum is <b>R0.00</b>
8.6.1.1.3	The amount to cover professional fees for repairing damage and loss included in the insurance sum is as per SLA signed with the Client.
8.6.1.3	The limit of indemnity for liability insurance is as per SLA signed with the Client.
10.5.3	The number of adjudication Board Members to be appointed is <b>Three (3)</b>
3.1.3	The engineer is required in terms of his appointment with the employer to obtain the following specific approvals from the employer e.g.;
	1. Approval of extension of time;
	2. Approval of additional costs;

	3. Approval of variation orders; 4. Approval of penalties; 5. Approval from SEKHUKHUNE District Municipality for the utilization of any Contingencies									
3.1.3	<p>The Engineer is required to obtain the specific approval of the Employer before executing any of the following functions or duties:</p> <p>1. Nominating the Engineer's Representative in terms of Clause 3.2.1. 2. Delegation of Engineer's authority in terms of Clause 3.2.4. 3. Providing consent for subcontracting part of the contract in terms of Clause 4.4.3. 4. The issuing of further drawings or instructions in terms of Clause 5.9.1. 5. The issuing of instructions for dealing with fossils and the like in terms of Clause 4.7.1. 6. Authorizing the Contractor to repair and make good excepted risks in terms of Clause 8.3. 7. The issuing of a variation order in terms of Clause 6.3.1. 8. Issuing of instructions to carry out work on a day work basis in terms of Clause 6.5. 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 5.11.1 11. The issuing of an instruction to accelerate progress in terms of Clause 5.7.3. 12. The reduction of a penalty for delay in terms of Clause 5.13.2. 10. The determination of additional or reduced costs arising from changes in legislation in terms of Clause 6.8.2. 11. The giving of a ruling on a contractor's claim in terms of Clause 10.1.5. 12. The agreeing of an extension to the 28 period in terms of Clause 10.1.5. 13. The inclusion of credits in the next payment certificate in terms of Clause 5.12.3.</p>									
5.3.1	<p>The time to deliver the Form of Guarantee within 14 days of the Commencement Date.</p> <p>The Form of Guarantee is to contain the wording of the document included in Clause.3 or as supplied by the Employer.</p> <p>The liability for the guarantee shall be for <b>10% of the contract amount.</b></p>									
5.3.2	The time to submit the documentation required before commencement with works execution is <b>14 days</b> of the Commencement Date.									
5.6.1	The Works programme is to be delivered within <b>14 days</b> of the Commencement Date.									
8.6.1.1	The amount to be included in the sum insured to cover the value of the contract amount.									
8.6.1.2	Contractor to provide <b>ALL RISK</b> insurance within 14 days of award.									
5.14	It is estimated that the works be completed within a maximum of <b>Five (5) MONTHS</b> and also as per SCC.									
5.13.1	The penalty for failing to complete the Works is <b>1.5% of the contract amount per month.</b>									
6.8.2	<p>The value of the payment certificates is to be adjusted in accordance with the Contract Price Adjustment Schedule, where:</p> <p>The value of "x" is 0,15 The values of the coefficients are: a = Labour b = Contractor's equipment c = Material d = Fuel</p> <p>The urban area nearest to the Site is <b>Groblerdal</b> The base month is the month prior to the closing of the Bid</p>									
6.10.3	The percentage retention on amounts due to the Contractor is <b>10% of the contract amount.</b>									
6.10.1	Minimum amount of interim payment certificate is <b>R 200 000.00</b>									
10.5.1	Dispute resolution is to be my means of adjudication									
10.7.1	Disputes are to be referred for final settlement to arbitration.									
Special Clause in terms of RDP	<p>Requirements in terms of government's reconstruction and development programme.</p> <p>In this contract the minimum target values shall be as follows:</p> <table><tr><td>Labour Maximisation</td><td>:</td><td><b>5% (20 Targeted Labourers)</b></td></tr><tr><td>ABE support</td><td>:</td><td><b>10%</b></td></tr><tr><td>HDI Supervisory Staff</td><td>:</td><td><b>10%</b></td></tr></table> <p>The penalties for not reaching the required target values will be calculated at <b>20% of the difference between the set target values and the actual target values achieved by the contractor at completion of the works.</b> No bonuses for achieving the set target values are applicable.</p>	Labour Maximisation	:	<b>5% (20 Targeted Labourers)</b>	ABE support	:	<b>10%</b>	HDI Supervisory Staff	:	<b>10%</b>
Labour Maximisation	:	<b>5% (20 Targeted Labourers)</b>								
ABE support	:	<b>10%</b>								
HDI Supervisory Staff	:	<b>10%</b>								

## Part 2: Data provided by the Contractor

Clause																																	
1.1.1.9	The contractor is																																
1.2.1.2	<p>The contractor's address for receipt of communication is:</p> <p>Telephone:.....</p> <p>Mobile phone: .....</p> <p>Facsimile: .....</p> <p>e-mail: .....</p> <p>Address: .....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>																																
1.1.1.14	The time for achieving Practical Completion is.....																																
6.2.1	<table border="1"> <thead> <tr> <th>Type of Security</th><th>Contractor's Choice. Indicate "Yes or No"</th></tr> </thead> <tbody> <tr> <td><i>(The Value Added Tax is included in the Contract Sum and is the Value of the Works for Calculating the percentage)</i></td><td></td></tr> <tr> <td>Cash deposits of 10 % of the contract Sum.</td><td></td></tr> <tr> <td>Performance guarantee of 10 % of the contract Sum.</td><td></td></tr> <tr> <td>Retention of 10% of the value of the works</td><td></td></tr> <tr> <td>Cash Deposits of 10 of the contract Sum plus retention of 10 % of the value of the works</td><td></td></tr> <tr> <td>Performance guarantee of 10 % of the contract Sum plus retention of 10% of the value of the works</td><td></td></tr> </tbody> </table>			Type of Security	Contractor's Choice. Indicate "Yes or No"	<i>(The Value Added Tax is included in the Contract Sum and is the Value of the Works for Calculating the percentage)</i>		Cash deposits of 10 % of the contract Sum.		Performance guarantee of 10 % of the contract Sum.		Retention of 10% of the value of the works		Cash Deposits of 10 of the contract Sum plus retention of 10 % of the value of the works		Performance guarantee of 10 % of the contract Sum plus retention of 10% of the value of the works																	
Type of Security	Contractor's Choice. Indicate "Yes or No"																																
<i>(The Value Added Tax is included in the Contract Sum and is the Value of the Works for Calculating the percentage)</i>																																	
Cash deposits of 10 % of the contract Sum.																																	
Performance guarantee of 10 % of the contract Sum.																																	
Retention of 10% of the value of the works																																	
Cash Deposits of 10 of the contract Sum plus retention of 10 % of the value of the works																																	
Performance guarantee of 10 % of the contract Sum plus retention of 10% of the value of the works																																	
6.5.1.2.3	The percentage allowances to cover all charges for the contractor's and subcontractor's profits, timekeeping, clerical work, insurance, establishment, superintendence and the use of hand tools is .....%.																																
6.8.3	<p>The variation in cost of special materials is:</p> <table border="1"> <thead> <tr> <th rowspan="2">Special material</th><th colspan="2">Unit on which variation will be determined</th><th rowspan="2">Price for base month ex-factory, excluding transport, labour or any other costs.</th></tr> <tr> <th>Containers</th><th>Delivered in bulk</th></tr> </thead> <tbody> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td></tr> </tbody> </table> <p>*State unit in appropriate column</p>			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																								
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																															



## SEKHUKHUNE DISTRICT MUNICIPALITY

### C1.3 Form of Guarantee

Contract No. SK8/3/1-WSIG 02/2020/21

WHEREAS **SEKHUKHUNE DISTRICT MUNICIPALITY** (hereinafter referred to as the Employer”) entered into, a Contract with:

.....

(hereinafter called “the Contactor”) on the ..... day of .....20.....,

for the construction of:

#### **MABULELA WATER SUPPLY INTERVENTION**

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 execution 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 hereunder shall not exceed the Guaranteed Sum of .....  
..... liability .....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 WHEREOF 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 .....

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C1.4 Occupational Health and Safety

#### **AGREEMENT IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)**

THIS AGREEMENT IS made at .....

on the ..... day of ..... in the year .....

Between SEKHUKHUNE DISTRICT MUNICIPALITY (hereinafter called "the Employer") of the one part, herein represented by .....

In his capacity as .....

and delegate of the Employer in terms of the Employer's standard powers of delegation pursuant to the provisions of Act No 7 of 1998,

and .....

(hereinafter called "the Mandatory") of the other part, herein represented by .....

.....

in his capacity as .....

and being duly authorized by virtue of a resolution appended hereto as Annexure A;

WHEREAS the Employer requires certain works be constructed, viz **MABULELA WATER SUPPLY INTERVENTION CONTRACT No. SK8/3/1-WSIG 02/2020/21**

and has accepted a Tender by the Mandatory for the construction, completion and maintenance of such Works and whereas the Employer and the Mandatory have agreed to certain arrangements and procedures to be followed in order to ensure compliance by the Mandatory with the provisions of the Occupational Health and Safety Act, 1993 (Act 85 of 1993).

NOW THEREFORE THIS AGREEMENT WITNESSES AS FOLLOWS:

- 1 The Mandatory shall execute the work in accordance with the Contract Documents pertaining to this Contract.
- 2 This Agreement shall hold good from its Commencement Date, which shall be the date of a written notice from the Employer or engineer requiring him to commence the execution of the Works, to either -
  - (a) the date of the Final Certificate issued in terms of the GCC, as contained in Volume 1 of the Contract Documents pertaining to this Contract, or
  - (b) The date of termination of the Contract in terms of the GCC.

- 3 The Mandatory declares himself to be conversant with the following:
- (a) All the requirements, regulations and standards of the Occupational Health and Safety Act (Act 85 of 1993), hereinafter referred to as "The Act", together with its amendments and with special reference to the following Sections of The Act:
    - (i) Section 8 : General duties of Employers to their employees
    - (ii) Section 9 : General duties of Employers and self-employed persons to persons other than employees
    - (iii) Section 37 : Acts or omissions by employees or mandataries
    - (iv) Sub-section 37(2) relating to the purpose and meaning of this Agreement
  - (b) The procedures and safety rules of the Employer as pertaining to the Mandatory and to all his subcontractors.
- 4 In addition to the requirements of the GCC (as amended by Special Condition of Contract contained in the Contract Documents pertaining to this Contract) and all relevant requirements of the above-mentioned, the Mandatory agrees to execute all the Works forming part of this Contract and to operate and utilize all machinery, Plant and equipment in accordance with the Act.
- 5 The Mandatory is responsible for the compliance with the Act by all his subcontractors, whether or not selected and/or approved by the Employer.
6. The Mandatory warrants that all his and his subcontractors' workmen are covered in terms of the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No 130 of 1993), which cover, shall remain in force whilst any such workmen are present on site. A letter of good standing from the Compensation Commissioner to this effect must be produced to the Employer upon signature of the agreement.
7. The Mandatory undertakes to ensure that he and/or subcontractors and/or their respective employers will at all times comply with the following conditions:
- a) The Mandatory shall assume the responsibility in terms of Section 16.1 of the Act. The Mandatory shall not delegate any duty in terms of Section 16.2 of this Act without the prior written approval of the Employer. If the Mandatory obtains such approval and delegates any duty in terms of section 16.2 a copy of such written delegation shall immediately be forwarded to the Employer.
  - b) All incidents referred to in the Act shall be reported by the Mandatory to the Department of Labour as well as to the Employer. The Employer will further be provided with copies of all written documentation relating to any incident.
  - c) The Employer hereby obtains an interest in the issue of any formal enquiry conducted in terms of section 32 of the Act into any incident involving the Mandatory and/or his employees and/or his subcontractors.

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

SIGNED FOR AND ON BEHALF OF THE EMPLOYER : .....

Witness	.....	Witness	.....
(Name)	.....	(Name)	.....
(Print)	.....	(Print)	.....

SIGNED FOR AND ON BEHALF OF THE MANDATORY : .....

Witness	.....	Witness	.....
(Name)	.....	(Name)	.....
(Print)	.....	(Print)	.....

## ANNEXURE A

### **CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO 85 OF 1993)**

The signatory for the company that is the Contractor in terms of the above-mentioned Contract and the Mandatory in terms of the above-mentioned Act shall confirm his or her authority thereto by attaching to this page a duly signed and dated copy of the relevant resolution of the board of directors.

By resolution of the board of directors passed at a meeting held on ..... 20.....,

Mr//Ms ..... whose signature

appears below, has been duly authorised to sign the AGREEMENT IN TERMS OF THE  
OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT 85 OF 1993) on behalf of .....

SIGNED ON BEHALF OF THE COMPANY : .....

IN HIS/HER CAPACITY AS : .....

DATE : .....

SIGNATURE OF SIGNATORY : .....

WITNESS : ..... WITNESS : .....

NAME (in capitals): ..... NAME : .....

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C2.1 Special Conditions Of Contract

The following special conditions of contract, which include amendments to, omissions of or additions to certain clauses of the "General Conditions of Contract for Construction Works, Third Edition, (2015)", shall be applicable to the works. In the case of conflict with the mentioned general conditions of contract, these special conditions of contract shall be binding and applicable to the contract.

Each clause with the prefix SCC shall refer to the concurrent clause in the general conditions of contract. Such clause shall substitute, supplement or amend the clause with the same number in the general conditions of contract. Where there is no such concurrent clause in the general conditions of contract the SCC clause shall be numbered as a new clause in the special conditions of contract.

#### **SCC 1.1        DEFINITIONS**

##### **SCC 1.1.1.15    EMPLOYER**

Add the following to GCC 1.1.1.15:

The employer is the **Sekhukhune District Municipality**, and includes any persons appointed by the Employer. The official address is:

Sekhukhune District Municipality  
Private Bag X8611  
GROBLERSDAL  
0470

##### **SCC 1.1.1.16    EMPLOYERS AGENT**

Add the following to GCC 1.1.1.16:

The Employers Agent means Sekhukhune District Municipality, and includes any persons appointed by the Employers Agent. The official address is:

Sekhukhune District Municipality  
Private Bag X8611  
GROBLERSDAL  
0470

## **SCC 2.4      AMBIGUITY OR DISCREPANCY**

Add the following clause to GCC 2.4:

2.4.3      The several documents forming the contract shall rank in the following order of precedence:

- a) contract agreement;
- b) tender form and appendix;
- c) special conditions of contract;
- d) project specifications;
- e) general conditions of contract;
- f) drawings;
- g) standardised specifications (SABS 1200) and particular specifications;
- h) schedule of quantities and summary;
- i) statutory regulations and requirements;
- j) standard SABS specifications (not SABS 1200);
- k) other standard specifications.

If the requirements of any part of the tender document contradict any other part, the document in the highest position on the above order of precedence, shall have preference and apply.

## **SCC 4.3      LEGAL PROVISIONS**

### **SCC 4.3.1      COMPLIANCE WITH APPLICABLE LAWS**

The Contractor shall be conversant with all the requirements, regulations, and standards of the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as “the Act” and undertakes to execute all the works forming part of this Contract and to operate and utilise all machinery, plant, and equipment in accordance with the Act.

The Contractor shall, from the commencement date of the Contract up to completion or termination thereof, be the Employer’s mandatory regarding occupational health and safety for all activities on the site but without derogating from his status in his own right as an employer or a user in accordance with the Act.

The Contractor is responsible for the compliance with the Act by all his subcontractors, whether or not nominated and/or approved by the Employer.

The Contractor shall, when called upon to do so, enter into and execute an Agreement, as provided for under Section 37(2) of the Act, with the Employer. The Agreement in the relevant form shall be prepared at the expense of the Employer.

## **SCC 4.10      CONTRACTOR'S EMPLOYEES**

### **SCC 4.10.1      ENGAGEMENT OF EMPLOYEES**

Add the following to clause 4.10.1:

In the event that the Contractor does not pay local labour or any outside agency employed on a monthly basis, the Employer has the automatic right to deduct such wages from the Contractor's next payment certificate. This will be deducted from either monies due to the Contractor or from retention already retained on the project. Payments to the local labour or outside agency will be made by cession.

**SCC 5.5 TIME FOR PRACTICAL COMPLETION**

**SCC 5.5.2 BUILDER'S HOLIDAYS**

The time for achieving practical completion shall exclude the period of builder's holidays from 16 December 2022 till 02 January 2023 (both days inclusive), as well as other special non-working days and public holidays.

**SCC 5.6 PROGRAMME**

**SCC 5.6.1 PROGRAMME OF THE WORKS**

Add the following to GCC 5.6.1

The critical path of the works shall also be stipulated clearly in the programme.

**SCC 5.9 INSTRUCTIONS**

**SCC 5.9.1 DRAWINGS AND INSTRUCTIONS**

Add the following to GCC 5.9.1

The Contractor is entitled to three (3) free sets of paper plans for normal use and one (1) free set of paper plans on which to enter "as built" information. He shall also be supplied with one (1) free copy of the contract document. These drawings and contract document shall be issued to the Contractor, at the time of commencement of the contract, by the Employer's Agent.

**SCC 5.9.7 EMPLOYER'S AGENT TO APPROVE CONTRACTOR'S DESIGNS AND DRAWINGS**

Add the following to GCC 5.9.7:

Although the Employer's Agent may approve plans and designs of the Contractor, this does not exempt the Contractor from his responsibility. The professional responsibility for such designs shall be that of the Contractor and his Engineer.

**SCC 5.11 SUSPENSION OF THE WORKS**

**SCC 5.11.7 CONSTRUCTION PROGRAMME**

Add the following clause to GCC 5.11:

No payment shall be made for costs incurred by recompiling a construction programme. In the case of suspension of work, either for a change in sequence or as a result of GCC 5.11.2 to 5.11.3, no payment shall be made for such costs resulting from this.

**SCC 5.12 EXTENSION OF TIME FOR PRACTICAL COMPLETION**

**SCC 5.12.1 EXTENSION OF TIME FOR PRACTICAL COMPLETION**

Add the following to GCC 5.12.1:

Extension of the time for completion as a result of extra or additional work and unfavourable physical conditions shall only be granted if such work or conditions influence work on the critical path of the programme. If no definitive method for extension of time due to weather conditions and rain is specified, extension of time as a result of this shall also only be applicable if it influences the critical path of activities.



## SCC 5.12.2 SOME REASONS FOR EXTENSIONS OF TIME

Add the following to GCC 5.12.2:

Abnormal climatic conditions.

No extension of the time for completion shall be granted on the grounds of normal rainfall conditions, but extension of time in terms of relevant clause of the general conditions of contract on the grounds of abnormal rainfall or wet conditions shall be calculated separately for each calendar month or part thereof, according to the following formula. It shall be calculated as follows for the time for completion, including any extension thereof:

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

- V = Extension of time for calendar days of the calendar month concerned. If the value of V is negative and the absolute value thereof is greater than Nn, V is taken as negative Nn.
- Nw = Actual number of days during calendar month on which a rainfall of Y mm or more is recorded.
- Nn = Average number of days in the calendar month concerned on which a rainfall of Y mm or more is recorded in terms of existing rainfall data.
- Rw = Actual rainfall for the calendar month concerned in mm.
- Rn = Average rainfall for the calendar month in mm deduced from existing rainfall data.

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

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

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

For the purpose of this contract the values of Nn, Rn, X and Y will be the relevant values of the nearest weather station to the site as supplied by the South African Weather Buro. It is the sole responsibility of the Tenderer to acquaint himself with the relevant values. These values shall, at the start of the contract be submitted to the Employer's Agent for scrutiny and approval.

## SCC 5.12.2.5 AVAILABILITY OF PETROLEUM PRODUCTS

Add the following to GCC 5.12.2:

The tender shall be based on the available supply of petroleum products required for the completion of the works. If, during the contract period, for reasons outside the control of the Contractor, a restriction or breakdown in the supply of petroleum products may occur, which has an actual influence on the execution of the works for a period of at least thirty (30) days, the Contractor shall make all reasonable efforts to complete the works and he shall be entitled to an extension of the time for completion and he shall also be entitled to such an adjustment of the contract price as deemed reasonable by the Employer's Agent, with consideration of all materials and relevant factors directly responsible or having a direct effect on such restriction or breakdown, with the inclusion of the Contractor's site and overhead costs relevant to the contract.

#### **SCC 5.12.2.6 EXTENSION OF TIME DUE TO SHORTAGE OF MATERIAL**

Add the following to GCC 5.12.2:

If, during the preparation of his tender or during construction, the Contractor bases his unit prices on prices obtained from specific material or specific suppliers, it will be accepted that the Contractor has ascertained that such material shall be available on a continuous basis for the execution of the contract.

No extension of time shall be granted if material cannot be obtained locally, but is available from other sources in the country, and no additional remuneration shall be granted for increased costs due to obtaining material from sources in other parts of the country.

If suppliers cannot adhere to the quoted delivery dates, any delays resulting from this shall be considered as a matter between the supplier and the Contractor. Extension of time could be granted under such conditions after complete proofs have been submitted to and accepted by the Employer's Agent, but without any financial implications for the Employer.

#### **SCC 5.15 CLEARANCE OF SITE**

##### **SCC 5.15.1 CLEARANCE OF SITE ON COMPLETION**

Add the following to GCC 5.15.1:

After completion of the works, the Contractor shall obtain certificates from all concerned land owners on whose property works have been executed, stating that they are satisfied with the condition of their property, which will normally include finishing of pipe trenches and structures, clearance and finishing of all stone quarries, borrow pits, diversions, private or tertiary or haulage roads that have been used for the transport of material, waste material, fencing, gates, etc. on their properties. These certificates shall all be handed to the Employer's Agent before he issues the certificate of completion. Notwithstanding a certificate of completion will not be issued if the work is not to the satisfaction of the Employer's Agent.

#### **SCC 5.16 APPROVAL**

##### **SCC 5.16.3 LATENT DEFECT PERIOD**

The latent defect period is 10 years.

#### **SCC 6.5 DAYWORKS**

Add the following to GCC 6.5.1.2.1:

"Gross remuneration" shall include the following:

- Basic wage
- Holiday fund stamp
- Unemployment insurance
- Employee's compensation
- Service bonus

Add the following to SCC 6.5.4:

The percentage allowance stated in the appendix shall also include travelling cost or travelling allowance (transport of workmen with the Contractor's transport vehicles or transport vehicles hired by the Contractor or for which the Contractor paid), and residence allowance and other wages that are payable to the workmen on the date for submission of tenders.

## **SCC 6.10 PAYMENTS**

### **SCC 6.10.1.9 VALUE ADDED TAX**

Add the following clause to GCC 6.10.1:

Value added tax (VAT) shall be calculated on each payment certificate, but it shall remain the responsibility of the Contractor to issue a tax invoice for the certified amount. The Contractor is responsible for the payment of VAT.

### **SCC 6.10.2 VALUATION OF MATERIAL BROUGHT ONTO SITE**

Add the following to GCC 6.10.2:

Material or goods for which payment is made in terms of this clause, shall be identified uniquely and be stored in a space approved by the Employer's Agent, and which will only be used for the purposes of the Employer.

### **SCC 6.10.3 RETENTION MONEY**

Add the following to GCC 6.10.3:

No limit of retention money will be applicable, only the % as stated in the Contract Data will be applicable on the contract.

### **SCC 6.10.5 PAYMENT OF RETENTION MONEY**

Replace the first paragraph of GCC 6.10.5 with the following:

One half of the retention money shall become due when the Employer's Agents has issued a Certificate of Completion in terms of clause 5.14.4. The other half of the retention money shall become due and shall be paid to the Contractor on the expiration of the Defects Liability Period.

The Employer's Agent shall deliver to the Employer and the Contractor the payment certificate referred to in clause 6.10.3 within 07 (seven) days after the receipt by the Employers Agent of the Contractor's said statement, and the Employer shall pay the amount due to the Contractor within 65 (sixty five) days after receipt by the Employer of the payment certificate signed by the Employer's Agent.

The Defects Liability Period may be extended in terms of clauses 5.14.4 or 7.8.1, if necessary;

## **SCC 6.11 VARIATIONS EXCEEDING 15 PER CENT**

Replace the title with the following: "VARIATIONS EXCEEDING 50 PER CENT".

Replace paragraph 6.11.1.3 with the following:

"The adjustment upon measurement of the estimated quantities set out in the Bill of Quantities for a Re-measurement Contract, results in an increase or decrease in the Contract Price, determined before adjustment in terms of this Clause, greater than 50 per cent of the prices provided for in the Contract Sum, excluding any allowance for contingencies therein and excluding from both Contract Price and Contract Sum, all payments or allowances for:"

## **SCC 7 QUALITY AND RELATED MATTERS**

### **SCC 7.1 QUALITY OF PLANT, WORKMANSHIP AND MATERIALS**

Add the following to GCC 7.2.1:

No second-hand or reject material shall be used without written permission from the Employer's Agent.

### **SCC 7.4.4 COST OF TEST SPECIMENS AND TESTS**

Substitute GCC 7.4.4 with the following:

It is deemed that the Contractor has made provision in his tender for all such services and tests that are required from him. It is the duty of the Contractor to, at his own cost and by means of the necessary tests, prove to the Employer's Agent that the works and compaction prescribed, comply with the specification.

## **SCC 7.5 EXAMINATION OF THE WORKS**

### **SCC 7.5.1 EXAMINATION OF WORK BEFORE COVERING UP**

Add the following to GCC 7.5.1:

The Contractor shall give the Employer's Agent a reasonable time to accommodate examinations in his programme, in which case a time for inspection can be agreed upon.

### **SCC 7.5.3 NOTICE TO BE GIVEN WHEN READY FOR TESTING**

Add the following to paragraph 2 of GCC 7.5.3:

If the Employer's Agent attends with the purpose of examining any part or materials of the works at any time and date as agreed upon with the Contractor, and it is found that the works or materials are not yet ready for inspection, the Contractor shall be responsible for the costs of such a visit by the Employer's Agent.

## **SCC 7.8 DEFECTS**

### **SCC 7.8.1 MAKING GOOD OF DEFECTS IN THE DEFECTS LIABILITY PERIOD**

Add the following to GCC 7.8.1:

If it is deemed necessary in the opinion of the Employer's Agent, the defects liability period after repairs can be extended for a further period of twelve months or for a period to the discretion of the Employer's Agent, as regards the relevant part of the works that is made good.

## **SCC 8.4 INDEMNIFICATIONS**

### **SCC 8.4.2 INDEMNITY BY EMPLOYER**

Add the following to GCC 8.4.2:

The Contractor indemnifies the Employer against any liability in respect of damage to or physical loss of the property of any person or injury to or death of any person due to not complying with the Occupational Health and Safety Act No 85 of 1993.

Attached in the tender document is the form "Contract between Employer and Contractor" to be completed by the successful Contractor.

## **SCC 8.6 INSURANCES**

### **SCC 8.6.1 INSURANCES TO BE EFFECTED**

Add the following to GCC 8.6.1:

The amount shall be per occurrence. The number of occurrences is unlimited.

Add the following to GCC 8.6.6:

Within 14 days of receipt of the letter of acceptance of his tender, the Contractor shall submit proof of payment to the Employer's Agent.

## **SCC 10.5 ADJUDICATION**

### **SCC 10.5.3 RULES FOR ADJUDICATION**

The number of Adjudication Board Members to be appointed is three.

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C3. Schedule of Quantities

#### C3.1 Preamble to Schedule of Quantities

1. The general conditions of contract, the special conditions of contract (if any), the specifications (including the project specification) and the drawings are to be read in conjunction with the schedule of quantities.
2.
  - a) The schedule comprises items covering the Contractor's profit and costs of general liabilities and of the construction of temporary and permanent works.
  - b) The Contractor is at liberty to insert a rate of his own choosing for each item in the schedule and his attention is drawn to the fact that the Contractor has the right, under various circumstances, to payment for additional works carried out and that the Engineer is obliged to base his assessment of the rates to be paid for such additional work on the rates inserted in the schedule by the Contractor.
  - c) Clause 8 of each standardised specification and the measurement and payment clause of each particular specification, read together with the relevant clauses of the project specification, set out what ancillary or associated activities are included in the rates for the operations specified.
3. Descriptions in the schedule of quantities are abbreviated and the schedule has been drawn up generally in accordance with the latest issue of Civil Engineering Quantities<sup>1</sup>. Should any requirement of the measurement and payment clause of the applicable standardised specification<sup>2</sup>, or the project specification<sup>2</sup>, or the particular specification(s)<sup>2</sup> conflict with the terms of the schedule or, when relevant, Civil Engineering Quantities<sup>1</sup>, the requirement of the standardised, project or particular specification, as applicable, shall prevail.
4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance has been made for waste.
5. The prices and rates to be inserted in the schedule of quantities are to be the full inclusive prices to the Employer for the work described under the several items, value added tax excluded. Such prices shall cover all costs and expenses that may be required in and for the construction of the work described, and shall cover the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the quotation is based.
6. A price or rate is to be entered against each item in the schedule of quantities, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the schedule.
7. The Contractor must price each item in the schedule of quantities in **BLACK INK**.
8. **All prices and rates shall exclude value added tax (VAT)**. The Contractor shall calculate value added tax and enter it at the end of the summary of the schedule of quantities.

9. For the purposes of this Schedule of Quantities, the following words shall have the meanings hereby assigned to them:

Unit	:	The unit of measurement for each item of work as defined in the Specifications.
Quantity	:	The number of units of work for each item
Rate	:	The payment per unit of measurement at which the Tenderer tenders to do the work.
Amount	:	The product of the quantity and the rate tendered for an item
Sum	:	An amount tendered for an item, the extent of which is described in the Schedule of Quantities, the specifications or elsewhere but the quantity of work of which is not measured in any units.
Prime Cost (or PC item)	:	A sum fixed by the Engineer and entered in the Schedule of Quantities as the net sum provided to cover the cost of specific goods or materials to be supplied under the contract, or the net sum to be paid by the Contractor to merchants or others for such articles or materials. <sup>1</sup>
Provisional Sum	:	A sum of money fixed by the Engineer and entered in the Schedule of Quantities to provide for work not defined at the tender stage and includes any allowance specifically made for unforeseen contingencies. <sup>1</sup>
Extra Over (or EO)	:	Qualifies an operation (or combination of operations) which is common in a varying degree to a number of other operations and which is scheduled once as "extra over" those other operations in order to avoid a multiplicity of items each reflecting the degree to which the common operations apply. The term "extra over" invariably denoted double measurement, no deduction being made from one on account of the other. <sup>1</sup>

10. The units of measurements indicated in the Schedule of Quantities are metric units.

The following abbreviations are used in the Schedule of Quantities:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m <sup>2</sup>	=	square metre
m <sup>2</sup> -pass	=	square metre-pass
ha	=	hectare
m <sup>3</sup>	=	cubic metre
m <sup>3</sup> -km	=	cubic metre-kilometre
/	=	litre
kl	=	kilolitre
kg	=	kilogram
t	=	ton (1 000 kg)
no	=	number
%	=	percentage
kW	=	kilowatt
PC Sum	=	prime cost sum
Prov. Sum	=	provisional sum
kPa	=	kilopascal
R/only	=	Rate only
W/day	=	Work day

11. Those parts of the contract to be constructed using labour-intensive methods have been marked in the bill of quantities with the letters LI in a separate column or as a prefix or suffix against every item so designated. 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 works, is a deviation from the contract. The items marked with the letters 'LI' are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

12. Where minimum labour intensity is specified by the design the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity target.
13. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the scope of works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work, which was to be done labour-intensively will not be condoned, and any works so constructed will not be certified for payment.

- 
- 1) The standard system of measurement of Civil Engineering Quantities of South Africa published by the South African Institution of Civil Engineers.
  - 2) See definition in sub clause 2.1 of Part 1 of SABS 0120: Format and Contents.

## DAY WORK LIST

### GENERAL

Contractors must complete this list, which will be used to assess the value of work that the Engineer instructs in writing to be done on a day work basis, all in agreement with clause 37.2 of the General Conditions of Contract for Construction Works, First Edition, 2004 and coupled Special Conditions of Contract. All the rates are fixed and shall be binding till the issuing of the final certificate, except for statutory increases that are announced from time to time.

### LABOUR COSTS

Rates for labour as listed below shall include all the allowances as specified in the General Conditions of Contract for Construction Works, Second Edition, 2010 and Special Conditions of Contract. The extra allowance, applicable on Labour costs listed below, is given in the tender appendix and must not be taken into account in this list.

Overtime costs incurred by this contract shall be paid in the same proportion as the amounts actually paid to the employees.

DESCRIPTION	UNIT	RATE
Unschoolled labour	Hour	R
Half- Schooled labour	Hour	R
Pipe layer	Hour	R
Ganger	Hour	R
Foreman / Section leader	Hour	R
Brick layer	Hour	R
Plumber	Hour	R

### EQUIPMENT COSTS

Full comprehensive hourly rates, which also include the cost of operators, must be listed below. Rates must also include all the costs of consumable items, maintenance, depreciation, tools, and all other coincidences that shall be necessary to operate the equipment for the purpose it is designed for. The rates must also include all the overhead costs, profits, site supervision, insurance, holidays with payment, travelling costs (or travelling allowances) and residence allowances of operators and any other allowances that are applicable on equipment. The Tenderer must list under each heading the make and specification of the equipment available.



DESCRIPTION	UNIT	RATE
1. TLB		
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
2. Bakkies (LDV)		
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
3. Trucks (m <sup>3</sup> specified)		
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
4. Tractor & Trailer		
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
5. Compressor		
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....

DESCRIPTION	UNIT	RATE
6. Water pumps		
75mm.....	Hour	.....
100mm.....	Hour	.....
150mm.....	Hour	.....
7. Compactors		
Plate .....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
8. Other equipment		
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....
.....	Hour	.....

**SEKHUKHUNE DISTRICT MUNICIPALITY  
MABULELA WATER SUPPLY INTERVENTION**

**SCHEDULE A  
SABS 1200 A : PRELIMINARY AND GENERAL**

ITEM NO.	PMT. REFER.	DESCRIPTION	UNIT	QTY.	RATE	AMOUNT
<b>A</b>	<b>SABS 1200A</b>	<b><u>PRELIMINARY AND GENERAL</u></b>				
		<i><b>NOTE: Items A.1 and A.2 totals cannot exceed 10% of the total tender amount.</b></i>				
<b>A.1</b>	<b>8.3</b>	<b>FIXED-CHARGE ITEMS</b>				
	8.3.1	Contractual Requirements				
	8.3.2	Establish Facilities on the Site :	Sum	-		
	8.3.2.1	<u>Facilities for Engineer (SABS 1200AB)</u>				
A.1.1	PSAB8.2.2(a)	a) Office building/s	Sum	-		
	PSAB8.2.2(b)	b) Telephone and Fax	Sum	-		
	PSAB8.2.2(c)	c) Nameboard (1 off)	Sum	-		
	8.3.2.2	<u>Facilities for Contractor</u>				
A.1.2	PS 8(a)	a) Offices and storage sheds	Sum	-		
A.1.3	PS 8(b)	b) Workshops	Sum	-		
A.1.4	PS 8(c)	c) Site laboratories	Sum	-		
A.1.5	PS 8(f)	d) Living accommodation	Sum	-		
A.1.6	PS 8(d)	e) Ablution and latrine facilities	Sum	-		
A.1.7	PS 8(g)	f) Tools and equipment	Sum	-		
A.1.8	PS 7	g) Water supplies, electric power and communication	Sum	-		
A.1.9	PS 2	h) Access (Subclause 5.8)	Sum	-		
		<u>Features Requiring Special Attention</u>				
A.1.10	PS 14 PS 15.11	Health, Safety and Security	Sum	-		
A.1.11	PS 8(c)	Samples and Certification of Materials	Sum	-		
A.1.12	PSA 8.3.3	Other fixed-charge obligations	Sum	-		
A.1.13	8.3.4	Removal of site establishment	Sum	-		
<b>TOTAL CARRIED FORWARD TO NEXT PAGE</b>						

TOTAL BROUGHT FORWARD						
<b>A.2</b>	<b>8.4</b>	<b>TIME-RELATED ITEMS</b>				
A.2.1	8.4.1	Contractual Requirements	Sum	-		
	8.4.2	Operate and maintain facilities on the Site:				
	8.4.2.1	<u>Facilities for Engineer (SABS 1200AB)</u>				
A.2.2	PSAB8.2.2(a)	a) Office building/s	Sum	-		
A.2.3	PSAB8.2.2(b)	b) Telephone and Fax	Sum	-		
A.2.4	PSAB8.2.2(c)	c) Nameboards	Sum	-		
	8.3.2.2	<u>Facilities for Contractor</u>				
A.2.5	PS 8(a)	a) Offices and storage sheds	Sum	-		
A.2.6	PS 8(b)	b) Workshops	Sum	-		
A.2.7	PS 8(c)	c) Site laboratories	Sum	-		
A.2.8	PS 8(f)	d) Living accommodation	Sum	-		
A.2.9	PS 8(d)	e) Ablution and latrine facilities	Sum	-		
A.2.10	PS 8(g)	f) Tools and equipment	Sum	-		
A.2.11	PS 7	g) Water supplies, electric power and communication	Sum	-		
A.2.12	PS 2	h) Access (Subclause 5.8)	Sum	-		
		<u>Features Requiring Special Attention</u>				
A.2.13	PS 14 PS 15.11	Health, Safety and Security	Sum	-		
A.2.14	PS 8(c)	Samples and Certification of Materials	Sum	-		
A.2.15	PSA 8.3.3	Other fixed-charge obligations	Sum	-		
A.2.16	8.3.4	Removal of site establishment	Sum	-		
A.2.17	8.4.3	Supervision for duration of Construction	Months	3.00		
TOTAL CARRIED FORWARD TO NEXT PAGE						

TOTAL BROUGHT FORWARD						
A.2.18	8.4.4.	Company and head office overhead costs for duration of construction	Sum	-		
	8.4.5	Other obligations (Tenderer must specify :)				
A.2.19	a)	.....	Sum	-		
A.2.20	b)	.....	Sum	-		
<b>A.3</b>	<b>8.5</b>	<b>PROVISIONAL SUMS</b>				
A.3.1	PSA 8.5(a)1	Community Liaison Officer	P.Sum	3	4 500	13 500
A.3.2	PSA 8.5(a)2	Handling cost and profit in respect of A.3.1	%	13 500		
A.3.3	PSA 8.5(b)1	Training	P.Sum	-		30 000
A.3.4	PSA 8.5(b)2	Handling cost and profit in respect of A.3.3	%	30 000		
<b>A.5</b>	<b>8.7</b>	<b>DAY WORKS (Provisional)</b>				
		<b>Dayworks - Labour</b>				
A.5.1	a)	Contractor's Representative	hr	-		Rate Only
A.5.2	b)	Qualified Artisan (.....hr/workday)	hr	-		Rate Only
A.5.3	c)	Foreman, Team-leader (.....hr/workday)	hr	-		Rate Only
A.5.4	d)	Semi-skilled labourer (.....hr/workday)	hr	-		Rate Only
A.5.5	e)	Labourer (.....hr/workday)	hr	-		Rate Only
		<b>Dayworks - Plant</b>				
A.5.6		Water Tanker (Specify capacity)				
	a)	.....m <sup>3</sup> (small)	hr	-		Rate Only
	b)	.....m <sup>3</sup> (large)	hr	-		Rate Only
A.5.7		Tipper Truck (Specify capacity)				
	c)	.....m <sup>3</sup> (small)	hr	-		Rate Only
	d)	.....m <sup>3</sup> (large)	hr	-		Rate Only
A.5.8		Flat bed truck (Specify capacity)				
TOTAL CARRIED FORWARD TO NEXT PAGE						

TOTAL BROUGHT FORWARD						
A.2.18	8.4.4.	Company and head office overhead costs for	Sum	-		
		e) ..... Ton (small)	hr	-		Rate Only
A.5.9		f) LDV	hr	-		Rate Only
A.5.10		g) 4X4 T.L.B (Tractor Loader Backactor)	hr	-		Rate Only
A.5.11		h) Compactor: ..... (Specify size)	hr	-		Rate Only
A.5.12		i) Concrete mixer (Specify dry/wet capacity)	hr	-		Rate Only
		(.....m³/ .....)				
<b>A.6</b>	<b>8.8</b>	<b>TEMPORARY WORKS</b>				
A.6.1	PS A 8.8.2	Accommodation of traffic	Sum	-		
TOTAL CARRIED FORWARD TO SUMMARY PAGE						

**MABULELA WATER INTERVENTION PROJECT**
**SECTION : SITE CLEARANCE**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
B1	SANS 1200 C		SECTION : SITE CLEARANCE				
			CLEAR SITE				
B1.1	8.2.1		Clear and grub Site (3m wide strips)	m	500.0		-
	8.2.2		Remove and grub large trees and tree stumps of girth Over and up to				
B1.2		LI	1 m 2 m	No.	1.0		-
B1.3		LI	2 m 3 m	No.	1.0		-
B1.4	8.2.4	LI	Reclear surfaces (provisional) (where ordered by Engineer)	ha	0.2		-
B1.5	8.2.9		Cart materials and debris to unspecified sites and dump (provisional)	m³.km	50.0		-
B1.6	8.2.10		Remove topsoil to nominal depth of 150mm and stockpile	m³	45.0		-
	PS C8.2.11		Take down and reconstruct existing fence				
B1.7		LI	a) Cattle fence	m	20.0		-
Total Carried Forward To Summary							-

**MABULELA WATER INTERVENTION PROJECT**
**SECTION : PIPE TRENCHES**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
B2	SANS 1200 DB		SECTION : PIPE TRENCHES				
	8.3.2(a)		EXCAVATION  Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material within 1,0km, for pipes: 50 mm - 355 mm diam. for trench width of 600mm and total trench depth:				
B2.1		LI	Exceeding 0,0 m but not exceeding 1,0 m	m	450.0		-
B2.2			Exceeding 1,0 m but not exceeding 2,0 m	m	50.0		-
	8.3.2(b)		Extra-over items .2.1 to .2.4 incl. for (prov):				
B2.3			Intermediate excavation	m³	54.0		-
B2.4			Hard rock excavation	m³	54.0		-
B2.5			Boulder Excavation, Class A, 03-20m3	m³	13.5		-
B2.6	8.3.2(c)	LI	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m³	30.0		-
			EXCAVATION. ANCILLARIES Make up deficiency in backfill material (Provisional)				
B2.7	8.3.3.1(a)	LI	from other necessary excavations on site	m³	121.5		-
B2.8	8.3.3.3		Compaction in road reserves	m²	150.0		-
	8.3.3.4		Overhaul				
B2.9			Limited overhaul (provisional)	m³	151.5		-
B2.10			Long overhaul (provisional)	m³.km	454.5		-
			EXISTING SERVICES				
	8.3.5		Services across and in trenches				
	8.3.5(a)		Services that intersect a trench				
B2.11			Overhead Electrical Cables	No.	5.0		-
B2.12			Water mains up to 300 mm diam.	No.	5.0		-
Total Carried Forward To next page							-



**MABULELA WATER INTERVENTION PROJECT****SECTION : PIPE TRENCHES**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
Total Brought Forward from Previous page							-
B2.13	8.3.5(b)		Services that adjoin a trench				
			Overhead Electrical Cables	m	10.0		-
B2.14			Water mains up to 300 mm diam.	m	10.0		-
			FINISHINGS				
	8.3.6		Reinstate road surfaces				
B2.15		LI	a) Complete with all courses except surfacing	m²	30.0		-
B2.16		LI	e) Gravel shoulders	m²	30.0		-
Total Carried Forward To Summary							-

**MABULELA WATER INTERVENTION PROJECT**
**SECTION : MEDIUM-PRESSURE PIPELINES**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
B3			SECTION : WATER MAINS				
	SANS 1200 L		PIPELINE				
	8.2.1		Supply, handle, lay, and bed. Complete with couplings, test, and disinfect. uPVC pipes:				
B3.1			50mm Class 9	m	500.0		-
	SANS 1200 L		COUPLINGS, SPECIALS AND FITTINGS				
	8.2.2		Extra-over items 8.2.1 for the supply, lay and bed of special fittings, complete with the coupling, testing and disinfection				
			uPVC pressure bends class 9				
B3.2			50 mm 11.25°	No.	1.0		-
B3.3			50 mm 22.5°	No.	2.0		-
B3.4			50 mm 45°	No.	4.0		-
B3.5			50 mm 90°	No.	4.0		-
			uPVC EQUAL TEES Class 16				
B3.6			50 mm x 50 mm x 50 mm	No.	1.0		-
	PS L 8.2.3		Extra over item 8.2.2. for the supply, in valve box and install on concrete support, joint, including supply, installation and cut of pipe specials and other fittings for the valve boxes where necessary, test as shown and indicated on drawings (Construction of valve box measured elsewhere):				
			DOUBLE AIR VALVE as shown on drawings, fully installed with Tee, isolating valve, fittings and valve box for all depths (fittings rating PN12).				
B3.7			50 mm diam. DN 25mm	No.	1.0		-
			ANCILLARIES				
	8.2.11		Anchor/Thrust blocks and pedestals				
B3.8			Anchor Blocks / Thrust Blocks Concrete Class 25 MPa/19mm	m³	5.0		-
Total Carried Forward To Next page							-

**MABULELA WATER INTERVENTION PROJECT****SECTION : MEDIUM-PRESSURE PIPELINES**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
Total Brought Forward from Previous page							-
B3.9	8.2.12		Concrete casing	m³	3.0		-
B3.10	8.2.15		Marker Blocks	No.	0.0		-
	8.2.13		VALVE CHAMBERS AND MANHOLES:				
	8.2.14		Air valve chamber, fully installed with all fittings, covers, locking mechanisms, ventilators, ladders, etc complete as per drawing. Pipefittings and valves measured elsewhere, for depth up to 2,0m fro the following installations:				
B3.11			50 mm diam. DN 25mm	No.	1.0		-
	PS L 8.2.19	LI	Cut into and connect to existing pipelines				
B3.12			(a) 50 mm uPVC	No.	1.0		-
Total Carried Forward To Summary							-

**MABULELA WATER INTERVENTION PROJECT**
**SECTION : BEDDING (PIPES)**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
B4	SANS 1200 LB		SECTION : BEDDING  PROVISION OF BEDDING  Available from trench within 0,5 km (Subclause 3.4.1)				
B4.1	8.2.1	LI	a) Selected granular material	m <sup>3</sup>	48.0		-
B4.2		LI	b) Selected fill material	m <sup>3</sup>	96.0		-
			Imported from				
	8.2.2.1		a) Other necessary excavations within 0.5 km (Provisional)				
B4.3			1) Selected granular material	m <sup>3</sup>	6.0		-
B4.4			2) Selected fill blanket	m <sup>3</sup>	12.0		-
	8.2.2.3		c) Commercial sources (Provisional)				
B4.5			1) Selected granular material	m <sup>3</sup>	6.0		-
B4.6			2) Selected fill material	m <sup>3</sup>	12.0		-
B4.7	8.2.3		Concrete bedding (Provisional)	m <sup>3</sup>	5.0		-
	8.2.5		Overhaul of material for bedding (Provisional) where ordered Extra-over items .1.1 to .1.4				
B4.8			a) Selected granular material	m <sup>3</sup> .km	18.0		-
B4.9			b) Selected fill material	m <sup>3</sup> .km	36.0		-
Total Carried Forward To Summary							-

**MABULELA WATER INTERVENTION PROJECT**
**SECTION : BEDDING (PIPES)**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
B5			SECTION : ELEVATED STEEL TANK SITE CLEARANCE				
B5.1			Clear and grub site	m <sup>2</sup>	100		-
B5.2			EARTHWORKS Remove topsoil to normal depth 150mm, stockpile, and maintain	m <sup>2</sup>	100.0		-
B5.3			Excavate in all materials and place within freehaul distance for:				
B5.4			Leveling site	m <sup>3</sup>	10.0		-
B5.5			foundation	m <sup>3</sup>	25.0		-
B5.6			Extra over items 7.2.2 to 7.2.3 for excavation in hard material (rock excavation)	m <sup>3</sup>	0.0		-
B5.7			IMPORT MATERIAL AND COMPACT				
B5.8			To complete terraces: from borrow pits (prov.) compaction 95% MOD AASHTO	m <sup>3</sup>	10		-
B5.9			To complete terrace from commercial sources (Prov) compaction 95% MOD AASHTO	m <sup>3</sup>			-
B5.10			Extra over backfill or fill material against structures	m <sup>3</sup>	10.0		-
B5.11			FINISHINGS				
B5.12			Topsoiling	m <sup>2</sup>	15.0		-
B5.13			REINFORCEMENT				
B5.14			Mild Steel				
B5.15			8mm dia.	t	0.5		-
B5.16			10mm dia.	t	0.5		-
B5.17			High tension steel				
B5.18			10mm dia.	t	0.5		-
B5.19			12mm dia.	t	0.5		-
B5.20			16mm dia.	t	1.0		-
B5.21			20mm dia.	t	1.0		-
B5.22			25mm dia.	t	1.0		-
B5.23			FORMWORK				
B5.24			Smooth vertical	m <sup>2</sup>	10		-
B5.25			CONCRETE				
Total Carried Forward To Next page							-

# **MABULELA WATER INTERVENTION PROJECT**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
Total Brought Forward from Previous page							-
B5.18			Concrete for footings - 25MPa/19mm	m³	12.5		-
B5.19			Blinding - 20MPa	m³	2.5		-
			PRESSTANK				
			Supply, erection and test of pressed steel tank that comply with SABS CKS 114 (inclusive of all labour, etc.)				
B5.20			10 KI Pressed Steel Tank including landing platform around tank according to manufacturers detail	No	2		-
B5.21			Tank stand including all steelwork, bolts & nuts, including anchors bolts and nuts to be cast into concrete, all work and the preparation of approved engineering drawings 3 m High	No	2		-
			DIVERSE ITEMS				
B5.22			Supply, installation, complete and building in of all pipes and specials as scheduled on drawings	Sum	1		-
			OVERFLOW CANAL				
B5.23			Supply, construct, including labour and material for overflow canal as per drawings	Sum	1		-
			ANCILLIRIES				
B5.24			Sterilisation	Sum	1		-
B5.25			Connect to existing network	Sum	1		-
Total Carried Forward To Summary							-

# **MABULELA WATER INTERVENTION PROJECT**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
B6			<b>Borehole Development</b>				
			<b>Geohydrological services</b>				
			PHASE 1 (Geophysical investigation)				
B6.1			Desk study (Aerial Photo & Map Interpretation and Previous Data)	Sum	1		-
B6.2			Geophysical & Geological investigation including travelling, time and expenses	Sum	1.0		-
B6.3			Reporting on this phase 1	Sum	1		-
B6.4			Admin & Data on phase 1	Sum	1.0		-
B6.5			Printing, copy's, faxes etc.	Sum	1		-
			PHASE 2 (Drilling admin and consulting cost) - 1 production borehole				
B6.6			Drilling supervision (Say 2.5 days per hole) including travelling costs and disbursements	Sum	1.0		-
B6.7			Reporting on this phase	Sum	1		-
B6.8			Admin & Data on phase 3	Sum	1.0		-
B6.9			Printing, copy's, faxes etc.	Sum	1		-
			PHASE 3 ( Testing admin and consulting cost) - 1 new borehole				
B6.10			Testing supervision / Correspondence including Traveling for verification I testing purposes and Travel Time, Subsistence's and Accommodation	Sum	1.0		-
B6.11			Reporting on this phase	Sum	1		-
B6.12			Water analysis -Chemical	Sum	1.0		-
B6.13			Admin & Data on water analysis	Sum	1		-
B6.14			Printing, copy's, faxes etc.	Sum	1.0		-
			<b>Borehole drilling</b>				
			ESTABLISHMENT, PLANT SET UP, INTERHOLE MOVES AND DE-ESTABLISHMENT				
B6.15			Establishment of Own Facilities on Site	Sum	1		-
B6.16			Mobilisation and set-up of Plant to/at first borehole up to 180km	Sum	1.0		-
B6.17			De-establishment from site	Sum	1		-
			Drilling				
B6.18			Rotary air percussion with foam - 0 to 250 m 165 mm diameter	m	450.0		-
			CASING (supplied, delivered and installed) Steel (bevel-edged plain)				
B6.19			165 mm ID (minimum wall thickness 4mm)	m	300		-
Total Carried Forward To Next page							-

# **MABULELA WATER INTERVENTION PROJECT**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
Total Brought Forward from Previous page							-
B6.20			FORMATION STABILISER( supplied, delivered and installed)	kg	15.0		-
B6.21			SANITARY SEAL (complete per borehole)	No	3		-
B6.22			BOREHOLE DISINFECTION (complete per borehole)	No	3.0		-
B6.23			BOREHOLE PROTECTION (Casing lid obtainable from DWAF)	No	3		-
B6.24			BOREHOLE MARKING (complete per borehole)	No	3.0		-
B6.25			DATA RECORDING AND REPORTING (complete per borehole)	No	3		-
B6.26			CASUAL (DAY) LABOUR SOURCED LOCALLY	Day	10.0		-
			<b>Borehole Testing</b>				
			Traveling				
B6.27			Initial Establishment (First establishment)	Sum	1		-
B6.28			De-Establishment from site	Sum	1.0		-
			Testing				
B6.29			a) Multi - rate I Step test (Less than 10 l/s)	Hour	18.0		-
B6.30			a)Constant discharge test (Less than 10 ls)	Hour	72		-
			Installation of test pump equipment - max 150m				
B6.31			When testing less than 10 l/s - Up to 150m	No	3		-
			Site cleaning / finishing				
B6.32			Per borehole	No	3		-
			Reporting and Data recording				
B6.33			Per borehole	No	3		-
B6.34			<u>Submersible Pumpset &amp; Appurtenance</u>				
			a) (i) 40 DN' Super D' model submersible pump with Franklin motor complete with intergral non-return valve, flow inducer (cooling) sleeve, single phase motor, inline check valve, lead out cable and Supertection control panel	set	1		
B6.34			Model: ..... KW: ..... Q: 1800 l/hr H: 100m				
			(ii) Alternative to item 4.1.1 (a)(i) submersible borehole pump				
			Make .....				
			Model .....				
			Phase .....				
			kW .....				
B6.34			Q = .....l/h @ H ..... m	set	1		
Total Carried Forward To Next page							-



# **MABULELA WATER INTERVENTION PROJECT**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
Total Brought Forward from Previous page							-
B6.34			b) (i) 4-core submersible electric cable size 2,5 mm <sup>2</sup>	m	65		
B6.34			(ii) 4 mm <sup>2</sup> 4-core armoured PVC PVC SWA PVC cable	m	10		
B6.34			(iii) 4 mm <sup>2</sup> 4-core armoured cable ends	no	2		
B6.34			c) Pratley no. 1 cable joint kit for submersed conditions	no	1		
B6.34			d) 8 DN nylon support rope	m	65		
B6.34			e) 40 DN HDPE type IV Class 10 (10 SABS ISO 4427) riser column	m	63		
			f) 40 DN 'Plasson' compression male adaptors	no	1		
			g) 20 DN HDPE type IV Class 10 borehole dipper tube strapped to 40 DN riser column at 1,5 centres with 280 mm x 7,8 cable ties and protruding 100 mm through borehole cover plate	m	65		
			h) 300 mm dia x 10 mm thick mild steel base plate with 40 mm pipe	set	1		
			i) 40 DN MGI barrel nipple	no	3		
			j) 40 DN x 90° MGI female elbow	no	1		
			k) 40 x 25 DN MGI reducing socket	no	1		
			l) 25 DN 'Invensys' tupe M-N domestic water meter	No	1		
			m) 50 x 25 DN MGI reducing bush	No	1		
			n) 50 DN galvanised steel threaded boss flange	No	2		
			o) 50 DN 'Check rite' wafer non-return valve	No	1		
			p) 50 DN MGI barrel nipple	No	1		
			q) 50 DN x 465 mm long galvanised steel pipe piece t.b.e	No	1		
			r) 50 DN Plasson compression male adapter	No	1		
			s) 50 DN x 90° MGI female elbow	No	2		
			t) 50 DN x 600 mm long galvanised steel pipe	No	1		
			u) Waterright CCG box complete with cable glands, to IP 65 specification	No	1		
Total Carried Forward To Next page							-

# **MABULELA WATER INTERVENTION PROJECT**

ITEM NO	PAYMENT	LIC	DESCRIPTION	UNIT	QTY	RATE	AMOUNT / R
Total Brought Forward from Previous page							-
B6.44			v) Electro LP2 pump protection relay and appurtenance (Specify:..... .....	No	1		
			w) Lockable steel manhole complete, cast into concrete	No	1		
			x) Info plate as detailed on plan	No	2		
			y) Supply and instal 6mm <sup>2</sup> 4-core electric cable	m	-		Rate only
			z) Connect to existing cable electrical distribution board	Prov Sum	1	1 000.00	1 000.00
B6.44			Supply of single phase petrol / diesel genset for operation of the borehole complete (5kVA) on movable trolley	No	1.0		
B6.45			Supply and installation of lockable security cage for diesel genset complete.	Sum	1.0		
Total Carried Forward To Summary							

**MABULELA WATER INTERVENTION PROJECT**

**SUMMARY OF SECTIONS**

<b>SECTION</b>	<b>DESCRIPTION</b>	<b>AMOUNT R</b>
A	PRELIMINARY AND GENERAL	.....
B1	SITE CLEARANCE	.....
B2	PIPE TRENCHES	.....
B3	WATER MAINS	.....
B4	BEDDING	.....
B5	ELEVATED STEELTANK	.....
B6	Borehole Development	.....
Total Carried Forward To Summary Of Schedules		.....
Plus 10% contingencies		.....
Sub Total		.....
VAT (15%)		.....
<b>TOTAL</b>		.....

## **SEKHUKHUNE DISTRICT MUNICIPALITY**

### **C3.3 Data Sheets**

Please include and attached all data sheets for all electrical and mechanical equipment to this page

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C4.1 Scope of Work

#### 4.1.1 Employer's objectives

The employer's objectives are to appoint a contractor for the execution of the Works to deliver public infrastructure in accordance with the required specifications and quality. It is furthermore expected to increase and maximise the impact of the construction of this infrastructure on the local economy referring to firstly the direct project beneficiary communities, secondly the ward council in which the project is located and thirdly the Sekhukhune District Municipal area.

The infrastructure under this contract consists of the following identifiable and defined infrastructure namely:

- Geohydrological investigations (incl geohydrological report by qualified geohydrologist) for the development of one (1) new production borehole.
- Siting of at least three (3) possible drill positions
- Drilling of three boreholes (assume depth per borehole of 100m)
- Yield testing of three (3) boreholes
- Water quality testing as per SANS2015 for three boreholes
- Borehole equipping (submersible pump) of one (1) production borehole in Mabulela. (civil, electrical and mechanical)
- Supply of 5kVA single phase diesel / petrol genset on trolley
- Supply and install lockable genset security cage at borehole.
- Pumping Mains (50mm diameter HDPE class 12) to two (2) new 10kL elevated sectional steel tanks (3m high tank stand)
- Two (2) new 10 kl elevated sectional steel tank (3 m high tankstand)
- Connection to existing reticulation (allowance for 500m x 50mm diameter HDPE class 12).

Work will be executed under one (1) contract with the main contractor taking responsibility of sub-contractors who will be identified and selected as part of the project.

#### 4.1.2 Overview of the works

On this Contract the aim is to provide a basic level of services to address the immediate need for water supply in the area, with regards to improve aspects of the current conditions. The Contract will entail a provision of the services as listed in the Project Specification. With regards to EPWP requirements, labour-intensive works comprise the activities described in SANS 1921-5, Earthworks activities which are to be performed by hand, and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this Scope of Work. Time is of the essence for this contract. The Tenderer shall state the time in calendar months required by him/her to complete the Works. Tenderers offering early completion dates will generally be more favourably received, other things being equal.

The following main items measured in the schedule of quantities:

##### Geohydrological Assessment, borehole drilling and testing:

- Phase 1: Site Visit, Structural analysis, Geophysical investigation, Disbursements and reporting on the geophysical results.
- Phase 2: Development of one production borehole on the results obtained in Phase 1, including drilling and testing supervision, water sampling, testing and chemistry analysis inclusive of disbursements and reporting.

##### Development and equipping of new borehole:

- Submersible pump installation (assume 1kW motor).
- Supply of 5kVA single phase petrol / diesel genset on trolley for operating the borehole.
- Construction of security cage for housing the generator.

##### Water Storage facilities:

- Two (2) 10kL elevated sectional steel tanks (3 m high steel tanks).

##### Water Pipelines and fittings:

- Connection to existing distribution pipeline.

### 4.1.3 Labour-Intensive Works

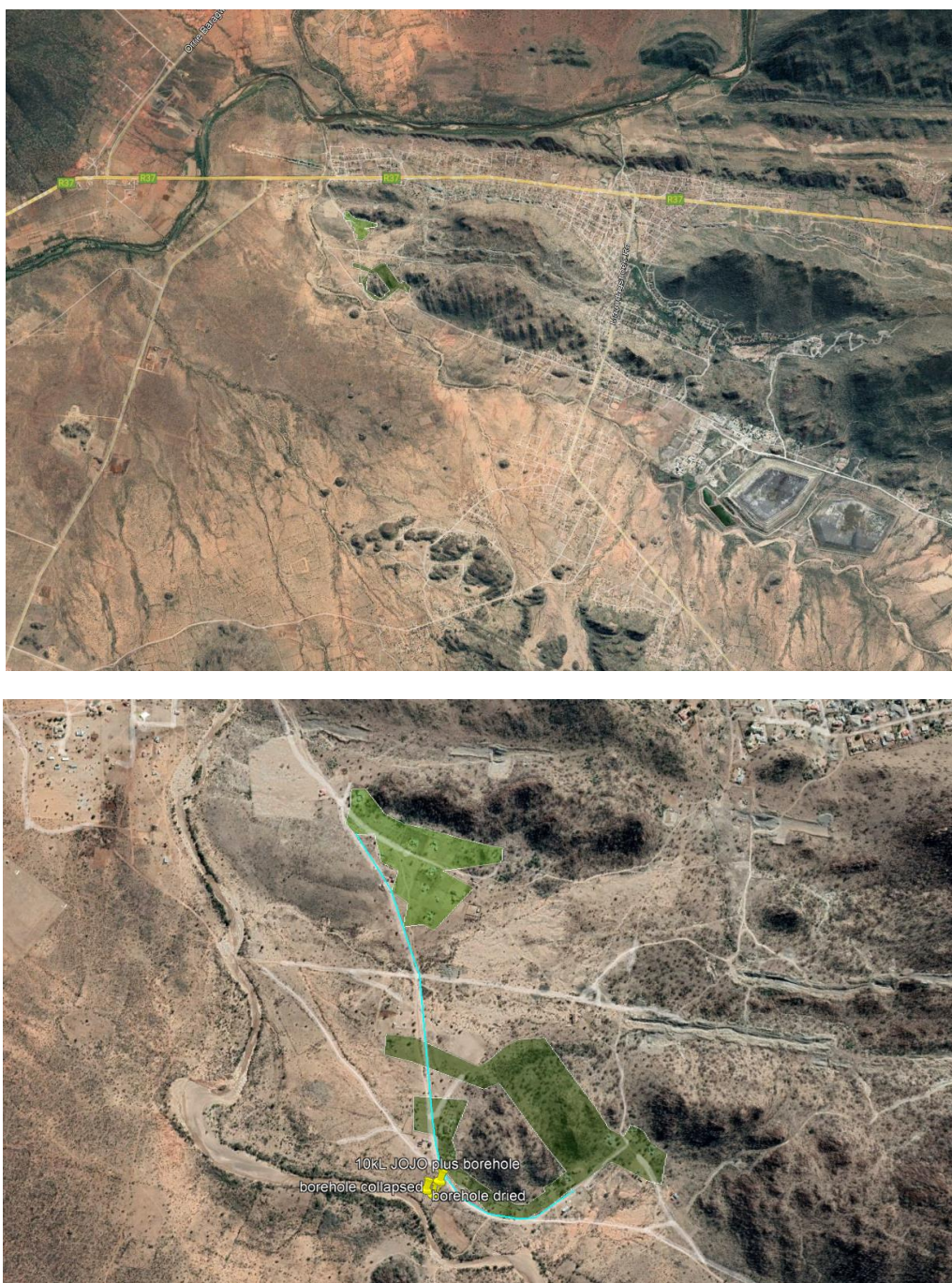
All the relevant tasks / works shall be constructed using Labour-Intensive Construction Methods only. This shall also include intermediate tasks / works within the above-mentioned items which could be done using Labour-Intensive Construction Method, **NB** although not indicated in the BOQ it will be required.

### 4.1.4 Location of the works

The project area is situated within the boundaries of Mabulela village.

Coordinates are as follows:

Latitude : -24.274211° East  
Longitude : 29.825870° South



### 4.1.5 Temporary works

The Contractor shall provide, erect, maintain and remove on completion of the Contract, ample temporary offices and sheds for the proper storage of perishable materials and for the use of his workmen.

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C4.2 Drawing Descriptions

The following drawings are applicable to the contract:

#### 4.2.1 Key plans

All key plans for this type of project are included in the tender document as "Part C.8 Drawings".

#### 4.2.2 Typical details

All typical details for this type of project are included in the tender document as "Part C.8 Drawings".

#### 4.2.3 Engineering drawings

The drawings used for setting up the Bills of Quantities are as indicated above in paragraph 4.2.1 and 4.2.2.

## **C4.3 Procurement**

### **3.4.1 Preferential procurement procedures**

The works shall be executed in accordance with the conditions attached to preferences granted in accordance with the referencing schedule.

### **3.4.2 Scope of mandatory subcontract work**

The following portions of the works shall be subcontracted to CIDB registered contractors in accordance with the subcontracting procedures described hereunder:

Competitive Bids shall be invited in respect of each of the above portions of the works in accordance with the relevant provisions of the latest edition of the CIDB Standard for Uniformity in Construction Procurement. The Contract Data in the associated procurement documents shall be based on the use of BIFSA Non-Nominated Subcontract for use with the JBCC Series 2000 Principal Building Agreement / CIDB Standard subcontract (labour only) / JBCC series 2000 Nominated / Selected Subcontract Agreement / SAFCEC General conditions of subcontract (2003 edition) (select appropriate option) / NEC Engineering and Construction Subcontract / NEC Engineering and Construction Short Subcontract with minimal project specific variations and amendments that do not change their intended usage.

The Employer together with the Contractor shall evaluate the Bids received in accordance with the provisions of the Standard Conditions of Bid contained in Annex F of Standard for Uniformity in Construction Procurement. The evaluation panel shall comprise equal representatives from the Employer and from the Contractor.

The Contractor shall without delay enter into contract with the successful Bidding subcontractor based on their accepted Bid submission. The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.



## SEKHUKHUNE DISTRICT MUNICIPALITY

### C4.4 Construction

#### 4.4.1 Setting out of Works (Sub clause 5.1.1)

The Employer shall arrange for the Contractor to be given sufficient reference pegs from which to work. The value of all bench marks shall be given in writing. The Contractor shall bear the cost of any re-survey and the cost of re-establishment or checking of any pegs, bench marks, etc. disturbed, destroyed or interfered with in any way and the cost of any survey to prove the accuracy of the setting out after any disturbance of or interference with any peg or bench mark. All surveys or re-survey shall be by Surveyors appointed by the Employer."

#### 4.4.2 Applicable national and international standards

SABS 1200

#### 4.4.3 Particular / generic specifications

The relevant provisions of the SABS 1200 (1981 edition) shall apply to the contract with the following amendments:

1115 Replace clause with the following:

The general conditions of contract are the General Conditions of Contract for Construction Works as published by the South African Institution of Civil Engineering read in conjunction with the Contract Data.

1202 Replace "Clause 15" with "Clause 12".

1206 Replace the first sentence with the following:

The contractor shall comply with all legal provisions in regard to surveying and setting out work.

#### 4.4.4 EPWP labour intensive specification

##### GENERIC LABOUR-INTENSIVE SPECIFICATION

The Generic Labour-intensive specification below is the same as SANS 1921-5, Construction and management requirement for works contracts- Part 5: Earth works activities which are to be performed by hand and should be included in the scope of works without amendment or modification as set out below.

##### SCOPE

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- a) trenches having a depth of less than 1.5 metres ( in soft workable materials using hand tools)
- b) Bedding, pipelaying, blanket and backfilling for pipelines

## **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.

## **HAND EXCAVATEABLE MATERIAL**

Hand excavatable material is material:

- a) Granular materials:
  - i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dense, or dense; or
  - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
- b) cohesive materials:
  - i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
  - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

Note:

- 1) A boulder, a cobble and gravel is material with a particle size greater than 200mm, between 60 and 200mm.
- 2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 1: Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick.	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle.
Loose	Small resistance to penetration by sharp end of a geological pick.	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40 mm; can be moulded by fingers with some pressure.
Medium dense	Considerable resistance to penetration by sharp end of a geological pick.	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10 mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade.
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation.	Stiff	Can be indented by thumbnail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers.
Very dense	High resistance to repeated blows of a geological pick.	Very stiff	Indented by thumbnail with difficulty; slight indentation produced by blow of a geological pick point.

## TRENCH EXCAVATION

All hand excavateable material in trenches having a depth of less than 1,5 metres shall be excavated by hand.

## COMPACTION OF BACKFILLING TO TRENCHES (AREAS NOT SUBJECT TO TRAFFIC)

Backfilling to trenches shall be placed in layers of thickness (before compaction) not exceeding 100mm. Each layer shall be compacted using hand stampers

- to 90% Proctor density;
- such that in excess of 5 blows of a dynamic cone 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.

## EXCAVATION

All hand excavateable material including topsoil classified as hand excavateable 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.

## CLEARING AND GRUBBING

Grass and small bushes shall be cleared by hand.

## SHAPING

All shaping shall be undertaken by hand.

## LOADING

All loading shall be done by hand, regardless of the method of haulage.

## HAUL

Excavation material shall be hauled to its point of placement by means of wheelbarrows where the haul distance is not greater than 150 m.

**Table 1: Skills programme for supervisory and management staff**

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

#### 4.4.4.2 Employment of unskilled and semi-skilled workers in labour-intensive works

##### 4.4.4.2.1 Requirements for the sourcing and engagement of labour.

4.4.4.2.1.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

4.4.4.2.1.2 The rate of pay set for the SPWP is R 180.00 per task or per day.

4.4.4.2.1.3 Tasks established by the contractor must be such that:

- a) the average worker completes 5 tasks per week in 40 hours or less; and
- b) the weakest worker completes 5 tasks per week in 55 hours or less.

4.4.4.2.1.4 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 3.4.4.2.1.3.

4.4.4.2.1.5 The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

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

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

- a) 55 % women;
- b) 55% youth who are between the ages of 18 and 25; and
- c) 2% on persons with disabilities.

#### **4.4.4.2.2 Specific provisions pertaining to SANS 1914-5**

##### **4.4.4.2.2.1 Definitions**

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

##### **4.4.4.2.2.2 Contract participation goals**

4.4.4.2.2.2.1 There is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

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

##### **4.4.4.2.2.3 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.

##### **4.4.4.2.2.2.4 Variations to SANS 1914-5**

4.4.4.2.2.2.4.1 The definition for net amount shall be amended as follows:

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

4.4.4.2.2.2.4.2 The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of days of formal training provided to targeted labour.

##### **4.4.4.2.2.2.5 Training of targeted labour**

4.4.4.2.2.2.5.1 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.

4.4.4.2.2.2.5.2 The cost of the formal training of targeted labour, will be funded by the provincial office of the Department of Labour. This training should take place as close to the project site as practically possible. The contractor must access this training by informing the relevant provincial office of the Department of Labour in writing, within 14 days of being awarded the contract, of the likely number of persons that will undergo training and when such training is required. The employer must be furnished with a copy of this request.

4.4.4.2.2.2.5.3 A copy of this training request made by the contractor to the DOL provincial office must also be faxed to the EPWP Training Director in the Department of Public Works, Fax Number 012 328 6820 or email cinderella.makunike@dpw.gov.za Tel: 083 677 4026.

4.4.4.2.2.2.5.4 The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he/she is employed for 4 months or more.

4.4.4.2.2.2.5.5 The contractor shall do nothing to dissuade targeted labour from participating in training programmes.

4.2.2.5.4 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 4.4.4.2.2.2.5.4 above.

4.4.4.2.2.2.5.5 Proof of compliance with the requirements of 4.4.4.2.2.2.5.2 to 4.4.4.2.2.2.5.6 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

#### **4.4.4.3.1 Contractor's default in payment to Labourers and Employees**

- (a) Any dispute between the Contractor and labourers, regarding delayed payment or default in payment of fair wages, if not resolved immediately may compel the Employer to intervene.
- (b) The Employer may, upon the Contractor defaulting payment, pay the moneys due to the workers not honoured in time, out of any moneys due or which may become due to the Contractor under the Contract.

#### **4.4.4.3.2 Provision of Hand tools**

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

#### **4.4.4.3.3 Reporting**

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

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

#### **4.4.5 Plant and equipment**

Add Sub clause 4.4.5: Restriction on the use of plant.

"Except for the type of plant, and to the extent permitted in terms of the project specification or approved by the Engineer, in writing, the Contractor shall use only hand tools and equipment in the construction of the Works, or portion(s) of the Works, that are required in terms of the project specification to be constructed using labour intensive methods.

Failure by the Contractor to adhere to this clause will put him in breach of contract. The provisions contained in this contract with regard to labour content and labour-intensive construction, are binding, and will be enforced accordingly."

The plant and equipment used on the site shall not be inferior to that described in the Schedule of Plant and Equipment.

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C4.5 Management

#### 4.5.1 Applicable SANS 1921 standards

The following parts of SANS 1921 Construction works standards and associated specification data are applicable to the works:

- 1) SANS 1921-1:2004
- 2) SANS 1921-2:2004
- 3) SANS 1921-6:2004

The abovementioned South African National Standards make several references to the Specification Data for data, provisions and variations that make these standards applicable to this contract. The Specification Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and these standards.

Each item of Specification Data given below is cross-referenced to the clause in the standard to which it mainly applies.

The associated Specification Data is as follows:

<b>SANS 1921-1, Construction and management requirements for works contracts – Part 1: General engineering and construction works</b>	
<b>Clause</b>	<b>Specification data</b>
<b>Essential data</b>	
4.1.7	There are no requirements for drawings, information and calculations for which the contractor is responsible
4.2.1	The responsibility strategy assigned to the contractor for the works is A.
4.3.1	The planning, programme and method statements are to comply with the following: <ul style="list-style-type: none"> <li>• format of programme,</li> <li>• critical path activities and their dependencies,</li> <li>• frequency of updating,</li> </ul>
4.3.3	The notice period for inspection is 5 Days
4.7.3	The over break allowances for blasting are provided for in the scope of work.
4.9.3	The trees and shrubs which are not to be disturbed are identified in the scope of work.
4.12.2	The samples of materials, workmanship and finishes that the contractor is to provide and deliver to the employer are: <ul style="list-style-type: none"> <li>1) concrete works</li> <li>2) pressure testing results done.</li> </ul>
4.14.3	The office accommodation, equipment, accommodation for site meetings and other facilities for use by the employer and his agents are: <ul style="list-style-type: none"> <li>1) <b>Site office</b> which shall be used for site meetings and for the contractor's use. Such an office shall comprise a minimum of 20m<sup>2</sup> in area and 3 m high, be ventilated, have good lamination, must be reasonably sound proof, and have a hard floor construction. It shall be furnished with a desk on which drawings can be rolled open and on which there is sufficient writing space and sufficient temporary chairs or benches to accommodate all persons present at site meetings.</li> </ul>
4.14.5	The Contractor is required to provide latrine and ablution facilities.
4.14.6	The requirements for the provision and erection of separate sign boards for consultants and subcontractors are:

	<ol style="list-style-type: none"> <li>1) The boards must comply with the official standard type signboard of the Employer and be at least 2750 x 1800 mm high.</li> <li>2) The boards must be constructed with a firm flat exposed face using suitable material of firm construction, painted and lettered according to the standard drawings available from the Employer on request and mounted on sturdy pipe-standards at a height of 1800 mm above natural ground level.</li> </ol>
4.17.1	<p>The requirements for the termination, diversion or maintenance of existing services are:</p> <ol style="list-style-type: none"> <li>1) Water</li> <li>2) Electricity</li> <li>3) Sanitation</li> </ol>
4.17.3	<p>Services which are known to exist on the site are:</p> <ol style="list-style-type: none"> <li>1) Water</li> <li>2) Sanitation</li> <li>3) Electricity</li> </ol>

#### **Additional clauses**

##### **1 Site meetings and procedures**

The Employer's Representative and the Contractor shall hold meetings relating to the progress of the works at regular intervals and at other such times as may be necessary. The Contractor shall attend all site meetings and shall ensure that all persons under his jurisdiction are notified timeously of all site meetings should the Employer's Representative require their attendance at such meetings.

The Contractor shall keep on site a set of minutes of all site meetings, daily records of resources (people and equipment employed), a site instruction book, a complete set of contract working drawings and a copy of the procurement document and make these available at all reasonable times to all persons concerned with the contract.

##### **2 Water**

The Contractor is to provide, and remove and make good upon completion, all the necessary temporary plumbing connections and purchase water from the local authority for the works at his own cost.

##### **3 Electricity**

The Contractor is to provide, and remove and make good upon completion, all the necessary temporary electrical connections and installations and purchase electricity from the local authority / ESKOM for the works at his own cost.

#### **4.5.2 Particular / generic specifications**

The management of the site shall be in accordance with the provisions of the COLTO Standard Specification for Road and Bridge Works for State Authorities (1998 edition), obtainable from the South African Institution of Civil Engineering.

#### **4.5.3 Recording of weather**

The Contractor shall erect an effective rainfall gauge on the site and record the daily rainfall figures in a book. Such book shall be handed to the employer's representative for his signature no later than 12 days after rain that is considered to justify an extension of time occurs.

#### **4.5.4 Unauthorised persons**

The Contractor shall keep unauthorized persons from the works at all times Under no circumstances may any person except guards be allowed to sleep on the building site.

#### **4.5.5 Management meetings**



Site meetings will be held on monthly basis. The following parties are required to attend these meetings: The Employer's Representative, the Engineer and/or Representative, the Contractor and/or Representative, the Community Liaison Officer, the Health and Safety Officer and all members of the Project Steering Committee.

#### **4.5.6 Forms for contract administration**

These forms will be issued to the Contractor as required.

#### **4.5.7 Electronic payments**

Proof of all electronic payments must on request be supplied to the Employer.

#### **4.5.8 Daily records**

All accidents and incidents shall be recorded daily in a site diary. Apart from the site diary the Contractor shall provide a site instruction notebook for use by the Engineer. The notebook shall be signed by both the Engineer and the Contractor whenever a site instruction is issued by the Engineer.

#### **4.5.9 Payment certificates**

Contractor must submit claims for the work done. All claims are subjected to verification by the Engineer.

#### **4.5.10 Permits**

Contractor to ensure that no unauthorised persons are permitted to site

#### **4.5.11 Proof of compliance with the law**

Contractor to submit copies of the CIDB Registration and the Company Registration Certificates

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C5. Project Specification

#### SCOPE

This project specification is set out in two parts. Portion 1 cover a general description of the project, the facilities available, and the requirements to be met. Portion 2 covers variations and additions to standardised or particular specifications that are applicable to the contract.

The numbering method in portion 2 of this project specification deviates as follows from the method suggested in Code of Practice SABS 1200.

Each clause with the prefix PS shall refer to the congruent clause in the appropriate section of the standardised or particular specification. Such clause shall either substitute, or supplement, or amend the clause with the same number. Where there is no such congruent clause in the standardised or particular specification, the PS clause shall be a new clause in the project specification. Any clause that is referred to in the standardised specification will also include the appropriate project specification

## PROJECT SPECIFICATION

## PORTION 1: THE WORKS

**PS 1 GENERAL DESCRIPTION OF WORKS**

On this Contract the aim is to provide a basic level of services, with regards to improve aspects of the current conditions. The Contract will entail a provision of the services as listed in the Project Specification. Also with regards to EPWP requirements, labour-intensive works comprise the activities described in SANS 1921-5, Earthworks activities which are to be performed by hand, and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this Scope of Work. Time is of the essence for this contract. The Tenderer shall state the time in calendar months required by him/her to complete the Works. Tenderers offering early completion dates will generally be more favourably received, other things being equal.

The following main items measured in the schedule of quantities:

Geohydrological Assessment, borehole drilling and testing:

- Phase 1: Site Visit, Structural analysis, Geophysical investigation, Disbursements and reporting on the geophysical results.
- Phase 2: Development of one production borehole on the results obtained in Phase 1, including drilling and testing supervision, water sampling, testing and chemistry analysis inclusive of disbursements and reporting.

Development and equipping of new borehole:

- Submersible pump installation (assume 1kW motor).
- Supply of 5kVA single phase petrol / diesel generator on trolley for operating the borehole.
- Construction of security cage for housing the generator.

Water Storage facilities:

- Two (2) 10kL elevated sectional steel tanks (3 m high steel tanks).

Water Pipelines and fittings:

- Connection to existing distribution pipeline.

**PS 2 DESCRIPTION OF THE SITE AND ACCESS**

Refer to Part C.7 Site Information.

**PS 3 DOCUMENTATION**

**PS 3.1** The Provisional Bill of Quantities is included in this document and *must be completed and handed in with the tender.*

**PS 3.2** The drawings, for tender purposes, listed under Part C8 are applicable to this contract.

**PS 3.3** The Tenderer shall check the Bills of Quantities for missing or duplicated pages or drawings and should any be missing or duplicated, or the reproduction be indistinct, or if any doubt exists as to the full intent or meaning of any particulars or description, or this Bills of Quantities contain any obvious errors, the Tenderer shall notify the Engineer at once who shall promptly give a written directive. No liability whatsoever will be admitted in respect of errors in any tender due to the abovementioned causes.

No alteration, erasure, omission or addition is to be made in the text and conditions of these Bills of Quantities or other documents. Should any such alterations, amendment, note or addition is made, it will not be recognised and the text of the Bills of Quantities or other documents as prepared by the Representative must be adhered to.

**PS 3.4** The Tenderer shall examine all documents and shall thoroughly acquaint himself with the nature and extent of the Works and the manner in which they are to be executed as no claim for extra payment in this connection will be entertained.

#### **PS 4 NATURE OF GROUND AND SUBSOIL CONDITIONS ON SITE**

No bore tests or investigation of the in-situ material were done. Rocky excavation can however be expected along some sections of the pipeline route. Some excavation will take place in built up areas, along pipeline and Eskom servitudes, through stream beds and restricted areas.

The water table may be relatively high in areas during the summer months and provision must be made for effective draining of excavations.

It is the Contractor's responsibility to supply and deliver all material that complies with the minimum standards as well as for the building and maintaining of access roads to the works on site, haul areas or dumping sites. No additional payment will be applicable to the above-mentioned, other than the relevant items in the schedule of quantities.

Note that the prospective tenderers shall acquaint themselves with the nature of materials on site.

#### **PS 5 DETAILS OF THE CONTRACT**

##### **PS 5.1 MAIN CONTRACT**

Work included in this contract involves the scope of work as per paragraph PS1 and as measured in the Schedule of Quantities.

The other main components of the work under this contract are:

- a) Establishment of the Contractor's camp.
- b) Site clearance and earthworks.
- c) Provision of all materials, special fittings and accessories as required, to complete the work as prescribed.
- d) Excavation and backfill compacted as specified, of pipe trenches and the removal of all excess material.
- e) Laying, bedding and installation of all pipes and accessories.
- f) Concrete work associated with the abovementioned equipment.
- g) Construction of concrete anchor blocks associated with the above.
- h) Commissioning of the works.
- i) Geohydrological investigation, siting, drilling and testing of at least one (1) production borehole.
- j) Borehole equipping (Civil, mechanical and electrical)
- k) Construction of elevated storage facilities
- l) Connection to existing water reticulation system.

## **PS 6 CONSTRUCTION PROGRAM AND METHODS**

The Tenderer shall submit a construction programme for the Works to the Engineer for his approval, complete with critical path, within 14 days after the date of the Letter of Acceptance.

The programme shall clearly show the anticipated date when the Contractor plans to undertake the various operations. The programme shall be in the form of a Bar Chart and clearly show the work anticipated to be completed each week. This programme shall form part of the contract and the Contractor shall be bound by this programme. A detailed cash flow forecast, coupled with the programme for the Works, must also be submitted. The programme shall be in MS Project. During construction MS Project will be used.

The construction site is situated in a built-up area; the Contractor shall ensure the least possible disruption of movement of the public during construction.

Construction methods must be of such a nature that no property or life is endangered. The Employer accepts no responsibility for work that is done without consent by the Engineer outside the site boundaries. The Contractor himself is responsible for liaison and arrangements with the Local Authority in connection with the finalisation and approval of the construction program.

The Contractor is responsible for liaison and the necessary arrangements with the relevant road authorities in respect of the finalisation and approval of the works programme.

Sufficient photos of existing structures, walls, and areas that have to be crossed must be taken by the Contractor and handed over to the Engineer before such operations commence. No payment will be made in this regard and it shall be deemed to be covered in the Preliminary and General items.

Local labourers must do the trench preparation, bedding, handling, laying and backfilling of pipes and fittings. The contractor is responsible to liaise with the Labour Desk for labourers.

No separate payment shall be made for any arrangements with relative local authorities for closing off the current water supply or for the distribution of notices to the public.

The compilation of the construction programme and any amendments thereto during the course of construction shall be at the cost of the Contractor and shall not be measured elsewhere in this contract. The contract has to be completed within the time specified in the "Contract Data" of this document, excluding the builder and public holidays.

## **PS 7 SITE FACILITIES AVAILABLE**

### **PS 7.1 SOURCES OF WATER SUPPLY, POWER SUPPLY, SANITATION, AND COMMUNICATION**

Water for construction purposes will be for the account of the contractor at the ruling tariff and will be supplied at a suitable point, from where the contractor will be responsible to convey the water to the point of usage. Water for human consumption will from the existing network at the ruling tariff. Electrical power is available from the existing reticulation at ruling tariffs. The Contractor shall make his own arrangement for any water or power he may require. Any extension of time due to delays resulting from these facilities will not be granted.

The Contractor must supply and maintain at his own cost a sufficient number of portable chemical toilets, one of which must be situated at the campsite and the rest in the area of the site.

No waste or sludge must be left uncovered until it is removed. The contractor must operate an efficient solid waste removal system to the satisfaction of the engineer for the duration of the contract.

The Contractor must make his own arrangement for communication and a telephone service.

### **PS 7.2 LOCATION OF CAMP AND DEPOT**

A site for the Contractor's camp and depot will be pointed out during the site inspection. No trees may be removed and the Contractor must provide his own firewood.

### **PS 7.3 HOUSING FOR CONTRACTOR'S EMPLOYEES**

No housing is available for the Contractor's employees, and the Contractor shall make his own arrangements for housing his employees or 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 extension of time due to any delays resulting from this, will be granted.

### **PS 8 SITE FACILITIES REQUIRED**

No housing is required for the Engineer. Other facilities such as an office, telephone, name board, survey equipment, etc. required for the Engineer, are described under the relevant sections.

#### **a) Contractor's Offices and Engineer's Office**

The Contractor shall provide, erect on or about the Site of the Works, as agreed with by the Engineer, maintain and remove at completion, ample temporary offices for the use of his site agent and staff as per project specification.

#### **b) Temporary Sheds**

The Contractor shall provide, erect, on or about the Site of the Works as agreed with by the Engineer, maintain and remove at completion, ample temporary sheds for the proper storage of materials and tools and for the use of the workmen and watchmen, including special waterproof storage sheds for concrete.

#### **c) Site Laboratory**

The Contractor shall provide an adequate site laboratory, equipment, facilities and personnel for carrying out the required quality control tests on construction materials. All facilities and equipment shall comply with the relevant SABS standards applying to the quality control tests stipulated in SABS 1200.

Alternatively the Contractor may make use of an external laboratory to provide the quality assurance in terms of earthworks, concrete, etc. The responsibility however, for all work will continue to rest with the Contractor.

Should the Engineer at any time consider any of the facilities above to be inadequate, he shall instruct the Contractor to cease further work until such time as the Contractor has remedied the deficiency.

#### **d) Sanitary Accommodation**

The Contractor shall supply suitable and adequate sanitary accommodation for the use of his staff and workmen. Such accommodation shall be to the satisfaction of the Employer and the Engineer and shall conform to Local, Authority requirements. The Contractor shall during tendering acquaint himself fully with these requirements.

The Contractor shall maintain in a thoroughly clean and orderly condition, move as required and finally remove from site all such sanitary accommodation and make good to the approval of the Engineer.

The sighting of the sanitary accommodation must be excluded from public view and their use will be strictly enforced.

#### **e) Telephone Facilities**

The Contractor must make his own arrangements for communication links.

#### **f) Accommodation for Employees/Labour**

No accommodation for employees/labour is available on site and the contractor shall make his own arrangements for housing employees/labour.

It is deemed that the Contractor has made full provision for any such accommodation in his tender.

g) Tools and Equipment

No tools and equipment for the Contractor is available on site and the Contractor shall make his own arrangements for all tools and equipment.

It is deemed that the Contractor has made full provision for any such tools and equipment in his tender.

**PS 9 SITE MEETINGS**

The Engineer will hold regular site meetings, keep and circulate minutes. The Contractor shall attend all scheduled meetings and shall ensure that all subcontractors are represented. The Contractor shall provide a suitable facility for the Site Meetings on Site.

**PS 10 WATCHING AND LIGHTING**

The Contractor must programme his work in such a way that the area is secure at all times. The Employer reserves the right to suspend work if, in his opinion, this requirement is not being complied with and, further, to make secure the area and recover any costs involved in labour and materials from monies due to the Contractor.

The Contractor shall make provision in the nature of temporary works as may be required for the purpose of ensuring the safety of adjoining works and property and for the protection of all persons or animals. He shall be responsible for all damage, injuries and accidents that may occur through his omission of any necessary provision in this respect.

The Contractor shall make full provision for all watching and lighting necessary for the protection of all persons, animals, vehicles, etc., from injury by reason of the Works. He shall provide ample warning signs, guard rails, etc., around open trenches, stacks of material, excavated materials, debris or the like, and shall provide walkways over trenches wherever required for the convenience of the public.

The Contractor shall provide and maintain all necessary temporary protection of finished and/or existing work liable to be damaged during the progress of the works by properly covering up, isolating, etc., as required. The Contractor shall be responsible for any damage which may occur and shall make good at his own expense.

Fires will only be allowed in places approved by the Engineer. Any workmen lighting fires in an unauthorised place shall immediately be removed permanently from the site:

**PS 11 CLAIMS FOR INJURY OR DAMAGE**

The Contractor shall notify the Engineer immediately of the receipt by him of any claim for compensation in respect of any damage arising out of his execution of the Contract and if, at the expiry of ninety (90) days from the date of receipt of such claim the Contractor cannot satisfy the Engineer that the matter has been settled, the Employer reserves the right to have the claim investigated and adjudicated by the Engineer and to settle the claim where considered necessary, any costs incurred by the Employer thereby to be recovered from the Contractor by deduction from any monies due to the Contractor.

**PS 12 LOCAL AUTHORITY, PROVINCIAL OR GOVERNMENT ADMINISTRATION, ETC.**

The Contractor shall acquaint himself with all laws and any by-laws, standards and requirements laid down by the Local Authority, Provincial or Government Administration, etc., for the work about to be executed, and shall abide by such standards and requirements throughout the duration of the Contract.

**PS 13 TESTING OF PUMPING STATION EQUIPMENT**

Equipment shall be subjected to the following, but not limited to, witnessed tests by the Engineer before acceptance for shipment and during installation and commissioning:

- a) Hydraulic test of completely assembled packages and functional test of in-line instrumentation and controls;
- b) Pressure/leak testing of all pipelines,

The Contractor shall submit proposed test procedures to the Engineer two weeks before the tests are due.

The Contractor shall cover all costs for equipment testing prior to shipment and during installation and commissioning.

The Contractor shall be responsible for doing commissioning tests in conjunction with the Engineer and shall provide a duplicate copy of the full commissioning report as specified by the Engineer. The Contractor shall make all arrangements for these tests and shall give prior notice thereof to the Engineer.

## **PS 14 HEALTH, SAFETY AND SECURITY**

The Occupational Health and Safety Act, Act 85 of 1993, will be applicable in all areas of the Works, except for mining areas and mine lease areas where the Mines Health and Safety Act, Act 29 of 1996, will be applicable.

The Tenderer is to note the following additional requirements / information

- a) All Contractors' personnel will be required to obtain a medical (entrance and exit) clearance certificate from an approved medical institution or doctor. These activities will have to be completed prior to a staff member commencing work on the site. The costs associated with these activities are deemed to form part of the Tenderers Preliminary and General costs.
- b) All Contractors' personnel will be required to complete certain documentation for submission to the Sekhukhune District Municipality. Tenderers are to note that all personnel are to be in possession of valid identity documentation and that no persons with a criminal record will be permitted on to the site. The costs associated with these activities are deemed to form part of the Tenderers Preliminary and General costs.
- c) All site personnel will be required to wear the following Personal Protective Equipment (PPE):
  - Hard hats
  - Overalls to Employers specification
  - Reflective jackets
  - Safety glasses
  - Safety boots
  - Dust masks
  - Working gloves
  - Name tags

The costs to provide these items are deemed to be included in the Preliminary and General items of the tender submission.

- d) The successful Contractor will be permitted to work a maximum of 60 hours per week including overtime. Should overtime be required, permission is to be applied for from the Engineer at least 24 hours in advance.



## **PS 15 FEATURES REQUIRING SPECIAL ATTENTION**

### **PS 15.1 CONTROL OF WATER**

The Contractor is in all respects responsible for the handling of storm water from higher-laying areas, adjacent to the works for the handling of possible sub-surface water and for the handling of spoiled water when disconnecting existing connections or valves. No separate payment shall be made for this, as all costs related thereto shall be deemed to be included elsewhere in the tendered rates.

### **PS 15.2 "AS BUILT" DRAWINGS**

As the work progresses, the Contractor shall keep full records of all amendments to and deviations from the drawings as issued to the Contractor at the start of the contract. The true positions, invert levels and ground levels of all services shall be indicated on the drawings, for which purpose the Contractor shall receive a separate complete set of drawings from the Engineer, at no cost.

The completion certificate shall only be issued after the Engineer has received a properly completed set of "**AS-BUILT**" drawings from the Contractor. No separate payment shall be made for this service, as all costs related thereto shall be deemed to be included in the related items.

### **PS 15.3 FINISHING AND TIDYING**

Progressive and systematic finishing and tidying will form an essential part of this contract. Under no circumstances shall spoil, rubble, materials, equipment or unfinished operations be allowed to accumulate unnecessarily and in the event of this occurring the Engineer shall have the right to withhold payment for as long as necessary in respect of the relevant works in the area(s) concerned.

### **PS 15.4 SURVEY BEACONS**

No setting out of the pipeline route was done and is the sole responsibility of the Contractor. Setting out data is however supplied through the construction drawings. All proposed pipelines shall be parallel (at least 2,5 m away) to the existing yard boundaries. No separate payment shall be made for this, as all costs related thereto shall be deemed to be included elsewhere in the tendered rates.

### **PS 15.5 CONSTRUCTION MODUS OPERANDI**

Labour-based or labour-intensive construction may be defined as the economically efficient employment of as much labour as is technically feasible to produce as high a standard of construction as demanded by the specification and allowed by the funding available. In other words, projects based on labour-intensive principles aim at devoting the highest feasible proportion of projects costs to unskilled, semi-skilled and skilled labour without jeopardising the technical quality of the product demanded by the specification.

The following regulations must be adhered to so as to ensure that the construction methods used are labour intensive.

- i) The remuneration to local labour for hourly-rated employees and/or daily-based work shall be in accordance with the terms and conditions of the latest version of the Government Gazette or the requirements of the Employer as per Contract Data.
- ii) The name, identification number, task performed, and hours worked per day for each labourer shall be recorded by the Contractor. These records shall be submitted to the secretary of the Project Steering Committee on the second working day of each week following the recounted week.

The employment of local labour must be at least as per Contract Data.

### **PS 15.6 LOCALLY BASED SUB-CONTRACTORS**

Tenderers are encouraged to utilise the services of locally based sub-contractors.

**PS 15.7      RATE ONLY ITEMS**

Provision is made in the Schedule of Quantities for Tenderers to price various items on a "Rate Only" basis. Tenderers are therefore informed that those prices tendered will be taken into consideration when adjudicating Tenders, although these tendered prices will not be reflected in the total amount tendered.

**PS 15.8      INSURANCE OF EQUIPMENT**

Although it is very quiet in the area of the Site, the Employer cannot guarantee that unrest will not break out in the vicinity of the Site. The Contractor is solely responsible for the insurance of his equipment against unrest and no claim in this regard will be recognised by the Employer.

**PS 15.9      FACTORY INSPECTIONS**

Factory inspections of the materials to be used on this contract will be done by the Engineer or one of his inspectors. Provision is made in the Schedule of Quantities for Tenderers to price for the liaison with the inspectorate.

**PS 15.10     SITE INSPECTIONS**

Site inspections of valves, steel pipes and specials and the linings and coatings of the pipes, field welds and repair work on the above will be done by the Engineer or one of his inspectors. Provision is made in the Schedule of Quantities for Tenderers to price for the liaison with the inspectorate.

**PS 15.11     SAFETY OFFICER**

A full time safety officer must be provided on site by the Contractor.

**PS 15.12     RECRUITMENT OF LABOUR**

Recruitment of local labour may only be done from the Labour Desk at the Municipality. The Contractor must keep a complete record of the costs and number of casual labourers involved in the project.

**PS 15.13     COMPLIANCE WITH REGULATIONS**

All equipment, including temporary works and, construction equipment, must comply with the requirements of the Occupational Health & Safety Act, 1983 and the Mines Health and Safety Act, 1996, as amended. The Contractor must meet all costs involved should alterations be necessary to secure compliance with the regulations mentioned.

**PS 15.14     CONNECTION TO EXISTING SERVICES**

These operations are to be done with the minimum amount of water spillage and must be done in close collaboration with the Engineer and the Employer, who must approve the arrangements before such tie-in is performed. Only eight hours are allowed to complete a tie-in. At least one week written notice of a tie-in must be given to the Employer.

**PS 15.15     EXPLOSIVES**

The Contractor must take special notice of Clause 5.1.1.3 of SASS 1200DA.

## **PS 15.16 PIPELINE INSPECTIONS**

The Contractor shall provide a colour closed circuit television camera with video recorder and monitor for the Engineer to inspect the lining on the pipeline. The Contractor must programme this portion of the work in such a way as to provide the most economical situation. The equipment must be able to record visual material on standard data storage devices and side vision 90 degrees through 350 degrees radius. The system comprises a CCD colour camera with high resolution output, a 6 x zoom lens with auto or manual iris and focus and side view capabilities. The camera is connected to a steel reinforced cable which is rolled on a cable drum and in turn connected to a control unit with colour monitor and text generator.

## **PS 15.17 DRAWINGS AND OPERATIONAL MANUALS**

Three sets of drawings and operating manuals of all valves, water meters, etc., must be supplied to the Employer by the Contractor.

## **PS 15.18 FELLING OF TREES**

Trees which are indicated to be pruned and preserved shall not be damaged by the Contractor. A penalty of **R15 000** per tree will be imposed on the Contractor for felling or damaging any such tree.

## **PS 16 TRAINING**

### **PS 16.1 General**

A suitably capable Training consultant is to be employed on this project.

Their duty is to identify suitable persons and train them for the following:

- i) Employee Training – community-based labour
- ii) Employer Training – community-based contractors
- iii) Committee Training – maintenance and operation of the Works (this however falls outside the scope of this Contract)

This project is a project using community-based labour and community-based contractors as far as possible.

The Contractor using the necessary plant and labour as he sees fit shall carry out conventional construction. However, the Contractor may only bring in key staff from outside the area that has the necessary skills not available among the local community. Other than key staff, all other labour must be employed from the local communities. As a guideline, key staff would include general foreman, foreman, site managers, buyers, quantity surveyors, etc.

The Training Consultant will provide the necessary training so that the local labourers will have the necessary skills to carry out this work. In this respect, the contractor and the Training Consultant will have to work closely together to identify what skills are required, how many labourers in each trade are required and when this labour will be required, so that the necessary training can be given timeously.

Typical training that is envisaged at this stage includes shuttering, concrete work, reinforcing, team leaders, etc.

The other part of the Contract is work that will be carried out by community-based contractors.

The Training Consultant will identify persons, with the assistance of the Project Steering Committee, and train these persons to establish small community based contracting firms, who will employ local labour. These firms will tender to carry out this work and successful Tenderers will be appointed by the Contractor as nominated sub-contractors to execute this work.

Typical training that will be given by the Training Consultant is:

i) Community based contractors

- Preparation phase – using a calculator, numeracy, using a scale ruler, reading a building plan, handling administrative tasks in the building industry.
- Estimating and tendering – marketing the services of a company, seeking, selecting, collecting and studying tender documents, investigating and assessing a site, developing a bill of quantities from building plans, calculating the cost of a project, finalizing tender prices, completing and submitting a tender.
- Project planning – introducing to planning techniques, pre-tender planning, planning contract activities, contract planning, executing a contract programme.
- Executing the project – managing the finances of the company, managing materials, administering record systems, managing manpower, completion and handover.

ii) Community based labour

Local labour will be taught the following skills:

- Excavation if possible, bedding, selected backfill and backfill
- Pipe laying, valves and fittings
- Valve boxes, manholes, anchor blocks etc.

Again, the Contractor and Training Consultant will have to work closely together to identify what their requirements are and when this labour is needed.

Community based labour training will take place on site before actual production starts. No allowance needs to be made for wages, food or travelling during training.

Training of community-based contractors will take place at a central point. The Provincial Sum allowed in the Schedule of Quantities, makes allowance for travelling and meals for the training of community-based contractors.

## **PS 16.2 Construction and Materials Management**

This section applies only to work to be carried out by community-based contractors.

The contractor shall provide construction and material management to the community-based contractors. In this respect, each party has the following responsibilities.

i) Community Based Contractors

- To tender on the labour-based sub contract work and enter into a contract with the Contractor.
- To carry out the work according to specification and on time using community-based labour.
- To liaise and co-operate with the contractor regarding specifications, programme, progress, delivery of material, quality of work etc.
- To provide wheelbarrows, hand tools, clothing, safety equipment, etc. to enable his labourers to carry out the work. All material (pipes, fittings, valves, etc.) to be provided by the Contractor.
- To receive material required for the task, store it and provide the necessary security until the material is built into the works.

- To provide the necessary transport for this labour force.
- To carry out a task in its entirety until final approval and acceptance. In other words, there will be no split responsibility. For example, a community based contractor will excavate, provide the bedding, selected backfill, backfill, lay pipes, valves and fittings, build valve boxes, manholes, anchor blocks etc. and test the pipes in conjunction with the Contractor.
- To pay his labourers. VAT etc. and finalize the final account.

ii) Contractor

- In conjunction with the Training Consultant, establish the needs, training and programming of the work.
- To assist the Training Consultant in drawing up the agreements of association between the Contractor and the community-based contractors where applicable.
- To enter into nominated sub contracts with the community-based contractors.
- To provide the necessary skills transfer and construction management for the community-based contractors to successfully complete this work. This includes setting out of the work, quality control over the work, programming of the work, progress, testing and acceptance thereof.
- To provide the necessary materials to execute the work. This includes purchasing the required materials, transporting them to the camp site, storage at the campsite, transporting of materials as required from camp site to the sites of the various community-based contractors, handing over of the materials.
- To pay the community-based contractors as the work progresses and the Contractor must make allowance in his Tender for this. Retention monies will be as for this Contract. No sureties will be required from the community-based contractors.
- To measure the work and finalize the final account.
- Complete copies of the emerging contractor's contracts to be given to the Engineer for endorsement prior to the contract being signed.

Candidate selection would be according to the requirements for a particular discipline. A Certificate of Achievement should be awarded to a student who has attained a prescribed level of competency.

A provisional amount for training has been recorded in both sections under the Item "Training", in the Preliminary and General portions in the Schedule of Quantities.

## **PS 17      APPLICABLE STANDARDISED SPECIFICATIONS**

Although not bound in nor issued with this document, the following standardised specifications shall form part of the contract and, notwithstanding the provisions of sub clause 2.2 of SABS 1200 A, the editions specified below shall apply:

SABS 1200 A	-	1986	General
SABS 1200 AB	-	1986	Engineers Office
SABS 1200 C	-	1986	Site Clearance
SABS 1200 D	-	1988	Earthworks
SABS 1200 DA	-	1988	Earthworks (Small Works)
SABS 1200 DB	-	1989	Earthworks (Pipe Trenches)
SABS 1200 G	-	1982	Concrete (Structural)
SABS 1200 GA	-	1982	Concrete (Small Works)
SABS 1200 L	-	1983	Medium Pressure Pipelines
SABS 1200 LB	-	1983	Bedding (Pipes)

The newest additions of above specifications up to and including the month of this tender will prevail.

## **PS 18      PARTICULAR SPECIFICATIONS**

In addition the applicable Particular Specifications as set out in Portion 2.2, which are bound in this document, shall apply to this contract.

## **C5.2**

### **PROJECT SPECIFICATION**

#### **PORTION 2    INTERPRETATIONS AND VARIATIONS TO STANDARDISED SPECIFICATIONS AND PARTICULAR SPECIFICATIONS**

---

##### **C5.2.1**

#### **PORTION 2.1    INTERPRETATIONS AND VARIATIONS TO STANDARDISED SPECIFICATIONS AS SHOWN UNDER CLAUSE PS-17**

This portion contains essential clauses and data and additional clauses required to supplement and augment the Standardized Specifications to suit the nature of this Contract.

The number of each clause and each payment item in this part of the project specifications consists of the prefix PS followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by PS, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

## **SABS 1200 A: GENERAL**

### **A 3 MATERIALS**

#### **PS A 3.1 QUALITY**

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

Where there is a standardization mark programme for any material, all such material supplied shall bear the official standardization mark. All materials used in the Works shall, where such a mark has been awarded for a specific type of material, bear the SABS mark.

Substitute the second paragraph with the following:

The Contractor is responsible for the cost of all testing to ascertain that the materials do comply with the relevant minimum requirements and all such costs shall be deemed to be included in the tendered rates. The cost of control tests done by the Engineer and of which the results do not comply with the minimum requirements shall be for the Contractor's account.

The Contractor shall inform the Engineer of any control testing to be done at least 48 hours before such tests are required and must allow in his program for the time necessary for the tests and the processing of the results thereof.

The handling, storage, transport, and erection of equipment, machinery, and materials shall be strictly in accordance with the requirements of the supplier and/or manufacturer.

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

#### **PSA 3.3 APPLICABLE STANDARDS FOR CEMENT (ADDITIONAL SUB CLAUSE)**

The standard cement specifications SASS 471, SASS 626, SASS 831 and SASS 1466 have been withdrawn and are replaced by the new SABS ENV 197-1: Common cements, and SASS ENV 413-1: Masonry cement. These specifications will be applicable to this contract, and the descriptions and types of cements specified, will be based on the designations as defined in these specifications.

### **A 4 PLANT**

#### **PS A 4.2 Contractor's Offices, Stores and Resources**

Add the following to A 4.2:

The Contractor shall provide room space in his office to accommodate a satisfactory first aid kit. The kit shall include adequate supplies of medicines, bandages, drugs, etc. to provide efficient first aid treatment as prescribed by the OHS act, Act 85/1993. The Contractor is at liberty to provide such other medical facilities as he may deem necessary.

Payment for this item is to be included under "Offices and Storage Sheds" under "Facilities for Contractor" in Preliminary and General.

The Contractor's camp shall be kept neat and clean at all times and all surplus or rejected material shall be removed from the site.



### **PS A 4.3 Hand Tools**

The contractor shall provide and maintain all hand tools required for the execution of the Works.

### **PS A 4.4 Restriction on Employee Accommodation (Additional sub-clause)**

No housing is available for the Contractor's employees and the Contractor shall make his own arrangements to house his employees and to transport them to site.

With the exception of a night watchman no employees may be housed or accommodated or allowed to sleep over on the Site of the Works.

The Contractor shall provide the necessary ablution facilities at his campsite and on the Site of the Works for the use of his employees. Only chemical toilets will be allowed.

## **A 5 CONSTRUCTION**

### **A 5.1 SURVEY**

#### **PS A 5.1.1 Setting Out Of The Works**

Substitute the first sentence in A 5.1.1 with the following:

Setting out of the works is the sole responsibility of the Contractor and shall be done from the layouts given to him. The proposed network pipes must be placed 2,0m (or as indicated on the drawings) away from the erf boundaries in the road reserve. Any discrepancy shall immediately be reported in writing to the Engineer. Any costs or subsequent costs arising from discrepancies, which had not been reported to the Engineer, shall be the sole responsibility of the Contractor. *The exact position of the network pipes shall be determined on site in conjunction with the Engineer and must be approved before construction of the specific section starts.*

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

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

Add the following to A 5.2:

The crossing of existing tar and dirt roads must be done in half widths, while the total traffic is accommodated on the other lane.

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

### **PSA-5.8 Ground and access to works**

#### **• Add the following:**

On completion of operations the Contractor shall restore the ground surface, wherever it may have been disturbed, to its original condition by filling in all ruts with material similar to the material within the rut and levelling the ground and, where necessary, planting grass and shrubs as may be required.

## **A 7 TESTING**

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

Substitute A 7.4 with the following:

Test results shall not be evaluated by statistical methods. All results shall comply with the specified minimum requirements of the materials concerned.

## **A 8 MEASUREMENT AND PAYMENT**

### **A 8.2 PAYMENT**

#### **PS A 8.2.1 Fixed-Charge and Value-Related Items**

The tendered amounts for fixed-charge and value-related items will not be increased, if extension of time for the completion of the works is awarded.

#### **PS A 8.2.2 Time-Related Items**

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

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

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

### **A 8.3 SCHEDULED FIXED-CHARGE AND VALUE-RELATED ITEMS**

#### **PS A 8.3.3 Other Fixed-Charge Obligations**

This item as listed under Schedule A of the bill of quantities is as specified in the standardised specification SABS 1200 A.

### **A 8.4 SCHEDULED TIME RELATED ITEMS**

#### **PS A 8.4.5 Testing**

**Unit : Sum**

The cost of all sampling and testing executed by the Contractor or approved laboratory must be included in the amount for other time related items and no separate payment shall be made for this. This condition also relates to the placing, curing and testing of concrete cubes.

## **A 8.5 SUMS STATED PROVISIONALLY BY ENGINEER**

### **PS A 8.5(a)1 Community Liaison Officer**

**Unit : Prov Sum**

The Contractor must pay a salary to a person appointed as the Community Liaison Officer for the project. The amount of payment and payment dates will be determined as soon as the Community Liaison Officer is appointed.

### **PS A 8.5(a)2 Overheads, charges and profit on (1) above**

**Unit : %**

Handling cost and profit in respect of sub-item 8.5(a) 1. A percentage of the payment made to the Community Liaison Officer will be paid to the contractor. The rate shall cover the Contractor's overheads, charges, and profit on payments for the Community Liaison Officer. No payment will be made under this item before payment to the Community Liaison Officer.

### **PS A 8.5(b)1 Training**

**Unit : Prov Sum**

Provisional sum for training services supplied by the Training Company. The name and contact details of the Training Company, to be appointed by the Contractor, will be supplied to the Contractor by the Employer or Engineer.

### **PS A 8.5(b)2 Overheads, changes and profit on (1) above**

**Unit : %**

Handling cost and profit in respect of sub-item 8.5(b) 1. A percentage of the payment made to the Training Company will be paid to the Contractor. The rate shall cover the Contractor's overheads, changes, and profit on payments for the Training Company. No payment will be made under this item before any payment is made to the Training Company.

## **PS A 8.7 DAYWORK**

Replace A 8.7 with the following:

Daywork will be paid according to the percentage allowance method. For calculating the total remuneration the General Conditions of Contract for Construction Works, First Edition, 2004 shall apply, with the amendments as in the appropriate special conditions of contract, which is bound into this document. A daywork schedule will be provided for filling in the necessary information.

## **A 8.8 TEMPORARY WORKS**

### **PS A 8.8.2 Accommodation Of Traffic**

**Unit : Sum**

Add the following to A 8.8.2:

The rate shall cover all costs pertaining to the provision, erection, moving, re-erection and maintenance of all temporary barricades, road signs, lights, flagmen, etc. as required, for the guarding and protection of the works, for the construction, gravelling and maintenance of access roads and detours to the site of the works, borrow pits or spoil sites, as well as for the later removal or the cleaning and tidying up thereof.

## **SABS 1200 AB : ENGINEER'S OFFICE**

### **AB 3 MATERIALS**

#### **PS AB 3.1 NAME BOARDS**

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

#### **PS AB 3.2 OFFICE BUILDING**

Replace AB 3.2 with the following:

Prior to commencing with work, the contractor shall provide and furnish for the use of the engineer's representative and his staff one office (3.0 x 6m Wendy House Type with 1.5m veranda) in an approved position. The Engineer will indicate the position. All plans shall be submitted to the engineer for approval, before the commencement of erection.

The office with a minimum floor area of 18m<sup>2</sup> (the smaller dimension at least 3.0m) with a ceiling height of minimum 2.1m, shall also have one toilet apart from the office building for the exclusive use of the engineer's representative.

The office shall be provided with lined walls, boarded ceilings, floor, approved floor covering, suitable security door with secure locks, burglar bars at all windows, security gate at the door, approved florescent lighting, power supply, a minimum of four electrical plugs, air conditioner to cool 40m<sup>3</sup> and furnishings. The office shall be ventilated, weather proof and waterproof and shall have windows with an area to at least 20% of the floor area. The office shall be insulated to provide comfortable working conditions.

Internal furnishings shall include:

- One desk (1,5m long x 1,0m wide x 0,9m high) with lockable drawers with keys.
- One drawing table (1,5m long x 1,0m wide x 0,9m high).
- Twelve desk chairs.
- One boardroom type table (3,0m long x 1,2m wide x 0,9m high) with smooth top.
- One steel cupboard.
- One steel filing cabinet.

### **AB 4 PLANT**

#### **PS AB 4.1 TELEPHONE AND FAX**

Replace AB 4.1 with the following:

The Contractor shall supply the Engineer with a cellular telephone service for the exclusive use of the Engineer and Engineers Representative for official purposes for the duration of the contract.

### **AB 5 CONSTRUCTION**

#### **PS AB 5.1 NAME BOARDS**

Add the following to AB 5.1:

The name boards shall be erected within a month of the commencement date of the contract and shall be placed at the position indicated by the Engineer. Any damage to these boards shall be repaired within seven days of a written instruction issued by the Engineer. No payment shall be made in terms of the contract prior to the erection of the name boards.

The Contractor will be permitted to erect a maximum of two of his own name boards, in positions approved by the Engineer. The Engineer reserves the right to order the removal of these boards if they are not kept in good repair.

#### **PS AB 5.5 SURVEY ASSISTANTS**

Substitute "two or more suitably educated survey labourers" in the first sentence of PS 5.5 with "two semi-skilled labourers."

#### **PS AB 5.6 SURVEY EQUIPMENT**

The Contractor shall provide the following tested and approved survey equipment on site for the duration of the contract and for the use of the Engineer whenever needed:

- a) one tachometer capable of reading to minimum 20 seconds and maximum 6 seconds of arc, plus tripod;
- b) one automatic level plus tripod;
- c) two tachometer staffs and one level staff, all graduated metrically;
- d) one 10m Stanley and one 100 m Stanley fibre tape measure; and
- e) diverse surveyor's necessities like paint, pegs, etc.

The above-mentioned equipment may by arrangement be shared between the Contractor and the Engineer's representative.

The Contractor shall keep the equipment continuously insured against any loss, damage, or breakage, and he shall indemnify the Engineer and the Employer against any claims in this regard.

The Contractor shall maintain the equipment in good working order and keep it clean throughout the contract period.

### **AB 8 MEASUREMENT AND PAYMENT**

#### **AB 8.2 PAYMENT**

##### **PS AB 8.2.2(a) Office buildings**

**Unit : Sum**

The rate shall cover all time-related costs pertaining to the office building as prescribed in PS AB 3.2.

##### **PS AB 8.2.2(b) Telephone and fax**

**Unit : Sum**

The rate shall cover all time-related costs pertaining to the telephone and fax as prescribed in PS AB 4.1.

##### **PS AB 8.2.2(c) Name boards (2 off)**

**Unit : Sum**

The rate shall cover all time-related costs pertaining to the name board/s as prescribed in PS AB 5.1.

##### **PS AB 8.2.2(d) Survey assistance and equipment**

**Unit : Sum**

The rate shall cover all time-related costs pertaining to the survey assistants and equipment as prescribed in PS AB 5.6.

## **SABS 1200 C : SITE CLEARANCE**

### **C 3 MATERIAL**

#### **PS C 3.1 DISPOSAL OF MATERIAL**

Substitute the first sentence of C 3.1 with the following:

Material obtained from clearing and grubbing shall be disposed of at the site indicated at the site inspection. If such a site is indicated at tender stage, the cost of transporting material and debris will be included under 8.2.1.

Loading and off-loading should be done by hand and the contractor must price accordingly under item 8.2.1.

### **C 5 CONSTRUCTION**

#### **PS C 5.1 AREAS TO BE CLEARED AND GRUBBED**

Substitute the first sentence of C 5.1 with the following:

Unless otherwise indicated by the Engineer, clearing and grubbing are limited to a 2,5m wide strip along the pipe route. Measurement and payment for clearing and grubbing shall only occur for areas as required in writing by the Engineer.

The Contractor may proceed with clearing and grubbing after the handing over of the site.

#### **C 5.2 CUTTING OF TREES**

##### **C 5.2.3 Preservation of Trees**

##### **PS C 5.2.3.2 Individual trees**

- Change the sub item 5.2.3.2 as follow:

The Contractor shall inform the Engineer before the clearance of the pipeline routes and the Pumping Station sites commences. All the trees indicated by the Engineer to the Contractor shall be preserved and left standing. An amount of **R15 000** shall be deducted from due monies to the Contractor as a penalty in respect of every such tree that is damaged or" removed unnecessarily.

#### **PSC 5.6 Conservation of Topsoil**

- Add the following:

"150mm Topsoil shall be preserved for the width of the pipe trench. Where topsoil occurs on pipe routes, the Engineer will instruct to the removal and replacement and measurement will be as per SABS 1200 DB.

At borrow pits the Contractor shall stockpile and maintain the topsoil adjacent to such positions for later use in reinstatement of the borrow areas."

## **PS C 5.9      EXISTING FENCING**

The fencing parallel to the pipeline routes must only be removed and re-erected at the positions as indicated and approved by the Engineer and repaired where it was damaged. When the pipeline routes cross fencing or gates temporary wire gates must be provided that must be kept closed. After completion of the work these fences or gates must be repaired to the same condition as before commencement of the work.

## **C 8 MEASUREMENT AND PAYMENT**

### **C 8.2      SCHEDULED ITEMS**

#### **PS C 8.2.1      Clear and grub**

**Unit : ha or m or km**

- Change the sub item 8.2.1 as follow:

The area designated by the Engineer to be cleared and grubbed will be measured to the nearest 0,1ha or, in the case of pipelines where the width is specified, to the nearest metre or kilometre. The rate shall cover the cost of clearing the surface, removing boulders of size up to 0,5m<sup>3</sup>, grubbing trees and tree stumps up to 3,5m high and <1m in Ø, cutting of trunks and branches exceeding 0,5m in girth into transportable lengths, backfilling of cavities, demolishing structures (except where otherwise provided for in the project specification) and removing, transporting (except where sub clause 8.2.9 is applicable), and disposing of material thus cleared, grubbed, cut and demolished. Boulders over 0. 5m<sup>3</sup> will be dealt with as hard rock excavation.

## **SABS 1200 D : EARTHWORKS**

### **D 3 MATERIALS**

#### **D 3.1 CLASSIFICATION FOR EXCAVATION PURPOSES**

##### **PS D 3.1.1 Method of Classifying**

Substitute D 3.1.1 with the following:

The Contractor may use any method he chooses to excavate any class of material, but his chosen method of excavation shall not determine the classification of the material. The Engineer shall classify excavated materials as Soft and Rock. The classification will be based on inspection of the material to be excavated and on the criteria of Table 1 in PS DB 3.1.2. All excavation equipment shall be in good mechanical condition. "Economically fragmented and loosened" and "efficiently" shall mean "in a manner that can be reasonably be expected of the Contractor, having regard to the production achieved."

##### **PS D 3.1.2 Classes of excavation**

Replace sub clause 3.1.2 with the following:

Excavation of materials is classed as Soft excavation and Hard Rock excavation as per Table 1 below. Hard rock will be measured individually as extra-over items.

**TABLE 1: CLASSIFICATION OF MATERIALS**

<b>CLASSIFICATION</b>	<b>DESCRIPTION</b>
Soft	All material other than rock
Rock	Material, including boulders, which cannot be economically fragmented and loosened for removal by hand implements and pneumatic tools, except by drilling and blasting or the use of rock breaking equipment.

- 1) Soft material shall be excavation in all material that can be efficiently excavated by a 20ton excavator with a tined bucket or be ripped by a bulldozer of mass 35 ton, with of a flywheel power of approximately 220 kW, fitted with a single-tine ripper suitable for heavy ripping.
- 2) Soft material in restricted and general excavation shall be material that can be excavated by back-acting excavator (TLB type) with a flywheel power exceeding 0,1 kW per millimetre of tined-bucket width or material that requires pneumatic equipment without blasting.

In the event of disagreement between the Contractor and the Engineer, the Engineer shall reclassify the material in accordance with relevant specifications and without being unreasonable to the Contractor. The decision of the Engineer on the classification shall then, subject to the provisions of the Contract, be final and binding.

The Contractor shall notify the Engineer of the presence of what he considers to be rock immediately upon discovery thereof. The Engineer will inspect the material and decide whether or not it warrants the use of pneumatic tools or rock breaking equipment. In the case of isolated boulders set in a soil matrix, the Engineer may order the Contractor to either widen the excavation or roll the boulders sideways or lift the boulders out from the trenches.

In the event that the Engineer decides that the use of pneumatic tools, rock breaking equipment, or blasting is necessary, he will classify the material accordingly and arrange for the quantity thereof to be measured. The Construction Manager will supply necessary pneumatic equipment and arrange for others to break up rock into manageable pieces.

#### **D 3.3 SELECTION**



### **PS D 3.3.1      General**

Substitute the second paragraph of D 3.3.1 with the following:

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

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

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

## **D 5 CONSTRUCTION**

### **D 5.1              PRECAUTIONS**

#### **PS D 5.1.2.1      Barricades and Lighting**

The Contractor's attention is drawn to the fact that pipelines must be constructed under access roads. The Contractor must arrange his work in order to assure free flow of traffic. No additional payment for any discomfort, extra costs, or delaying as a result of the provision of this facility will be made except for the items as allowed under PS A 8.8.2.

#### **PS D 5.1.2.2      Detection, location and exposure**

Add the following to D 5.1.2.2:

If existing services are not shown on the drawings, but the existence thereof can be reasonably expected, the Contractor shall, in conjunction with all relevant authorities, determine the exact depth and location of such services before the commencement of construction. After locating the exact position of services, whether indicated on the drawings or not, such services shall be deemed to be known services and the Contractor shall be liable for all costs and subsequent costs arising from the damage thereof as a result of the Contractor's activities. These services must also be indicated on the "As Built" drawings.

A minimum of three trial cross trenches per street block must be excavated by hand perpendicular to the pipeline route to establish the position of existing services and the final portion of the network pipeline.

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

#### **PS D 5.1.4.1 Dust nuisance**

Add the following to D 5.1.4.1:

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

#### **PS D 5.1.6 Road Traffic Control**

Add the following to D 5.1.6:

- a) Sufficient road signs must be erected in such a way that motorists will be warned in time of works, e.g. at the closing of a street sufficient signs to direct traffic must be erected at the preceding intersection.
- b) Bypasses and/or road signs shall be provided and/or erected at all locations where the free flow of traffic is obstructed and shall be approved by the Engineer before the commencement of construction. Where main roads are crossed, detours and temporary traffic signs must be provided as shown on the attached drawings.
- c) Where a trench crosses a street or any place where a trench crosses the direction of traffic flow, drums must be placed in the street and not just along the sides of the street with danger tape in between.
- d) Danger tape must be put up between drums and tied around the drums.
- e) Drums may not be filled with stones. The spacing of drums must be in such a way (maximum 5 m) that they are visible from all directions.
- f) Sufficient safety measures must be utilised for pedestrians.
- g) Vehicular and pedestrian access must be maintained to all stands, businesses, etc. at all times.

### **D 5.2 METHODS AND PROCEDURES**

#### **D 5.2.2 EXCAVATION**

##### **PS D 5.2.2.2 Borrow Pits**

The contractor must construct and maintain at his own cost the necessary access roads and borrow pits. The position of borrow pits must be approved by the Engineer before opening up the borrow pits.

##### **PS D 5.2.2.3 Disposal**

Substitute the second sentence of D 5.2.2.3 with the following:

All surplus and unsuitable material shall be dumped and neatly finished off in the area pointed out for this during the site inspection.

#### **PS D 5.2.3.2(b) Backfilling**

Add the following to D 5.2.3.2 (b):

The backfilling of excavations along the perimeter of valve chambers, etc. to provide workspace for vertical shuttering must be placed in  $\pm 200\text{mm}$  layers and compacted to 90% Mod. AASHTO with material from the excavation or with material from approved borrow pits. This backfilling is not measured separately but is included in the tariff for the chambers.

### **D 8 MEASUREMENT AND PAYMENT**

#### **D 8.3 SCHEDULED ITEMS**

##### **D 8.3.3 Restricted Excavation**

The excavation of the valve chamber, stand posts, etc. is not measured separately and is included in the tariffs of the chambers.

## **SABS 1200 DA : EARTHWORKS (SMALL WORKS)**

### **PS DA EARTHWORKS (Small Works)**

#### **PS DA 3 MATERIALS**

##### **PS DA 3.1 CLASSIFICATION FOR EXCAVATION PURPOSES**

###### **PS DA 3.1.1 Method of Classifying**

Substitute DA 3.1.1 with:

The method of classifying will be as specified in sub clause 3.1.1 of SABS 1200 D.

###### **PS DA 3.1.2 Classes of Excavation**

Substitute DA 3.1.2 with:

The classes of excavation will be as specified in sub clause 3.1.2 of SABS 1200 D.

#### **PS DA 8 MEASUREMENT AND PAYMENT**

##### **PS DA 8.1 Basic Principles**

- Replace sub clause 8.1.3 with the following:

No allowance will be made in the excavation for working space. The contractor shall include for working space for outside formwork in rates.

## **SABS 1200 DB : EARTHWORKS (PIPE TRENCHES)**

### **DB 3 MATERIALS**

#### **DB 3.1 CLASSES OF EXCAVATION**

Substitute DB 3.1:

The excavation of material will, for the purpose of measurement and payment, be classified as specified in sub clause 3.1.1 of SABS 1200 D.

#### **PS DB 3.5 BACKFILL MATERIALS**

- Replace sub clauses 3.5 with the following:

All backfilling of pipe trenches shall comply with sub-clauses 3.5(a) and 5.7.1, except the backfilling in trafficked areas as shown on the drawings which conform to sub-clause 3.5(b) and sub-clause 5.7.2. It shall also comply with clause 3.16 of Particular Specification PG.

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

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

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

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

### **DB 4 PLANT**

#### **PS DB 4.1 EXCAVATION EQUIPMENT**

Add the following to DB 4.1:

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

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

### **DB 5 CONSTRUCTION**

#### **DB 5.1 PRECAUTIONS**

##### **PS DB 5.1.1.1 Water in Trenches**

Water in pipe trenches may cause movement of the pipes as a result of flotation and backfilling must therefore be executed as quickly as possible. If movement of the pipes does occur the contractor must, unless otherwise instructed by the Engineer, remove the pipes from the trench and reinstall it at his own expense.

- Add the following sub clause 5.1.5:

**PS DB 5.1.5      Open Trenches**

Unless otherwise permitted in writing by the Engineer, not more than 1000m of trench in anyone place shall be opened in advance of the completed pipeline. No trench may be left open for any period exceeding 2 weeks. No extra payment will be made for trenches closed and subsequently re-opened in terms of this clause.

Where a pipe crosses a road, the trench shall be backfilled immediately the service has been installed and all works shall be completed within one week of commencement of excavation. The pipe shall be laid in two sections across the roadway to obviate the flow of traffic. Only one lane of traffic may be closed to the public at a time.

**PS DB 5.4      EXCAVATION**

Add the following to DB 5.4:

"Excavation and backfilling of pipe trenches on sidewalks in the residential area shall be done in such a manner as to ensure the least possible disruption to the public and access to the properties. No additional payment shall be made for this and all relevant costs shall be deemed to be included in the tendered rates.

**PS DB 5.5      TRENCH BOTTOM**

Substitute "90 %" in the second paragraph of DB 5.5 with "93 % ".

**PS DB 5.5.1      Over Excavation of Trenches**

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

**DB 5.6      BACKFILLING**

**PS DB 5.6.1      General**

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

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

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

Add the following to DB 5.6.3:

All surplus and unsuitable material as described in DB 5.6.3 shall be disposed of at the spoil site, (as described in PS D 5.2.2.3) and levelled.

**DB 5.7      COMPACTION**

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

Add the following to DB 5.7.2:

All pipe trenches within road crossings, accesses to services, farms and camps that fall within the road reserve, will be regarded as areas subject to traffic loads. Backfilling of trenches that are subject to traffic loads will be executed in layers of 100mm as follows:

Item	% mod AASHTO	Final Layer Thickness
Approved Backfill	93%	200mm
Main Backfill up to road layers	96%	200mm
Sub-base	97%	200mm
Base	98%	175mm

## **DB 5.9 REINSTATEMENT OF SURFACE**

### **PS DB 5.9.2 Private Property and Commonage**

Add the following to DB 5.9.2:

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

## **PS DB 7 TESTING**

- Add the following to sub clause 7.1:

**PS DB 7.1** "The Contractor shall test compaction density on all backfill of the pipelines as stated under clause 7.2.6 of Particular Specification PG".

## **DB 8 MEASUREMENT AND PAYMENT**

### **DB 8.2 COMPUTATION OF QUANTITIES**

#### **PS DB 8.2.4 Shoring**

Add the following to DB 8.2.4:

Shoring will only be measured and paid for, if the Engineer gives written approval before it is installed.

<b>DB 8.3</b>	<b>SCHEDULED ITEMS</b>	
<b>PS DB 8.3.2</b>	<b>Excavation</b>	
<b>PS DB 8.3.2(a)</b>	<b>Excavate in all materials for trenches on specified sites, backfill, compact &amp; dispose of surplus material within 5km free haul distance for pipes:</b>	<b>Unit : m</b>
	Add the following to D 8.3.2(a):	
	The depth of excavation in street reserves shall be measured from the final finished level.	
	In cases where services lay parallel to steep slopes, the depth of the excavation will be measured along the centre of the trench (on the route of the service).	
<b>PS DB 8.3.2(b)</b>	<b>Extra-over item (a) above for</b>	<b>Unit : m<sup>3</sup></b>
	Delete "Intermediate excavation".	
<b>PS DB 8.3.2(c)</b>	<b>Excavate Unsuitable Material From Trench Bottom</b>	<b>Unit : m<sup>3</sup></b>
	Delete "within free haul distance" and replace with "within 5km from an excavation".	
<b>PS DB 8.3.2(d)</b>	<b>Excavate by hand and expose existing services</b>	<b>Unit : m<sup>3</sup></b>
	The rate shall cover all aspects of identifying, opening and closing of the existing service.	
<b>DB 8.3.3</b>	<b>Excavation Ancillaries</b>	
<b>PS DB 8.3.3.3</b>	<b>Compaction in Road Reserves</b>	<b>Unit : m<sup>3</sup></b>
	Add the following to DB 8.3.3.3:	
	This item is only applicable to the main fill above the bedding and fill blanket.	
<b>PS DB 8.3.4</b>	<b>Particular Items</b>	
	<b>(a) Shore trench opposite structure or services</b>	<b>Unit : m</b>
	Add the following to DB 8.3.4(a):	
	The tariff for shoring must also make provision for the difference in the tariff for excavation.	
	Delete DB 8.3.4(b) and replace with the following:	
	<b>(b) Temporary works: Control water inflow</b>	<b>Unit : m</b>
	The tendered rate for the effective control of ground water shall cover for all equipment, plant, material as well as the labour involved to use the well points, pumps and pipes, etc. to control the ground water before and during excavation. The rate shall also cover the maintenance of the equipment for the total contract period.	
	Payment for this item will only be made if the Contractor used well points and pumps to control ground water before or during excavation and measurement will be done on the length of pipe laid in trenches where ground water control had been applied.	



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

**PS DB 8.3.5(a) Services that intersect a trench**

**Unit : No**

Add the following to DB 8.3.5(a):

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

The rate shall also allow for the following costs:

- i) Sufficient photos have to be taken of existing services and handed over to the Engineer before they are being crossed, if there is a possibility of a difference in opinion over the condition of those services, especially on private property.
- ii) If such a service is damaged, it has to be repaired to its original condition or if possible, to a standard agreed to in writing with the relevant owner. This agreement has to be approved by the Engineer.
- iii) If such a service is removed, it has to be replaced as per original.

**PS DB 8.3.5(b) Services that adjoin a trench**

**Unit : No or m**

Add the following to DB 8.3.5 (b):

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

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

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

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

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

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

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

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

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

**DB 8.3.6            Finishing**

**PS DB 8.3.6.1 Reinstatement road surfaces complete with all courses**

**Unit : m<sup>2</sup>**

Replace DB 8.3.6.1 with the following:

a) Gravel

Unit : m<sup>2</sup>

The area will be calculated from the length of finished road or paved surfaces as applicable and with the trench width taken as 0,8m. Payment for finishing will be additional to that for excavation covered by 8.3.2.

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

## **SABS 1200 G: CONCRETE (STRUCTURAL)**

## **SABS 1200 GA: CONCRETE (SMALL WORKS)**

## **PS G/PS GA 3 MATERIALS**

### **PS G/PS GA 3.1 APPROVAL OF MATERIALS**

Substitute “in good time” with “within 14 days of site handover” in the first sentence.

### **PSG/PSGA 3.2 CEMENT**

#### **PS G/PS GA 3.2.1 Portland Cement and Slagment**

Substitute G 3.2.1 with the following:

“Where reference is made in this specification or the standard specifications to the cement specifications, e.g. SABS 471: Portland cement and rapid hardening Portland cement, it shall be replaced with the new specification:

#### **SABS ENV 197-1: Cement-composition, specifications and conformity criteria.**

Part 1: Common cements.

Furthermore, where reference is made in this specification or the standard specifications to the different cement types, the following new names/types shall apply:

Old product nomenclature	Typical new product nomenclature	
	Cement type	Cement strength class
OPC	CEM I CEM I	32,5 32,5R
RHC	CEM I CEM I	42,5 42,5R
LASRC	No provision made	No provision made
PC15SL	CEM II/A-S CEM II/A-S CEM II/A-S	32,5 32,5R 42,5
PC15FA	CEM II/A-V CEM II/A-V CEM II/A-W CEM II/A-W	32,5 32,5R 32,5 32,5R
RH15FA	CEM II/A-V CEM II/A-V CEM II/A-W CEM II/A-W	42,5 42,5R 42,5 42,5R
PBFC	CEM III/A CEM III/A	32,5 32,5R
PFAC	CEM II/B-V CEM II/B-W	32,5 32,5
RH30SL	CEM II/B-S CEM II/B-S	32,5R 42,5
RH40SL	CEM III/A CEM III/A	32,5R 42,5

CEM I 32,5, CEM II A-S 32,5, CEM II/A-V 32,5, or CEM III A may be used for the manufacture of reinforced concrete members.”

### **PS G/PS GA 3.2.3 Storage of cement**

Add the following to G 3.2.3:

Cement supplied in bags shall be arranged in such a way that it is used in the order in which it was delivered to site. The bags shall be closely stacked to a height not exceeding 12 bags. Bags shall not be stacked against the outside walls. The cement storage facility shall be weatherproof and provided with a damp proof floor, which shall be covered by a heavy duty plastic sheet. Brand and/or types shall be stored together and not mixed in a stack.

Cement shall not be kept in storage for longer than ten weeks from the date of manufacture without the Engineer's permission. If the cement is older than ten weeks it may be removed from site by order from the Engineer. Alternatively the Engineer can alter the mix design for use in concrete or the use thereof in concrete intended for less critical importance, as in blinding layers.

For the estimation of the storage facility it can be assumed that 20 bags of cement can be stored in one (1) cubic meter with a floor load of 25kN/m<sup>2</sup>.

### **PS G/PS GA 3.4 Aggregates**

#### **PS G/PS GA 3.4.2 Use of Plums**

- Amend sub clause 3.4.2 as follow:

"The use of plums as aggregate in structures is not be allowed".

### **PSG/PSGA-3.5 Admixtures**

#### **PSG/PSGA-3.5.1 Approval of Admixtures Required**

- Amend sub clause 3.4.2 as follow:

"No admixtures or additives will be allowed in any concrete mix."

### **PS G/PS GA 5 CONSTRUCTION**

#### **PS G/PS GA 5.4 Pipes and Conduits**

- Replace sub clause 5.4 as follow:

"Except with the written approval of the Engineer, no pipes other than those shown on the drawings shall be embedded in the concrete, and the approval of the Engineer for the position of all services to be embedded shall be obtained before concreting commences. The clear space between pipes of any kind embedded in reinforced concrete and the clear space between such pipes and reinforcement shall not at any point be less than:

- a) 40mm or,
- b) 5 mm plus the maximum size of coarse aggregate, whichever is the greater

**PS G/PS GA 5.5      Concrete**

**PS G/PS GA 5.5.1      Quality**

**PS G/PS GA 5.5.1.5      Durability**

The exposure conditions for structures will be deemed to be "severe".

**PS G/PS GA 5.5.1.6      Prescribed Concrete Mix**

- Replace sub clause 5.5.1.6 as follow:

"No prescribed concrete mix will be used in this contract."

**PS G/PS GA 5.5.1.7      Strength Concrete**

- Replace sub clause 5.5.1.7 as follow:

"The strengths of the various concretes required are detailed on the drawings. The maximum size of aggregate must be suited to the work in hand and is subject to the Engineer's approval."

**PS G/PS GA 5.5.3      Mixing**

**PS G/PS GA 5.5.3.2      Ready-Mixed Concrete**

- Replace sub clause 5.5.3.2 as follow:

"Ready mixed concrete will only be permitted with written approval of the Engineer and if so, the test results obtained by such a production will NOT be part of the quality control system."

**PS G/PS GA 5.5.5      Placing**

- Amend sub clause 5.5.5.9 as follow:

"The pumping of concrete will not be permitted."

**PS G/PS GA 5.5.8      Curing and Protection**

- Amend sub clause 5.5.B(a) as follow:

"The roofs of reservoirs shall be watertight and the Contractor shall cure the roof slab as follows:

Within 12 to 24 hours after completion of the pour the Contractor is to build a one-brick high up stand around the perimeter of the pour. Upon completion of this up stand it is to be filled with water. This water is to be supplemented as evaporation occurs and is to remain for seven days after which it can be allowed to evaporate.

**PS G/PS GA 5.5.10     Concrete Surfaces**

- Add the following sub clauses to sub clause-5.5. 10:

**PS G/PS GA 5.5.10.4     Surface Finishes**

**PS G/PS GA 5.5.10.4.1     Shuttered Surfaces**

Immediately following the removal of the forms, all fins and irregular projections shall be carefully removed from all surfaces. Any cavities in the concrete surface, caused by form ties, honeycombs, broken corners or edges or other defects shall after inspection by the Engineer, be thoroughly cleaned, saturated with water for at least one hour and filled with a mortar in the proportions by volume of one (1) part of cement to nought comma seven five (0,75) of the sand proportion used in the concrete in which the cavity occurs. Every effort should be made to match the colour of concrete. Care should be taken, in the choice of any release agent used, to ensure that the finished concrete surface is not permanently stained or discoloured.

**PS G/PS GA 5.5.10.4.2     Surfaces which are not shuttered**

On completion of placing and compacting the concrete as specified before, the top surface shall be struck off with a template cut to the required cross-section and tamped with a tamping board to compact the concrete thoroughly and to bring mortar to the surface, leaving the surface slightly rough but generally at the correct elevation and finally finished by wood float.

1. Top of Walls to Valve Chambers:- The top of all walls shall receive wood-floated finish.
2. Floors of Valve Chambers:- The surface shall first be given a tamped surface finish as specified above and then left for approximately one hour after which it shall be brushed with a soft brush to break up laitance formed on the surface.
3. Top of Reservoir Wall:- If the reservoir roof is carried by means of rubber bearing pads on the wall, the wall shall receive a wooden-floated finish to degree "1" accuracy. If the reservoir roof is carried directly on the wall, the wall shall receive steel-floated finish to degree "1" accuracy.
4. Reservoir Roof:- The surface shall first be given a tamped surface finish as specified above and shall then be finished with a wooden float to a smooth even surface without any unevenness of more than 3 mm showing under a 3m straight edge or of more than 2mm under any bearing plate. Plastering shall not be permitted at all.
5. Reservoir Floor:- The surface shall first be given a tamped surface finish as specified above and then left for approximately one hour after which it shall be brushed with a soft brush to break up laitance formed on the surface.

**PS G/PS GA 5.5.11     Watertight Concrete**

- Add the following sub clauses to sub clause 5.5.11:

"The concrete mix to be used in water-retaining structures shall have a cement/water ratio of at least 2,0."

The minimum cement content shall be 325 kg/m<sup>3</sup> and the maximum cement content for SABS ENV 197-1: Common cements shall be 400 kg/m<sup>3</sup>."

- Add the following sub clause 5.6 to clause 5:

e)

**PS G/PS GA 5.6     No-Fines Concrete**

**PS G/PS GA 5.6.1      Classes OF No-Fines Concrete**

"No-fines concrete shall be classified by the prefix NF and the size of aggregate to be used. Class NF 19 means a no-fines concrete with a 19mm nominal size aggregate.

The volume of aggregate per 50kg of cement for each class of concrete shall be as follows:

Class	Aggregate per 50kg cement
NF38	0,33m <sup>3</sup>
NF 19	0,30m <sup>3</sup>
NF 13	0,27m <sup>3</sup>

**PS G/PS GA 5.6.2      Batching**

**PS G/PS GA 5.6.2.1      Water**

The quantity of water added shall be just sufficient to form a smooth grout which will adhere to and coat completely each and every particle of aggregate, and which is just wet enough to ensure that at periods of contact of aggregate the grout will run together to form a small fillet to bond the aggregate together. The mix shall contain no more than 20 Litres of water per 50kg of cement.

**PS G/PS GA 5.6.3      Placing**

No-fines concrete shall be placed in accordance with the procedure agreed to by the Engineer. It shall be placed in its final position within 30 minutes of mixing.

The concrete shall be worked sufficiently to ensure that it completely fills the space to be concreted and that adjacent aggregate particles are in contact with one another. Excessive tamping or ramming shall be avoided and under no circumstances shall the concrete be vibrated.

**PS G/PS GA 5.6.4      Curing**

All no-fines concrete shall be protected from the elements and loss of moisture. Protection against loss of moisture shall be accomplished by one or more of the following:

- a) Retaining formwork in place.
- b) Covering exposed surfaces with sacking or other approved material kept continuously wet.
- c) Covering exposed surface with plastic sheeting.

No-fines concrete shall be cured for at least 7 days.

**PS G/PS GA 5.6.5      Covering of No-Fines layer**

Before the floor is cast 'on the no-fines, the surface will be covered with building paper to prevent mortar from the wet concrete entering the no-fines layer. The building paper will be properly protected against unnecessary damage before the floor is cast, and if damaged during the fixing of the steel, be replaced just before casting of the floor."

**PS G/PS GA 8:      MEASUREMENT AND PAYMENT**

**PS G/PS GA 8.1      Measurement and rates**

**PS G/PS GA 8.1.1    Formwork**

- Add the following sub clause 8.1.1.7 to sub clause 8.1.1:

No separate payment shall be made for the finishing of un-shuttered surfaces as described above, and payment therefore will be deemed to be included in the rates tendered for concrete.

**PS G/PS GA 8.1.2    Reinforcement**

**PS G/PS GA 8.1.2.2 and PSG/PSGA-8.1.2.3**

- Replace sub clauses 8.1.2.2 and 8.1.2.3 with the following:

"Mild steel and high tensile steel will be measured separately. Welded mesh will be scheduled separately for each type and mass per square metre of mesh.

The rate for steel reinforcement shall cover the cost of supply, cutting, bending, placing in position, and fixing of the reinforcing and supporting steel scheduled, and the provision of all spacer devices and binding wire, as well as the cost of tests in terms of SABS 920.

The rate for welded mesh shall cover the supply, cutting and placing of mesh, as well as the cost of all waste due to laps."

- Add the following sub clauses to sub clause 8.1.4:

**PS G/PS GA 8.1.4    No-Fines Concrete**

- a) Cast in situ no-fines concrete Unit: square metre (m²).

The unit of measurement for cast in situ no-fines concrete shall be the square metre of concrete IN PLACE for the various thicknesses indicated on the drawings. Quantities shall be calculated from the dimensions shown on the drawings.

- b) Cast no-fines concrete in pre-formed channels Unit: metre (m).

The unit of measurement for no-fines concrete in pre-formed channels for under floor drainage shall be the running metres of concrete IN PLACE for the sectional profile of no-fines concrete channels indicated on drawings. Quantities shall be calculated from the dimensions shown on the drawings.

- c) No deduction in volume measured for payment shall be made for the volume of any reinforced steel, inserts and pipes or conduits below 150mm in diameter embedded in the concrete.

The tendered rate shall include full compensation for procuring and furnishing of all material, provision of all plant, mixing, transporting, placing and compacting of the concrete; for curing' of the concrete, repairs to defective surfaces and finishing of concrete surfaces as specified and including the layer of building paper. Payment shall distinguish between the different classes of concrete.



## **SABS 1200 L : MEDIUM PRESSURE PIPELINES**

### **PS L 3 MATERIAL**

#### **PS L 3.1 GENERAL**

Replace the first sentence of L 3.1 with the following:

uPVC to SABS 966 Duraflow pipes or similar approved, where relevant, will be used in the water pipelines.

#### **PS L 3.4 STEEL PIPES, FITTINGS AND SPECIALS**

##### **PS L 3.4.2 Pipes with Nominal Bore up to 150mm**

This paragraph will only be applicable to steel pipes with nominal bore up to 65mm.

Steel pipes with a nominal bore range of 80 to 150 shall be fabricated with flanges.

##### **PS L 3.4.3 Pipes with Nominal Bore over 150mm**

Steel pipes with a nominal bore over 150mm shall comply with the applicable requirements of API5L.

Steel pipes with a nominal bore range of 80 to 200 shall be fabricated with flanges.

#### **PS L 3.7 OTHER TYPES OF PIPES**

##### **PS L 3.7.1 uPVC Pipes**

- Replace sub clause 3.7.1 with the following:

"uPVC pipes shall be fitted with spigot and socket rubber joints and shall comply with the relevant SASS 966 Part 1 (1998) as amended."

#### **PS L 3.8 Jointing Materials**

- Add the following additional sub-clauses

##### **PS L 3.8.8 Gaskets**

Gaskets for flanged joints shall be of compressed asbestos fibre to BS 2815 Grade "A" and full faced with a minimum thickness of 3mm.

#### **PS L 3.9 CORROSION PROTECTION**

##### **PS L 3.9.5 Joints, Bolts, Nuts and Washers**

All aboveground bolts, nuts and washers to be hot-dip galvanized to SABS 763. The threads of all bolts must also be treated with a hot-dip bitumen compound.

All underground-flanged couplings shall be protected with petroleum jelly mastic to a minimum of 100mm from the flanges and covered with plastic tape wrapping.

- Add the following clause

#### **PS L 3.9.7 Valves**

The corrosion protection of all valves shall be in accordance with and comply to Department of Water Affairs and Forestry specification "DWS 9900: Corrosion Protection."

#### **PS L 3.10 VALVES**

- Replace sub clause 3.10 with the following:

All valves shall comply with the requirements and specifications of the Department of Water Affairs and Forestry, Standard Specification: DWS 2510 - "Supply of Valves."

#### **PS L 5 CONSTRUCTION**

#### **PS L 5.1 LAYING**

##### **PS L 5.1.1 General**

Where connecting to the existing pipeline the position of the existing pipeline must be established by excavating test holes (hand excavation) before any trench excavation to the planned connection point is undertaken. The Contractor will not be compensated for excavation and any other work that is executed and proves to be unnecessary because this specification was not followed.

##### **PS L 5.1.4 Depths of Cover**

- Amend sub clause 5.1.4 with the following:

"The minimum cover to pipelines shall be 1000mm."

#### **PS L 5.4 CONCRETE ENCASING**

Replace the first sentence of L 5.4 with the following:

Concrete encasing with concrete with strength of 20 MPa/19mm, must be provided at positions indicated by the Engineer. Provision must be made to keep the pipe in position during the placement of the concrete encasing. The length of concrete encasing will be determined by means of site instructions from the Engineer.

##### **PS L 5.4.1 Soilcrete Encasing**

Add the following:

A mixture of Portland cement and gravel of base quality that is mixed in a ratio of 1:10 must be provided at positions indicated by the Engineer. Provision must be made to keep the pipe in position during the placement of the soilcrete encasing. The length of soilcrete encasing will be determined by means of a site instruction from the Engineer.

#### **PS L 5.5 ANCHOR BLOCKS**

Delete "15 MPa/37,5mm" in the second sentence and replace with "20Mpa/19mm"

## **PS L 5.6 VALVE CHAMBERS**

### **PS L 5.6.1 General**

Substitute the first sentence of L 5.6.1 with the following:

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

Valve chambers, to the relevant specified sizes and specifications, shall be installed at all the new positions as indicated on the detailed drawings.

## **PS L 5.10 DISINFECTION OF POTABLE WATER PIPELINES**

Sub clauses (a), (b) and (c) must be adhered to.

### **PS L 5.11 PIPE MARKERS**

Pipe markers shall be installed at 50m intervals on the pipeline route, at all the newly installed isolation and scour valves as indicated on the detailed drawings as well as at all positions where the pipeline route deviates from the horizontal.

## **PS L 5.12 BOREHOLE PUMP STATIONS**

Borehole pump stations, complete as per detailed drawings, shall be installed at the positions indicated on the drawings. The position of the installation shall be at the position indicated on the drawings and the long dimension installation direction of the pump station shall be in the direction of the pipeline and/or flow direction.

## **PS L 7 TESTING**

- Add sub clause 7.2 as follow:

### **PS L 7.1.2 Valves**

"All valves shall, where not otherwise indicated, be pressure tested. Test certificates are to be furnished to the Engineer before delivering valves to site and who is to be allowed access to the manufacturing works for inspections at his discretion."

## **PS L 7.3 STANDARD HYDRAULIC PIPE TEST**

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

Add the following to L 7.3.1.1:

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

## **PS L 8 MEASUREMENT AND PAYMENT**

### **PS L 8.2 SCHEDULED ITEMS**

- Add sub clause 8.1.2 as follow:

#### **PS L 8.1.2 Pipelines**

"Pipes installed in the ground but not tested will be regarded as material on site and payment will be affected accordingly until the pipelines are tested either in sections or completely according to specification."

<b>PS L 8.2.3</b>	<b>Extra-over 8.2.1 For the Supply, Fixing And Bedding Of Valves</b>	<b>Unit : No</b>
	Add the following to L 8.2.3:	
	Valves are measured and paid for per installation, complete with the inclusion of the cutting of pipes, couplings, extra excavation and all extra material and labour that is required, including tees, fittings complete as shown on the drawings.	
<b>PS L 8.2.11</b>	<b>Anchor/Thrust Blocks and Pedestals</b>	<b>Unit : m<sup>3</sup></b>
	Anchor, thrust blocks and pedestals shall be measured per cubic metre concrete and the tendered rate shall include for all formwork, reinforcement (where specified) and uPVC sleeves (pedestals) for the required dimensions. Pedestals shall be one standard pipe size bigger than pipe Ø.	
<b>PS L 8.2.16</b>	<b>Cut Into And Connect To Existing Mains</b>	<b>Unit : No</b>
	The number of each type and diameter of pipe cut into shall measure the cutting into existing mains.	
	The tendered rate shall include full compensation for all arrangements with the relevant authorities, isolating the main, cutting into the main to accommodate the connecting fitting, dewatering, excavating, removing of excess material, taking steps to prevent the ingress of soil, stones and other material into the main as well as all material and labour to connect the pipe.	
<b>PS L 8.2.17</b>	<b>Soil Crete Casing</b>	<b>Unit : m<sup>3</sup></b>
	The soil crete (1:10 ratio) is measured by volume according to the specified width and depth that exceeds the outside volume of the pipe (the volume of the pipe detracted).	
	The tariff includes the cost of shuttering and soil crete mixture.	
<b>PS L 8.2.18</b>	<b>Pipeline Markers and Survey Benchmarks</b>	<b>Unit : No</b>
	Pipe markers and survey benchmarks will be measured and paid for by number and the tariff must include all excavation, installation, and paint and numbering of marker, concrete as well as labour as described in PS L 5.11.	
<b>PS L 8.2.19</b>	<b>Valve chambers</b>	<b>Unit : No</b>
	Valve chambers will be measured and paid for by number and the tariff must include all excavation, installation, finishing and numbering of the chamber, all materials as well as labour.	

## **SABS 1200 LB : BEDDING (PIPES)**

### **PS LB 1 SCOPE**

#### **PS LB 1.1 SCOPE**

Add the following to LB 1.1:

This specification also covers the bedding required for sleeve pipes.

### **PS LB 3 MATERIALS**

#### **PS LB 3.1 SELECTED GRANULAR MATERIAL**

Substitute LB 3.1 with the following:

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

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

#### **PS LB 3.2 SELECTED FILL MATERIAL**

Substitute LB 3.2 with the following:

The requirements of PS LB 3.1 shall apply *mutatis mutandis*.

#### **PS LB 3.3 BEDDING**

Add the following to LB 3.3:

All pipes shall be classified as flexible pipes and shall have a bedding of selected granular material and selected fill material.

#### **PS LB 3.4 SELECTION**

##### **PS LB 3.4.1 Suitable Material Available from Trench Excavation**

- Delete sub clause 3.4.1 and replace with the following:

Contractor shall excavate selectively for bedding materials. Notwithstanding the requirements of Sub-clause 3.7 of SABS 1200 DB and Sub-clause 3.4.1 of SABS 1200 LB regarding the use of selective methods of excavating, the Contractor shall use selective methods of excavating and shall provide and use plant that will enable him to avoid burying or contaminating material that is suitable and is required for bedding. All material suitable for bedding and backfill should be put in separate stockpiles. Material from these stockpiles should be screened out to meet the specifications for bedding and backfill.

### **PS LB 5 CONSTRUCTION**

#### **PS LB 5.1 GENERAL**

##### **PS LB 5.1.4 Compacting**

Substitute "90 % of Mod. AASHTO" in LB 5.1.4 with "93 % of Mod. AASHTO."

If sand is used the compaction grade must be 100% Mod. AASHTO.

## **PS LB 8 MEASUREMENT AND PAYMENT**

### **PS LB 8.1 PRINCIPLES**

#### **PS LB 8.1.1 Supply of Bedding Materials Measured Separately**

Add the following to LB 8.1.1:

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

#### **PS LB 8.1.4 Separate Items for Cradle and Blanket**

Substitute LB 8.1.4 with the following:

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

#### **PS LB 8.1.5 Disposal of Displaced Material**

Add the following to LB 8.1.5:

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

#### **PS LB 8.1.6 Free haul**

- Replace "0,5km" with "5km".

### **PS LB 8.2 SCHEDULED ITEMS**

#### **PS LB 8.2.1 Provision of Bedding from Trench Excavation**

- Replace "0,5km" with "5km"

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

**Unit : m<sup>3</sup>.km**

Substitute LB 8.2.5 with the following:

- |    |                                     |                           |
|----|-------------------------------------|---------------------------|
| a) | Limited overhaul (0,5 km to 1,0 km) | Unit : m <sup>3</sup>     |
| b) | Long overhaul                       | Unit : m <sup>3</sup> .km |

Except that the volume is calculated according to LB 8.1.3, the requirements of D 8.3.6 or DA 8.3.3, as applicable, shall apply for overhaul.

## C5.2

### PROJECT SPECIFICATION

#### PORTION 2 INTERPRETATIONS AND VARIATIONS TO STANDARDISED SPECIFICATIONS AND PARTICULAR SPECIFICATIONS

---

##### C5.2.2

#### PORTION 2.2 PARTICULAR SPECIFICATIONS AS SHOWN UNDER CLAUSE PS 18

This portion contains essential clauses and data and additional clauses required to supplement and augment the Standardized Specifications to suit the nature of this Contract as. Particular Specifications and are bound in hereafter.

<i>SA</i>	<i>PRESSED STEEL TANK</i>
<i>PH</i>	<i>ENVIRONMENTAL PROTECTION AND CONTROL</i>
<i>PJ</i>	<i>SUBMERSIBLE PUMP INSTALLATION</i>
<i>PS</i>	<i>ELECTRICAL INSTALLATION</i>
<i>POHS</i>	<i>OCCUPATIONAL HEALTH AND SAFETY</i>

The number of each clause and each payment item in this part of the project specifications consists of the prefix "P" followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications.

## **SA : PRESSED STEEL TANK**

### **SA 1 PRESSED STEEL WATER TANK AND SPECIALS**

#### **SA 1.1 Description pressed steel tank and specials**

The pressed steel tank must comply with specification SABS – CKS 114. Approved Engineering drawings to be supplied by the contractor (supplier).

The bottom and first row of panels in the walls must be 6mm thick. The second and third row of panels in the walls must be 4,5mm thick.

Connections must be of the flanged bolted type according to SABS 1123. Bolts must have a minimum diameter of 14mm for the tank panels and supports and 12mm diameter for the roof panels.

The tank must be supplied with two ventilated manhole covers with minimum dimensions of 450 x 450 mm.

The tank must also be supplied with ladders on the inside and outside. The outside ladder must be supplied with a safety rung every 900mm. Step spacing not more than 300mm.

Roof panels to have a minimum thickness of 2,5mm.

The tank must be supplied with an approved level indicator.

Provision must be made for a 100mm Ø inlet at the top, two outlets at the bottom with blank flanges, a 100 mm Ø overflow and a 100 mm Ø scour outlet.

Details of the foundation must be supplied to the Engineer for approval.

All steelwork including ladders, bolts, nuts, pipes, etc. must be hot dipped after manufacturing.

#### **SA 1.2 Tank stand**

The tank must comply with specification SABS – CKS 114. Approved Engineering drawings to be supplied by the contractor (supplier). All individual elements of the tank stand must be hot dipped.

The tank stand must be 18 m high and will include a walkway at the top.

#### **SA 1.3 *Measurement and Payment – Pressed steel tank.***

The pressed steel tank is measured as a unit that will include the pressed steel tank, ladders, ventilated manhole covers, manhole opening, water level indicator, roof covering, etc., rate will include delivery, storage and erection on site, etc.

Pipework is measured per meter that includes the flanges, bolts, nuts, etc.

Specials such as valves, bends, reducers, etc, are measured separately.

#### **SA 1.4 *Measurement and Payment - Tank stand***

The tank stand is measured as a unit that will include the tank stand, ladders, walkway, bolts and nuts, including anchor bolts and nuts to be cast into the concrete, all work and the preparation of the engineering drawings for a 18 m high tank stand. The rate will include delivery, storage and erection on site, etc.

Excavations for the footings are measured per m<sup>3</sup>, etc. All quantities in the schedule have been measured provisionally.



**PART 5 (c)**

**PARTICULAR SPECIFICATION**

**PDG : HEAVY DUTY CORROSION PROTECTION TO STEEL**

**INDEX**

<b>CLAUSE</b>	<b>DESCRIPTION</b>	<b>PAGE</b>
PDG.1	<b>SCOPE</b> .....	PDG - 3
PDG.2	<b>APPLICABLE SPECIFICATIONS</b> .....	PDG - 3
PDG.3	<b>MATERIALS</b> .....	PDG - 4
PDG.3.1	Abrasive media for cleaning bare steel .....	PDG - 4
PDG.3.2	Abrasive media for sweep blasting an existing coating system .....	PDG - 4
PDG.3.3	Primer coat .....	PDG - 4
PDG.3.4	Intermediate coat .....	PDG - 4
PDG.3.5	Top coat .....	PDG - 4
PDG.4	<b>GENERAL WORKMANSHIP</b> .....	PDG - 4
PDG.5	<b>PLANT AND EQUIPMENT</b> .....	PDG - 5
PDG.5.1	Blast cleaning equipment .....	PDG - 5
PDG.5.2	Airless spray equipment .....	PDG - 5
PDG.6	<b>SURFACE PREPARATION</b> .....	PDG - 5
PDG.6.1	Surface preparation of bare steel .....	PDG - 5
PDG.6.1.1	General .....	PDG - 5
PDG.6.1.2	Removal of contaminants .....	PDG - 5
PDG.6.1.3	Dry abrasive blast cleaning .....	PDG - 6
PDG.6.2	Surface preparation of coated steel .....	PDG - 7
PDG.6.2.1	General .....	PDG - 7
PDG.6.2.2	Preparation of localised areas to receive touch-up coating .....	PDG - 7
PDG.6.2.3	Preparation of areas for overcoating .....	PDG - 7
PDG.6.3	Surface preparation of hot-dip galvanised surfaces .....	PDG - 7

CLAUSE	DESCRIPTION	PAGE
PDG.7	<b>APPLICATION OF HEAVY DUTY COATING SYSTEM</b> .....	PDG - 8
PDG.7.1	General .....	PDG - 8
PDG.7.1.1	Environmental conditions .....	PDG - 8
PDG.7.1.2	Mixing of Heavy duty coatings .....	PDG - 8
PDG.7.1.3	General application procedures .....	PDG - 8
PDG.7.1.4	Contrasting shades .....	PDG - 9
PDG.7.1.5	Overcoating .....	PDG - 9
PDG.7.2	Coating application .....	PDG - 10
PDG.7.2.1	Spray equipment .....	PDG - 10
PDG.7.2.2	Spray application .....	PDG - 10
PDG.7.2.3	Brush application .....	PDG - 10
PDG.7.2.4	Film thickness .....	PDG - 11
PDG.8	<b>REPAIR OF DEFECTS</b> .....	PDG - 11
PDG.8.1	General .....	PDG - 11
PDG.8.2	Inadequate coating thickness .....	PDG - 11
PDG.8.3	Contaminated surfaces .....	PDG - 11
PDG.8.4	Coating damage not exposing steel surface .....	PDG - 11
PDG.8.5	Coating damage exposing steel surface .....	PDG - 11
PDG.9	<b>APPLICATION OF THREE COAT SYSTEM</b> .....	PDG - 12
PDG.9.1	Surface preparation .....	PDG - 12
PDG.9.2	Application of primer stripe coat .....	PDG - 12
PDG.9.3	Application of primer coat .....	PDG - 12
PDG.9.4	Application of intermediate stripe coat .....	PDG - 12
PDG.9.5	Application of intermediate coat .....	PDG - 13
PDG.9.6	Application of top coat .....	PDG - 13
PDG.10	<b>MEASUREMENT AND PAYMENT</b> .....	PDG - 13

## PART 5 (c)

### PARTICULAR SPECIFICATION

#### PDG : HEAVY DUTY CORROSION PROTECTION TO STEEL

##### PDG 1 SCOPE

This specification covers the requirements for the preparation of all steel surfaces of pipes and specials, as well as the application and inspection requirements of a heavy-duty corrosion protection coating maintenance system.

This corrosion protection specification gives details of steel surface preparation and the application of the coatings. The approved heavy-duty coating systems applicable to the Works are listed in the Project Specification.

The details specified are minimum guidelines only and the Contractor shall accordingly select an appropriate conforming system, and provide full details to the Engineer for approval. All work will be subject to inspection by the Engineer who shall be given 48 hours notice prior to the commencement of work on each component.

##### PDG 2 APPLICABLE SPECIFICATIONS

SABS 064 COATING	- 1979 : THE PREPARATION OF STEEL SURFACES FOR COATING
SABS Method 141	- DRY FILM THICKNESS OF PAINTS
SABS Method 159	- CROSS-CUT TEST TO DETERMINE SOUND COATING SYSTEM
SABS Method 769	- CLEANLINESS OF BLAST-CLEANED STEEL SURFACES FOR PAINTING (assessed by freedom from dust and debris)
SABS Method 770	- CLEANLINESS OF BLAST-CLEANED STEEL SURFACES FOR PAINTING (assessed by freedom from certain soluble salts)
SABS Method 772 PAINTING	- PROFILE OF BLAST-CLEANED STEEL SURFACES FOR PAINTING (determined by micrometer profile gauge)
SABS 763	- 1988 : HOT-DIP (GALVANISED) ZINC COATINGS (other than on continuously zinc coated sheet and wire)
SABS 1344	- MEDIUM DUTY SOLVENT DETERGENT
SABS 1217	- 1984 : WET SPONGE PINHOLE TEST TO COATINGS
SABS 1641	- 1995 : HIGH VOLTAGE CONTINUITY TEST
ISO 8501-01	- 1988 : PREPARATION OF STEEL SUBSTRATES BEFORE APPLICATION OF PAINTS AND RELATED PRODUCTS
SIS 05 59 00 PAINTING	- PICTORIAL SURFACE PREPARATION STANDARDS FOR STEEL SURFACE
ASMT 3359 Method A	- DETERMINATION OF SOUND COATING SYSTEM

PDG 3      **MATERIALS**

PDG 3.1      **ABRASIVE MEDIA FOR CLEANING BARE STEEL**

Abrasive blast media are required to achieve the specified standard of cleanliness and specified surface profile of the steel structure where complete removal of the existing coating is specified.

The following abrasive media s are approved:

- Blastrite                      Black granular slag abrasive  
   Grade : Fine (0,4 – 1,5 mm);    OR  
   B90 (0,2 – 1,4 mm)
- Blastrite                      Black granular slag abrasive  
   Grade : Medium (0,8 – 5,5 mm);    OR  
   B125 (0,5 – 2,5 mm)

PDG 3.2      **ABRASIVE MEDIA FOR SWEEP BLASTING AND EXISTING COATING SYSTEM**

Before applying a new coating system the existing coating is sweep-blasted using an abrasive medium. This creates a lightly etched profile that will ensure a strong adhesion between the existing and the new coating systems.

The following abrasive media are approved:

- Blastrite                      Black granular slag abrasive  
   Grade : X-Fine (0,2 – 0,8 mm);    OR  
   B60 (0,1 – 0,6 mm)

PDG 3.3      **PRIMER COAT**

The approved primer coating systems are specified in the project specification.

PDG 3.4      **INTERMEDIATE COAT**

The approved intermediate coating systems are specified in the project specification.

PDG 3.5      **TOP COAT**

The approved top coating systems are specified in the project specification.

PDG 4      **GENERAL WORKMANSHIP**

The Contractor shall at all times enforce adequate safety measures in terms of the Occupational Health and Safety Act 1993 (Act 85 of 1993).

The Contractor shall furnish all labour, materials, paints and coating components required for adequately preparing surfaces and coating them in accordance with this specification.

The Contractor shall furnish experienced supervisors and all equipment necessary for measuring wet and dry film thickness and for carrying out tests to establish the soundness of existing coating systems, as well as holiday detection at the required voltage.

The Contractor shall be responsible for proper calibration and functioning of all testing and inspection equipment at the time of inspection, and he shall ensure that skilled personnel are operating this equipment.

Competent workmen under the supervision of an experienced heavy duty-coating supervisor shall execute all work.

**PDG 5 PLANT AND EQUIPMENT**

**PDG 5.1 BLAST CLEANING EQUIPMENT**

The compressed air supply used for abrasive blast cleaning shall be oil free, clean and dry. Adequate separators and traps shall be provided and these shall be kept emptied/free of water and oil. Accumulations of oil and moisture shall be removed from the air receiver by regular purging.

The equipment shall be tested to ensure an oil free, dry supply before blast cleaning commences.

The compressor volume capacity shall be sufficient to maintain a discharge of the abrasive grit at a pressure of 90 kPa (measured at the nozzle) while abrasive blasting. The discharge pressure shall be measured at the nozzle using a hypothermic pressure gauge. Under no circumstances shall the pressure at the nozzle fall below 650 kPa. The nozzle pressure shall be checked at least once a day. Nozzles shall be discarded before wear reaches 50 %.

Where air operated equipment is being used, the operator's headgear shall be ventilated by clean cool air served through a regulator to prevent blasting residues from being inhaled by the operator.

**PDG 5.2 AIRLESS SPRAY EQUIPMENT**

The airless spray equipment shall meet the recommendations and instructions set out in the manufacture's data sheets. The minimum pressure of the airless spray equipment shall be as specified in the coating manufacturer's product data sheets.

All spray equipment shall be maintained in a clean condition and in good working order.

**PDG 6 SURFACE PREPARATION**

**PDG 6.1 SURFACE PREPARATION OF BARE STEEL**

**PDG 6.1.1 General**

All surfaces of welds shall be free from slag, slag inclusions, cracks and holes. Weld profiles shall have a smooth contour, free from irregular projections, any undercut and sharp edges. Areas adjacent to welds shall be free from weld splatter. Grinding or scraping will remove such splatter.

All burrs and sharp edges resulting from flame cutting, drilling or any other activity shall be ground to a smooth radius of at least 2-mm.

The method of cleaning and preparing the substrate of steel prior to the application of the heavy duty coating systems, shall be in accordance with the applicable provisions of SABS 064.

The standard of surface preparation shall be measured by the following criteria:

- i) The degree of cleanliness i.e. the degree to which contamination is removed;
- ii) The anchor pattern, profile limit or peak-to-valley height.

**PDG 6.1.2 Removal Of Contaminants**

Prior to abrasive blast cleaning, surfaces shall be inspected for harmful deposits on the surface of steelwork, such as oil, grease, chemical deposits, clay bitumen or mud. These harmful deposits shall be removed by an approved water rinsable solvent/degreaser prior to abrasive blast cleaning.

### PDG 6.1.3 Dry Abrasive Blast Cleaning

Only dry abrasive blast cleaning techniques shall be used. The abrasive material shall be kept of dust, salts and any other impurities. The abrasive material shall not be recycled or reused.

Dry abrasive blast cleaning shall be carried out on dry surfaces only. Blast cleaning of all corroded and coated steel surfaces shall be in accordance with ISO 8501-01 Grade Sa 2½ near-white blast cleaning, as summarised below:

- Prior to blast cleaning, all heavy layers of rust shall be removed by chipping operations. Visible oil, grease and dirt shall also be removed. After blast cleaning, the surface shall be cleaned from loose dust and debris.

When viewed without magnification, the surface shall be free from visible oil, grease and dirt and shall be free from mill scale, rust paint, coatings and foreign matter. All surfaces shall have a uniform metallic colour.

- The photographs in the ISO Standard Publication are given as an illustration only. They do not represent the complete preparation degree, which also includes a cleaning operation, which is not visible in the photographs.

Structural steel shall be abrasive blast cleaned to bare metal in accordance with Section 4.3 of SABS 064 to achieve both the required degree of cleanliness and surface profile.

Special care shall be taken to clean out any depressions, which may have occurred on the steel surfaces. Any deep cavity shall be brought to the attention of the Engineer. Weakened, damaged and corroded structural steel sections shall be brought to the attention of the Engineer and, if required, shall be strengthened by welding on of additional steel plates.

After abrasive blasting, all surfaces shall be cleaned with clean, dry compressed air, or a clean brush before inspection and overcoating.

The permissible blast profile limit shall be as given in Table 1.

Any water-soluble salts present in the steel after blast cleaning shall not exceed the values given in Table 1 below.

**TABLE 1 : STANDARDS OF CLEANING REQUIRED**

PROPERTY	NOT IMMERSED	IMMERSED
<b>Residual dust and debris:</b> (SABS Method 769)	0,5 %	0,3 %
<b>Oil, grease and perspiration</b>	Nil	Nil
<b>Cleanliness (to ISO 8501-1 (minimum))</b>	Sa 2½	Sa 3
<b>Surface profile:</b> <ul style="list-style-type: none"><li>• Minimum</li><li>• Maximum</li></ul> (SABS Method 772)	25 µm 75 µm	50 µm 100 µm
<b>Water soluble iron salts:</b> <ul style="list-style-type: none"><li>• Maximum at any one point</li><li>• Average of any 250 cm<sup>2</sup> Weber Reilly test</li></ul> (SABS Method 770)	500 mg/m <sup>2</sup> 100 mg/m <sup>2</sup>	100 mg/m <sup>2</sup> 10 mg/m <sup>2</sup>

## PDG 6.2 **SURFACE PREPARATION OF COATED STEEL**

### PDG 6.2.1 **General**

Painted surface shall be considered sound if the paint is firmly adherent to the substrate and is free from flaking, checking or cracking. Coatings that can be lifted with a blunt putty knife shall be removed by abrasive blasting before re-coating. Should any doubt exist, adhesion shall be tested by one of the following two methods:

#### a) **Thin coating systems (DFT < 150 µm)**

Cross cut test as per SABS Method 159. The value obtained by this test shall not be lower than 6 units.

#### b) **Thick coating systems (DFT > 150 µm)**

The rating obtained by ASTM 3359, Method A shall not be lower than 3A.

Chalking to existing sound coating system shall be removed by detergent washing and abrasion of the surface by sweep blasting.

### PDG 6.2.2 **Preparation of Localised Areas To Receive Touch-Up Coating**

Where localised corrosion exists in areas of otherwise sound paint, the corroded area shall be thoroughly cleaned by abrasive blast cleaning to Sa 2½. After cleaning, tests for the presence of soluble salts, using the Weber Reilly reagent, shall be carried out by the Contractor. The test values of soluble salts shall not exceed the limits set in Table 1 above. Should values exceed these limits, the prepared surface shall be thoroughly washed with clean potable water until the level of soluble salts is within the specified requirements given in Table 1. The surrounding sound paint shall be thoroughly abraded by the abrasive blasting operation and feathered into the bare steel area.

The full coating system shall be applied to the bare steel areas whilst the sound paint shall be coated with the stripe, intermediate and top coats only.

Surface preparation shall comprise detergent wash to remove oily contaminants, water wash to remove detergent, the abrasion by light sweep blasting to the existing sound coating system, to achieve a uniform matt surface. Finally, all dust and debris shall be removed by wiping with a damp clean cloth, or by vacuum cleaning or blowing with clean, dry oil free compressed air.

### PDG 6.2.3 **Preparation of Areas For Overcoating**

For all sound existing coats and areas where touch-up coatings have been applied, the entire area shall be lightly sweep blasted using a fine abrasive media as specified.

The sweep blasting shall achieve a lightly etched profile on the existing coating system.

The surfaces shall be free of chalking, paint, oil, soluble salts, dust and shall be dry prior to the application of the overcoat.

## PDG 6.3 **Surface Preparation of Hot-Dip Galvanised Surfaces**

Immediately prior to coating, all galvanised surfaces shall be cleaned by brushing vigorously with a medium duty solvent/detergent complying with SABS 1344 which shall remain on the surface for 5 to 10 minutes.

The cleaned galvanised surfaces shall be thoroughly washed with clean potable water until all grease and residues have been removed. The surfaces shall then be dried with a clean lint free cloth. The surface shall be water break free. If not, the surfaces shall be cleaned until a water break free surface is obtained.

PDG 7      **APPLICATION OF HEAVY DUTY COATING SYSTEM**

PDG 7.1      **GENERAL**

PDG 7.1.1      **Environmental Conditions**

Coating systems shall not be applied in high wind and or dusty conditions. The maximum relative humidity and the minimum temperature of the steel surfaces above dew point during application of the coating systems, shall be stated in the Project Specification.

Any surfaces to be coated shall be rendered dust and salt free prior to the application of the coating. This shall be accomplished by blowing the surface with clean dry air or by using an industrial vacuum cleaner.

PDG 7.1.2      **Mixing Of Heavy Duty Coatings**

Before mixing a two component coating product, the Contractor shall ensure that sufficient areas for reinstatement are prepared and ready to receive coating.

Only clean, uniform cylinders shall be used for mixing of two-pack products. A dented, bent or broken mixing container shall be removed from site.

All two-component coating materials shall be thoroughly mixed by suitable power stirrer until completely homogeneous. With two-component materials, the component containing pigments shall first be thoroughly mixed before the two components are mixed together in the proportions supplied by the manufacturer's data sheets until the mixture is completely homogeneous. In the case of solvent based epoxy materials, the mixed material shall be allowed to stand for the required induction period as stated on the manufacturer's data sheets.

For two-component materials, the use of part contents (split packs) is strictly prohibited.

No thinning of the components shall be permitted.

PDG 7.1.3      **General Application Procedures**

Paint application shall be carried out in accordance with the coating manufacturer's recommendations. Should any conflict between this specification and the manufacturer's recommendation arise, the conflict shall be resolved by a meeting between the Engineer and the coating manufacturer's representative prior to any application.

No two-component application shall be applied when the surfaces are less than 3 °C above dew point, when the relative humidity is greater than 85 %, when the air temperature is below 5 °C, or when there is a likelihood of a change in weather conditions within 2 hours of application which would result in air temperatures below those specified, or in deposition of moisture in the form of rain, snow, condensation, etc. upon the surface. Dew points shall be determined in accordance with Table 2 below:

**TABLE 2 : DEW POINT DETERMINATION**

DEW POINTS (°C) AT VARIOUS RELATIVE HUMIDITIES								
Air temp	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
-0,1	-	-	-	-	-6,5	-4	-2	-1
4,0	-	-6,5	-4	-2	0,5	1,5	3,5	4,5
10,0	-6,5	-3,5	0,5	2	3,5	5,5	8,5	10
15,5	0	2	4	8	10	11,5	14	15,5
21,0	3	6,5	10	13	15	18	19,5	21



DEW POINTS (°C) AT VARIOUS RELATIVE HUMIDITIES								
Air temp	30 %	40 %	50 %	60 %	70 %	80 %	90 %	100 %
26,5	7	12	15,5	19	21	23,5	25	26,5
32,0	13	16,5	20,5	24	25,5	28,5	30,5	32
38,0	18	22	25,5	29	31	33,5	36	38
<b>NOTE:</b> <ul style="list-style-type: none"> <li>It is essential to ensure that no condensation occurs on blasted steel or between coats during application of two component coating system.</li> <li>Air at a given temperature can only contain a certain (maximum) amount of water vapour. This proportion is lower at lower temperatures.</li> <li>The dew point is the temperature of a given air-water vapour mixture at which condensation commences, since at that temperature its maximum water content (saturation) is reached.</li> <li>In practice a safety margin must be kept, whereby the substrate temperature is at least 3 °C above dew point.</li> <li>This restriction shall not apply to the moisture cure urethane coating systems</li> </ul>								

Blast cleaned or power-disc ground surfaces shall be coated with the primer within 4 hours of blasting or other such time limits as may be specified, and prior to sunset of that day and also before visible rusting occurs. A minimum of 5 cm around the edges of blasted areas shall be left uncoated unless adjoining a coated surface.

Coating over blasted areas shall not be permitted within 50 mm of the unblasted areas for top coats, the colour identification shall be given in the Project Specification.

#### PDG 7.1.4 **Contrasting Shades**

Each coat of the corrosion protection system shall be distinctly different colour or shade to ensure correct inter-coat coverage. The Contractor shall ensure that the colour selection of the intermediate and stripe protective coating shall be suitable for complete coverage by the top protective coat.

#### PDG 7.1.5 **Overcoating**

All coats shall be clean and free from dust, oil and moisture before overcoating. All operators handling blast cleaned or partially painted surfaces shall wear clean gloves to avoid contamination of the surface and to ensure good adhesion between coats.

Each coating shall be allowed to dry thoroughly for at least the specified time prior to application of the succeeding coat.

Overcoating times shall not be less than the minimum nor greater than the maximum specified in the manufacturer's product data sheets, relevant to the ambient temperature. Strict adherence to overcoating times is particularly important to two-component materials and for coatings, which are subsequently immersed.

## PDG 7.2 **COATING APPLICATION**

### PDG 7.2.1 **Spray Equipment**

Spray equipment used shall meet the paint manufacturer's recommendations for applying each specific coat.

All spray equipment shall be inspected by the Engineer before any coating is applied. All lines and pots shall be clean before adding new material. An adequate moisture trap shall be placed between the air supply and the pressure pot feeding the gun. The traps shall continuously bleed off water or oil from the air supply. Suitable working and recently calibrated regulators and gauges shall be provided for air supply to the pressure pot, and the air supply to the pressure gun.

Spraying units shall be grounded and non-conductive hoses are to be used. The Contractor shall take further precautions that may be required to avoid the build-up of static electricity.

### PDG 7.2.2 **Spray Application**

All lines and pots shall be thoroughly cleaned before the addition of new materials.

The spray gun shall be held at right angles to the surface and shall be held no closer than 450 mm nor more than 600 mm from the surface for the airless spray gun method, or closer than 150 mm nor more than 250 mm from the surface for air spray equipment. Even, parallel passes shall be made with the spray gun. Each spray shall overlap the previous pass by 50 %. Large surfaces shall always receive passes in two directions at right angles to each other. Spray width adjustment on the gun shall be made and the readjustment of atomising pressure at the regulators shall be made until the desired spray pattern is achieved.

Each coat is to be applied uniformly and completely over the entire surface. All runs and sags shall be brushed out immediately or the paint shall be removed and the surface re-sprayed.

Before spraying each coat, all areas such as corners, edges, welds, small brackets, bolts, nuts and interstices shall be pre-coated by brush as specified under stripe coating to ensure that these areas have at least the minimum specified film thickness.

Spraying of coatings from a single boatswain's chair or spider stage shall not be permitted.

A supply of spraying tips with a full range of spray angles and washers, as recommended by the paint manufacturer for each specific steel configuration to be coated, shall be available.

### PDG 7.2.3 **Brush Application**

Coatings shall be brushed onto all areas, which cannot be properly spray-coated for any valid reason.

Surfaces not accessible to brushes shall be painted by other suitable, approved means to achieve a uniform paint film of adequate thickness.

Brushes used in brush application shall be of a style and quality that will permit proper application of the paint coat. Round or oval brushes are generally considered most suitable for rivets, bolts, irregular surfaces and rough or pitted steel.

Wide flat brushes are suitable for large flat areas, but they shall not have a width of over 120 mm. No extending handles shall be permitted on paintbrushes.

The brushing shall be done such that a smooth coat, with a uniform thickness is obtained. There shall be no deep brush marks. Paint shall be thoroughly worked into all crevices and corners.

Runs or sags shall be brushed out.

In brushing any of the solvent type coatings, care shall be taken to ensure that no lifting of former coats occurs.

During application of each coat, all areas such as corners, edges, welds, small brackets, bolts, nuts and interstices shall receive additional coating material as specified under stripe coating to ensure that these areas have at least the minimum specified film thickness and to ensure continuity of the coating.

**PDG 7.2.4 Film Thickness**

All coating dry thickness (DFT) limits shall be strictly adhered to. These film thicknesses are to be checked with the calibrated film thickness gauges supplied by the Contractor and measured in accordance with SABS Method 141. Where film thicknesses do not meet this specification, additional material shall be applied. In order to achieve the specified dry film thickness, the Contractor shall carry out frequent wet film thickness checks.

Dry film magnetic type thickness gauges shall be calibrated by the Contractor using foils in the film thickness range being checked and over the type of surface being coated.

Calibration shall be carried out at least twice daily. The completed coating shall be free of defects such as runs, sags, pinholes, voids, bubbles or other "holidays".

**PDG 8 REPAIR OF DEFECTS**

**PDG 8.1 GENERAL**

Before the application of any further coat of material, all damage to previous coats shall be repaired.

**PDG 8.2 INADEQUATE COATING THICKNESS**

Areas with inadequate coating thickness shall be thoroughly cleaned and, if necessary, abraded and additional coats applied until they meet with this specification. These additional coats shall blend in with the final coating on adjoining areas.

**PDG 8.3 CONTAMINATED SURFACES**

Surfaces to be overcoated which become contaminated shall be cleaned by lightly sweep blasting the surface free of all contamination immediately prior to the following coats. After sweep blasting, any residual contaminants shall be removed by dry compressed air or wiped by hand with clean dry rags.

**PDG 8.4 COATING DAMAGE NOT EXPOSING STEEL SURFACE**

Surfaces to be overcoated which become contaminated or damaged shall be cleaned by lightly sweep blasting the surface free of all contamination prior to applying the following coats. After sweep blasting, any residual contaminants shall be removed by dry compressed air or wiped by hand with clean dry rags. The coating around the damaged area shall be chamfered, using an approved method, to ensure continuity of the patch coating. The full coating system shall then be reapplied strictly in accordance with this specification.

**PDG 8.5 COATING DAMAGE EXPOSING STEEL SURFACE**

The damaged area shall be re-cleaned as originally specified for that item and the full coating system shall then be reapplied strictly in accordance with this specification.

The re-cleaning shall be carried over on to the secure surrounding coating for not less than 25 mm around and the edges shall be chamfered by a method approved by the Engineer.

**PDG 9 APPLICATION OF THREE COAT SYSTEM**

**PDG 9.1 SURFACE PREPARATION**

The surface shall be dry abrasive blasted as per specification.

The Contractor shall test the prepared surface for freedom from residual dust and debris, oil, grease, perspiration, cleanliness to ISO 805-01 as specified, surface profile and water soluble iron salts as per the test methods given in Table 1.

The Contractor shall record the test results and the measurement in the relevant Quality Assurance Form.

..... Record data

..... Hold point

**PDG 9.2 APPLICATION OF PRIMER STRIPE COAT**

The stripe coat shall follow the surface preparation immediately, and shall be completed within the specified coating times to prevent contamination and flash rusting of the prepared steel surfaces. Failing this, the prepared steel surface shall be washed with fresh water to remove contaminants and sweep blasted to remove any flash rusting that may have occurred. The 15 mm wide primer stripe coat shall be applied to all welds, edges, corners, cut ends, holes and to all touch up areas, including fasteners.

The Contractor shall record wet film thickness readings of the primer coat in the relevant Quality Assurance Form.

..... Record data

..... Witness point

**PDG 9.3 APPLICATION OF PRIMER COAT**

Immediately following the surface preparation and primer stripe coat application, the bare steel surfaces and stripe coats shall be coated. The primer coat application shall be applied before contamination of the prepared steel surfaces occurs. Failing this, the prepared steel surface shall be washed with fresh water to remove surface contaminants and sweep blasted to remove any flash rusting that may have occurred.

During application of the primer coat, the Contractor shall record wet film thickness readings at regular intervals.

..... Record data

After the primer coating has initially cured, dry film thickness measurements shall be taken and recorded by the Contractor.

PDG 9.4      **APPLICATION OF INTERMEDIATE STRIPE COAT**

A 15 mm wide intermediate stripe coat shall be applied to all welds, edges, corners, cut ends, holes and to all touch up areas including fasteners. The stripe coat application shall follow the primer coating application within the specified overcoating times. The prepared steel surface shall be washed with fresh water to remove surface contaminants before the intermediate stripe coat is applied.

The Contractor shall record wet film thickness readings of the intermediate stripe coat in the relevant Quality Assurance Form.

..... Record data

..... Witness point

PDG 9.5      **APPLICATION OF INTERMEDIATE COAT**

The intermediate coat application shall follow within the overcoating times gives by the manufacturer. Failing this, the coated steel surface shall be washed with fresh water to remove surface contaminants.

During application of the intermediate coat, the Contractor shall record wet film thickness readings at regular intervals.

..... Record data

After the intermediate coating has initially cured, dry film thickness measurements shall be taken and recorded by the Contractor.

PDG 9.6      **APPLICATION OF TOP COAT**

The intermediate coat shall be tested for dry film thickness before the application of the top coat. Should the intermediate coating system be inadequate, an additional intermediate coat shall be applied to bring the coating system up to the specified minimum dry film thickness.

Immediately before application of the topcoat, the coated steel surface shall be washed to remove all contaminants and dried.

During application of the topcoat, the Contractor shall record wet film thickness readings at regular intervals.

..... Record data

After the top coating has initially cured, dry film thickness measurements shall be taken and recorded by the Contractor.

PDG 10      **MEASUREMENT AND PAYMENT**

Except where separately scheduled, the heavy-duty corrosion protective coating of pipes and specials will not be measured and paid separately from the manufacture of pipes and specials.

The rates tendered for the manufacture of pipes and specials shall include all costs for the heavy duty corrosion protective coating of pipes and specials in the factory and site-applied heavy duty corrosion protective coatings to damaged areas and shall include the cost of all materials, equipment, labour, incidentals, inspection and testing as specified.

## PARTICULAR SPECIFICATION

### PH : ENVIRONMENTAL PROTECTION AND CONTROL SPECIFICATIONS

---

#### PH 1 PLANS

Prior to establishment of the site camp(s), the Contractor shall produce a plan showing the positions of all buildings, laydown yards, vehicle wash areas, fuel storage areas, batching areas and other infrastructure for approval by the Engineer or the Environmental Officer.

#### PH 2 USE OF LAND

The Contractor shall not use the land forming the Site of, or connected with the Works, for any purpose whatsoever other than for the proper carrying out of the Works under the Contract and shall place any camps that may be required for himself and his employees only on sites approved by the Engineer. No trees or bushes shall be damaged or cut down by the Contractor or by any of his employees whether for use on the Works or otherwise without the written consent of the Engineer or the Environmental Officer and then only where and in the manner as they may direct.

#### PH 3 VEGETATION CLEARANCE

##### PH 3.1 Woody vegetation

**PH 3.1.1** Prior to the start of construction, woody vegetative matter shall be stripped. This material shall either be spread randomly throughout the surrounding veldt so as to provide biomass for other micro-organisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated top soiled surface.

**PH 3.1.2** No vegetative matter shall be burnt or removed for firewood.

##### PH 3.2 Herbaceous vegetation

During clearing of woody vegetation no basal cover or grass and topsoil shall be removed and damage to this layer shall be minimised as far as possible.

#### PH 4 PROTECTION OF VEGETATION

The Contractor shall ensure that all works are undertaken in such a manner that vegetation outside the Works area is not damaged under any circumstances.

##### PH 4.1 Vegetation outside the Works area

The following provisions shall apply with respect to the protection of areas of vegetation adjacent to the marked Works areas:

**PH 4.1.1** No tree or shrub outside of the Works area shall be felled, lopped, cut or pruned without the prior written approval of the Engineer or the Environmental Officer.

**PH 4.1.2** No tree or shrub outside the Works area shall be felled, lopped, cut or pruned until it has been clearly marked for this purpose by the Engineer or the Environmental Officer. The method of marking will be specified by the Engineer or the Environmental Officer, and the Contractor will be informed in writing.

**PH 4.1.3** No tree outside the Works area shall be burned for any reason.

**PH 4.1.4** For every tree protected by these specifications which is removed or, in the opinion of the Engineer or Environmental Officer, is unduly damaged by the Contractor, the Contractor shall pay a penalty of R 15 000.00 per tree to the client.

**PH 4.2 Vegetation within or adjacent to the Works area.**

**PH 4.2.1** No tree or shrub within the works area shall be felled, lopped, cut or pruned without the prior written approval of the Engineer or the Environmental Officer.

**PH 4.2.2** Trees which have been selected for preservation by the Engineer or the Environmental Officer within or adjacent to the Works areas shall be fenced around their drip line. The fence shall be clearly marked with danger tape. No open fires shall be allowed within this fenced area, nor shall vehicles be parked underneath these trees.

**PH 4.2.3** If trees are located within the working width of the pipeline, the pipeline shall be aligned to avoid these trees wherever possible.

**PH 4.3 Transplantation of rare and endangered plant species**

Prior to vegetation clearing any rare or endangered plant species which have been identified by the Environmental Officer or Engineer must be removed and transplanted as instructed by these persons.

**PH 4.3.1** Transplanting of small trees (1 to 1,5 m height) and small shrubs (0,5 to 1 m height).

- a) Trees and shrubs shall only be transplanted between the months April and September. Deciduous trees and shrubs shall be transplanted only when they are in a leafless condition.
- b) Holes for transplanting trees and shrubs shall be dug before these plants are dug out. Trees shall be planted in holes of 1 m x 1 m x 1 m and shrubs shall be transplanted in holes of 600 mm x 600 mm x 600 mm.
- c) Trees and shrubs shall be planted so that their stems or trunks are at the same depth as in their original location. The orientation of the transplanted plants must be the same as in their original location (Le. the north-facing side must remain north-facing).
- d) Transplanted plants shall be pruned to limit transpiration. Plants shall also be sprayed with an evapotranspiration retardant liquid if they are evergreen.
- e) Transplanted plants shall be watered once a week for 5 weeks and thereafter once every 2 weeks.

**PH 4.3.2** Transplanting of Aloes, succulents and bulbous plants

- a. Aloes, succulents and evergreen bulbous plants may be transplanted at any time of the year. Deciduous bulbous plants shall be transplanted when they are leafless.
- b. Aloes and bulbous plants shall be planted in similar soil conditions and to the same depth as they were before removal.
- c. Transplanted aloes and bulbs shall be watered once directly after transplanting to settle the soil.

**PH 4.4 Alien vegetation**

The Contractor shall remove all alien vegetation from the works area for the duration of construction. Such vegetation will be identified by the Environmental Officer and the method of eradication will be specified by him.

## **PH 5        PROTECTION OF FAUNA**

The Contractor shall ensure that all Works are undertaken in a manner which minimizes the impact on the local fauna and shall apply the following specifications with respect to fauna management and protection:

- PH 5.1**        Under no circumstances shall any animals be handled, removed, killed or interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees.
- PH 5.2**        The Contractor and his employees shall not bring any domestic animals onto the site.
- PH 5.3**        The Contractor shall ensure that the work site is kept clean and tidy and free from rubbish which would attract animal pest species.
- PH 5.4**        There shall be no feeding of animals.
- PH 5.5**        The Contractor shall ensure that domestic and native animals belonging to the local community are kept away from unprotected works.

## **PH 6        ARCHAEOLOGICAL ARTEFACTS**

- PH 6.1**        The Contractor shall engage an archaeologist to demarcate archaeological sites identified during the impact study.
- PH 6.2**        Archaeological sites shall be protected by a three strand fence which will be at least 2 m outside the extremities of the site. The fence shall be clearly marked with danger tape.
- PH 6.3**        Should the Contractor expose any archaeological artefacts during excavation, work on the area where the artefacts were found shall cease immediately and the Engineer or the Environmental Officer shall be notified as soon as possible.
- PH 6.4**        Upon receipt of such notification, the Engineer or the Environmental Officer will arrange for the excavation to be examined by an Archaeologist as soon as practicable. Acting upon advice from the Archaeologist, the Engineer will advise the Contractor of necessary actions to be taken. The Engineer will take all necessary actions to ensure that delays are minimized.
- PH 6.5.**        Under no circumstances shall archaeological artefacts be removed, destroyed, or interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees.
- PH 6.6**        The Contractor shall ensure that none of his employees gain access to any archaeological areas (whether fenced or unfenced), except when authorised to do so by the Engineer or the Environmental Officer.



**PH 7        SCENIC QUALITY**

**PH 7.1**        The Contractor shall not establish or undertake any activities which, in the opinion of the Resident Engineer or Environmental Officer, are likely to adversely affect the scenic quality of the area. The Engineer may direct the Contractor to refrain from such activities or to take ameliorative actions to reduce the adverse effect of such activities on the scenic quality of the environment.

**PH 7.2**        No painting or marking of natural features shall be done. Marking for surveying and other purposes shall only be done with pegs and beacons.

**PH 7.3**        All cut and fill forms shall be rounded at the edges to blend them with the surrounding landforms.

**PH 7.4**        All packed rock and exposed rock cuttings shall be treated in order to blend their colour with the colours of the natural weathered rocks of the adjacent environment.

**PH 7.5**        All concrete structures shall be treated so as to blend in with the colours of the surrounding landscape. This shall be done either through painting or through treatment with a staining or colouration compound. All other permanent structures shall have colours, which are chosen to blend in with the dominant colours of the surrounding landscape. Painted surfaces shall be painted with non-reflective (matt) colours.

**PH 8        WORKING AREA**

**PH 8.1**        The area of construction along the pipeline shall be contained within a 15 m servitude.

**PH 8.2**        The servitude shall be temporarily fenced for the portion under construction at any one time. The fence shall be progressively erected and removed as the work proceeds. The location and extent of the fence shall be determined by the Engineer or the Environmental Officer.

**PH 9        ACCESS ROADS**

**PH 9.1**        No new permanent access roads shall be developed by the Contractor other than those determined or approved by the Engineer.

**PH 9.2**        Existing roads shall be used as far as possible for inspection purposes.

**PH 9.3**        Topsoil shall be stripped as described under item 12 "Topsoil" prior to construction and reinstated on completion of use of the road.

**PH 9.4**        The temporary access road shall form part of the 15 m working width servitude.

**PH 9.5**        Horse and trailer vehicles transporting pipes may not turn in areas of cultivated lands but shall turn in areas specifically identified by the Engineer or the Environmental Officer.

**PH 10.      FIRES**

No open fires shall be permitted except in areas specifically prepared and controlled for this purpose.

## **PH 11 FENCING**

- PH 11.1** Fencing shall be erected around sensitive natural or cultural elements to protect them from damage. No pedestrian or vehicular access shall be allowed to such fenced areas.
- PH 11.2** In places where temporary fencing is required, the Contractor shall erect such fencing when and where required by the Site Engineer and re-erect and maintain temporary fencing as necessary. Temporary fencing shall remain in position either until it is replaced by permanent fencing or until completion of the whole of the Works, unless the Contractor requires, or the Engineer or the Environmental Officer directs, its earlier removal. The Contractor shall erect and maintain the aforementioned temporary fencing in the locations and for the period described in the Contract.
- PH 11.3** If temporary fencing is removed temporarily for the execution of any part of the Works it shall be reinstated as soon as practicable by the Contractor.
- PH 11.4** The clearing for permanent fencing shall be limited to the removal of trees and shrubs within 1 m of the fence line. There shall be no removal of the grass cover or topsoil within this width.
- PH 11.5** Any fences damaged by the Contractor shall be repaired as soon as practicable at his cost.

## **PH 12 TOPSOIL**

### **PH 12.1 Source of topsoil**

Topsoil shall be stripped from all areas that are to be utilized during the construction period and where permanent structures and access is required. These areas will include all areas to be excavated, temporary and permanent access roads, construction camps and borrow pits. Topsoil shall be stripped after clearing of woody vegetation and before excavation or construction commences.

The topsoil is regarded as the top 300 mm of the soil profile irrespective of the fertility and composition of the soil.

### **PH 12.2 Topsoil stripping**

- PH 12.2.1** Soil shall be stripped to a minimum depth of 150 mm or to the depth of bedrock where soil is shallower than 150 mm. Herbaceous vegetation, overlying grass and other fine organic matter shall not be removed from the stripped soil. .
- PH 12.2.2** No topsoil which has been stripped shall be buried or in any other way be rendered unsuitable for further use.
- PH 12.2.3** Topsoil shall only be stripped when it is in a dry condition in order to prevent compaction.

### **PH 12.3 Topsoil stockpiling**

- PH 13.3.1** Stripped topsoil shall be stockpiled on sites adjacent to where it has been stripped which have been approved by the Engineer. Soil stockpiles shall not take the form of windrows, unless this can be placed far enough away from the working area. This is to prevent the soil from being spread out or mixed with the other spoil during construction.
- PH 12.3.2** Topsoil stripped from different soil zones shall be stockpiled separately and clearly identified as such. Topsoil obtained from different sites shall not be mixed.
- PH 12.3.3** Soil stockpiles shall not be higher than 2,5 m, and the slopes of soil stockpiles shall not have a vertical: horizontal gradient exceeding 1:2,5.
- PH 12.3.4** No vehicles shall be allowed access onto the stockpiles after they have been placed. Topsoil stockpiles shall be clearly demarcated in order to prevent vehicle access and later identification

as the resource for rehabilitation and vegetation establishment.

**PH 12.3.5** Soil stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage or any other material which may inhibit the later growth of vegetation in the soil.

**PH 12.3.6** After topsoil stockpiling has been completed, the Contractor shall apply soil conservation measures to the stockpiles to the approval of the Engineer or Environmental Officer.

**PH 12.4 Topsoil placement**

**PH 12.4.1** Topsoil shall be placed to a minimum depth of 150 mm over all areas where it has been stripped and over disused borrow pits after construction in those areas has ceased. Topsoil placement shall be done concurrent with construction as soon as construction in an area has ceased.

**PH 12.4.2** All areas onto which topsoil is to be spread shall be graded to the approximate original landform with maximum slopes of 1 :2,5 and shall be ripped prior to topsoil placement. The entire area to be top soiled shall be ripped parallel to the contours to a minimum depth of 150 mm.

**PH 12.4.3** Topsoil shall be placed in the same soil zone from which it had been stripped. However, if there is insufficient topsoil available from a particular soil zone to produce the minimum specified depth, topsoil of similar quality may be brought from other reservoir sites.

**PH 12.4.4** Where insufficient topsoil that has been stripped by the Contractor to provide the minimum specified depth, the Contractor shall obtain suitable substitute material from other sources at no cost to the employer. The suitability of the substitute material shall be determined by means of a soil analysis which is acceptable to the Engineer or the Environmental Officer.

**PH 12.4.5** No vehicles shall be allowed access onto topsoil after it has been placed.

**PH 12.4.6** After topsoil placement is complete, cleared and stockpiled vegetation matter shall be spread-randomly by hand over the top soiled area as instructed by the Environmental Officer.

**PH13 REVEGETATION**

**PH 13.1** Areas where topsoil has been redistributed shall be hydro seeded with a seed mixture approved by the Engineer or Environmental Officer. Hydro seeding shall be carried out as soon as practicable during the growing season, after topsoil placement is complete.

**PH 13.2** Areas to be seeded shall be ripped in lines 300 mm centre to centre and to a depth of at least 300 mm parallel to the contours to alleviate soil compaction and to establish a seedbed suitable for the establishment of-growth.

**PH 13.3** The Contractor shall work into the soil fertilizers at a rate and depth to be determined by the Environmental Officer, based on a soil analysis. Fertilizers shall be spread evenly over the area to ensure a uniform distribution.

**PH 13.4** Notwithstanding the fact that the Environmental Officer will determine the method of grassing, the type of grass seed used and the rate of application of seed, the Contractor shall be solely responsible for the cost of replanting or re-hydro seeding where acceptable cover is not obtained.

However, where in the opinion of the Contractor it is doubtful from the outset whether [t will be possible to establish an acceptable cover he may inform the Engineer or Environmental Officer of his reasons therefore and the Engineer or Environmental Officer shall, if he agrees, either adopt another method of grassing or agree to accept whatever cover can be obtained, provided that all reasonable efforts have been made to establish a good cover using the method proposed. Any such agreement shall only be valid if given in writing by the Engineer or Environmental Officer.

Acceptable cover is defined as follows:

An acceptable grass cover shall mean that not less than 80% of the hydro seeded area shall be covered with grass and that there shall be no bare patches of more than 500mm in maximum diameter.

**PH 13.5** The areas which show no vegetation growth 9 months after completion of the rehabilitation work, will be ripped, additional topsoil spread and seeded with indigenous grass species.

**PH 13.6** The grass mix to be used shall be:

	<u>Kg / ha</u>
During Summer	
Eragrostis teff	2.0
Eragrostis curvula(selected)	3.0
Digitaria eriantha	5.0
Chloris guyana	4.0
Cenchrus ciliaris	4.0
Cynodon dactylon	7.0
Aristida congesta	2.5
Melinis repens	2.5
Andropogon eucomus	2.5
<u>Imperata cylindrica</u>	<u>2.5</u>
	<u>35.0 kg/ha</u>

Available from the University of Potchefstroom - Reclamation Research Institute.

During winter (May to August/September) add:	<u>Kg / ha</u>
Lolium multiflorum	2.0
Lolium perenne	3.0

Grass seeds shall be mixed with either chopped straw, sawdust or sand in order to prevent the separation of seeds of different size, weight and shape. Prior to seeding, trials shall be carried out to determine which of these materials is most effective in preventing the separation of seeds. 2:3:2 fertilizer shall also be added to the seed mixture prior to broadcasting.

After mixing the seed mixture shall be halved. The two halves shall be sown in two successive applications which follow directly on one another. Seed shall be sown along parallel lines 1.5 m apart. The two halves of the mixture shall be sown in directions perpendicular to each other to cover the entire area. Should the total area have been seeded and some seed mixture remains unused, the remaining seed mixture shall be broadcast in the prescribed manner.

During seeding, the seed mixture shall be regularly mixed by hand in order to prevent the separation of smaller and larger seeds in the mixture.

After seeding, the soil surface shall be lightly raked parallel to the contours in order to cover the seed. During raking, care shall be taken to prevent the redistribution or removal of seed from any area.

**PH 13.7** The following fertilizers shall be broadcast in the specified concentrations:

2:3: (22) Zn	400 kg / ha
Superphosphate	350 kg / ha
Total	750 kg / ha

The superphosphate shall be mixed into the soil during scarification and shall be spread by hand in the same manner as the seed. 2:3:2 Fertilizer shall be mixed and broadcast together with the seed.

## **PH 14 BORROW PITS AND QUARRIES**

**PH 14.1** If a borrow pit is to be developed or an existing one is to be extended, all topsoil from the area

that is to be quarried must be stripped and stored for later rehabilitation of the pit.

- PH 14.2** Stripping and excavation actions shall be progressive in such manner that those parts of a borrow pit or quarry where work is complete can be rehabilitated while other areas are still being quarried.
- PH 14.3** Cut Slopes of borrow pits and quarries shall not have a vertical: horizontal gradient of not steeper than 1 :3, preferably 1 :5.
- PH 14.4** Borrow pits shall be used as dump sites for excess rock spoil. On completion of spoiling the pits shall be reshaped and covered with a layer of topsoil. On no account may spoil or rock be placed in drainage ways without prior consent being obtained from the Engineer.
- PH 14.5** Storm water cut off drains shall be provided at the top of the cut slope, where identified as necessary by the Engineer, to prevent erosion of the rehabilitated surface of the borrow pit or quarry.
- PH 14.6** No borrow pit shall be used as a dump site for refuse material or for toxic material ego cement, oil, diesel, rubber and similar materials.

## **PH15 EROSION PREVENTION**

- PH 15.1** The Contractor shall take measures, to the approval of the Engineer, to ensure that there is no undue storm water damage and soil erosion resulting from the construction activities inside and outside the construction camp and Works areas.
- PH 15.2** Surface storm water shall, where possible, not be allowed to be concentrated and to flow down cut or fill slopes without erosion protection measures being in place.
- PH 15.3** Overflow and/or scour channels shall be lined with stone pitching along their length and at their points of discharge to prevent soil erosion: The point of discharge shall be at a point where there is dense natural grass cover. These channels shall not discharge straight down the contours but shall be aligned at such an angle to the contours that they have the least possible gradient.

## **PH 16 EARTHWORKS**

### **PH 16.1 Cut and fill forms**

All cut and fill forms should be rounded on the edges to allow them to blend with the surrounding landforms.

## **PH 17 SPOIL AND WASTE MATERIAL**

- PH 17.1.** The Contractor shall load and haul excess spoil to fill in the borrow pits or to dump sites approved by the Engineer. The dumped material must be finally rounded off to have slopes not steeper than 1:3.
- PH 17.2** The Contractor shall remove all foundations and similar waste and transport all such waste material off site to dump areas which have been approved by the Engineer.

## **PH 18 BLASTING**

- PH 18.1** When doing blasting the Contractor shall take measures to limit fly rock.
- PH 18.2** Fly rock 150 mm and larger which falls beyond the cleared working area shall be collected and removed together with the rock spill.
- PH 18.3** When blasting under power lines the Contractor shall arrange for power to be temporarily switched off or have the lines moved or comply with the requirements of ESKOM who will be

advised in reasonable time of the intention to blast.

## **PH 19 PREVENTION OF OIL POLLUTION**

**PH 19.1** Waste run-off water from the vehicle wash bays, workshops and diesel/fuel tank areas shall be collected in a series of covered conservancy tanks with oil baffles/oil traps. The oil sludge thus collected shall be disposed of at an approved toxic waste disposal site. Water from conservancy tanks shall be drained to retention areas to allow silt settlement.

**PH 19.2** Above mentioned areas should be dished concrete floor slabs which drain into the conservancy tanks.

**PH 19.3** All spillage of oil onto concrete surfaces shall be controlled by the use of an approved absorbent material such as Oclansorb or Drizit.

**PH 19.4** All old oils shall be retained for recycling by the supplier.

**PH 19.5** All soil contaminated by oil, fuel, etc. shall be collected immediately and disposed of at an acceptable disposal site to the approval of the Engineer or the Environmental Officer.

## **PH 20 REFUSE DISPOSAL**

The Contractor shall dispose of all refuse generated by him or his subcontractor on a weekly basis at an approved refuse disposal site.

## **PH 21 ABLUTION FACILITIES**

Portable toilets shall be placed within easy access of the Contractor's employees. These shall be moved to follow the progression of the Works.

## **PH 22 CLEARANCE OF SITE ON COMPLETION**

On completion of the Works the Contractor shall clear away and remove from the works area all constructional plant, surplus rock and other materials, foundations, plumbing and other fixtures, rubbish and temporary works of every kind. Areas thus cleared shall be graded and scarified to restore the ground to its original profile as near as practicable before topsoil placement and revegetation.

## **PH 23 ENVIRONMENTAL AWARENESS OF EMPLOYEES**

The Contractor shall arrange that all his employees and those of his subcontractors receive environmental training before the commencement of construction to the satisfaction of the Engineer or Environmental Officer, in order that these employees:

**PH 23.1** acquire a basic understanding of the key environmental features of the work site and environs;

**PH 23.2** are thoroughly familiar with the requirements of the Environmental Protection and Control Specifications as they apply to the Works;

**PH 23.3** receive basic training in the identification of archaeological artefacts, and rare and endangered flora and fauna that may be encountered along the route;

**PH 23.4** are made aware of any other environmental matters which are deemed to be necessary by the Engineer or the Environmental Officer.

## **PH 24 COMPLIANCE WITH ENVIRONMENTAL PROTECTION SPECIFICATIONS**

**PH 24.1** All persons employed by the Contractor or his subcontractors shall abide by the requirements of these Specifications as they apply to the works.

**PH 24.2** Any employees of the Contractor or his subcontractors found to be in breach of any of the Environmental Protection Specifications may be ordered by the Engineer to leave the site forthwith. The order may be given orally or in writing. Confirmation of an oral order will be given as soon as practicable but lack of confirmation in writing shall not be a cause for the offender to remain on site. No extension of time will be granted for any delay or impediment to the Contractor brought about by a person ordered to leave the site.

**PH 24.3** Supervisory staff of the Contractor or his subcontractors shall not direct any person to undertake any activities which would place such person in contravention of the Environmental Protection and Control Specifications.

**PH 24.4** For every tree protected by these specifications which is removed or, in the opinion of the Engineer or the Environmental Officer, is unduly damaged by the Contractor, the Contractor shall pay a penalty of R5 000.00 per tree.

**PH 25 SUBCONTRACTED WORK**

Subcontractors and their employees shall comply with all the requirements of the Environmental Protection and Control Specifications that apply to the Contractor. Absence of specific reference to the subcontractor in any specification does not imply that the subcontractor is not bound by that specification.

**PH 26 MEASUREMENT AND PAYMENT**

The reinstatement of borrow pits, pipe trenches and work areas shall be included in the contractor's rates for earthworks and excavations. Erosion protection such as construction of berms for storm water drainage shall be included in the rates for pipe trenches and excavations of earthworks. Only gabions, where instructed by the Engineer will be paid separately.

## **PARTICULAR SPECIFICATION**

### **PJ SUBMERSIBLE PUMPING EQUIPMENT**

#### **CONTENTS**

PJ 01	SCOPE
PJ 02	SUBMERSIBLE CENTRIFUGAL PUMPS
PJ 03	MEASUREMENT AND PAYMENT

#### **PJ 01 SCOPE**

This is a Particular Specification and covers the supply, delivery and installation of submersible centrifugal pumps. Testing and commissioning is covered in Particular Specification PR.

#### **PJ 02 SUBMERSIBLE CENTRIFUGAL PUMPS**

##### **PJ 02.1 GENERAL**

Centrifugal pumps supplied under this Contract shall be suitable for vertical installation in submerged conditions, shall consist of a submersible motor coupled directly to a multistage centrifugal pump and shall be suitable for pumping water for domestic use. Each pump shall be capable of delivering 2,0 m<sup>3</sup>/s at a total head of 95 m.

Preference will be given to pumps of the self-regulating type and where the power consumption characteristic is such that with an increase in delivery to beyond a certain limit, the power consumption decreases, thereby ensuring that the motor is not overloaded in the event of a large reduction in pumping head.

Preference will be given to locally manufactured pumps and motors, with a reliable and efficient after sales service and readily available spares.

##### **PJ 02.2 DEPTH OF INSTALLATION**

The most suitable depth of installation and safe pumping rate shall be confirmed by an experienced borehole contractor on ground of the supplied borehole record, test and calculated information. All costs involved in confirming the most suitable depth of installation and safe pumping rate shall be deemed included in payment item PJ.02.

##### **PJ 02.3 MATERIAL**

All parts of the pump shall be manufactured from material most capable of withstanding wear. Full specification in this respect shall accompany the Tender and the Tenderer's advice in this respect will be considered.

##### **PJ 02.4 SPEED**

The pump shall have a rotational speed not exceeding 1 450 rpm. If a higher rotational speed is required, this shall be motivated in a covering letter or in the technical data sheets.

##### **PJ 02.5 DESIGN**



All working parts of the pumps shall be removable and serviceable and shall under no circumstances be integrated into the body of the pumps.

#### **PJ 02.6      TURBINE BOWLS**

Turbine bowls shall be manufactured from high-grade cast steel and shall be finished off smoothly before a high-quality corrosion protection system is applied. Grey Iron No 30 turbine bowls may be approved by the Engineer, or if so stated in the Project Specifications. The bowls shall be selected for a minimum of 2 500 kPa or 1,5 times the maximum discharge pressure, whichever is the greater. The casing, suction strainer, cable shield and all fastenings, nuts and bolts shall be manufactured from stainless steel.

#### **PJ 02.7      PUMP SHAFT**

The shaft shall be manufactured of stainless steel. Where the shaft passes through stuffing boxes it shall be fitted with renewable sleeves of high-quality, wear-resistant alloy.

The shaft shall be so designed that the running speed is well below the first critical speed, and the complete rotor shall be accurately balanced after assembly.

The rotating elements shall be accurately balanced statically and dynamically to eliminate noise and vibration when running.

#### **PJ 02.8      PUMP IMPELLERS**

Impellers shall be manufactured of stainless steel or bronze and shall be carefully bored and keyed. All parts inaccessible to machining shall have a smooth finish. Balancing of impellers shall not be done by means of drilling balancing holes, but rather by accurate and careful machining of impellers.

#### **PJ 02.9      SEALS AND BEARINGS**

Pumps shall be fitted with mechanical seals with sand deflectors. Pump bearings and thrust collars shall be bronze and shall be lubricated by the fluid handled. The pump and motor shall not be adversely affected by suspended sand concentrations of up to 25 g/m<sup>3</sup>.

#### **PJ 02.10      RISING PIPE**

The rising pipe shall have threaded or other approved bolted couplings at a spacing of approximately 6 m intervals. The rising pipe shall have a minimum internal diameter of 50 mm and shall internally and externally be protected against corrosion by a fusion bonded powder epoxy coating to a minimum thickness of 250 micron. All bolts used shall be stainless steel. The couplings shall not totally obstruct the borehole but shall allow for sufficient clearance between the coupling and borehole casing to prevent any damage to the drop cable set and earth wire. The pump and rising pipe shall be centered in the borehole by means of approved centralisers at a preferred spacing of not more than 3 m. The centralisers shall be manufactured of an approved corrosion-resistant material and shall assist in eliminating any vibration that may occur in the borehole/rising pipe installation.

#### **PJ 2.11      BOREHOLE VENTS**

The borehole shall be adequately vented to prevent the build-up of pressure or vacuum. All borehole vent openings shall be piped watertight to the atmosphere outside of any enclosure and not less than 200 mm above any low ground level or the highest recorded flood level. Such vent openings shall be at least 12 mm in diameter. The terminal of the vent shall be suitably shielded and screened so as to prevent the entrance of foreign matter and insects.

**PJ 02.12**      **PUMP MOTOR**

Unless otherwise specified, each pump shall be supplied complete with an electrical motor. Each electrical motor shall comply with the requirements as specified in Particular Specification PF.

The depth setting shall be such that an upflow of water past the motor is created. If insufficient upflow of water past the motor is available, a suitable flow induced tube shall be fitted to the pump and motor to ensure sufficient cooling of the motor.

**PJ 02.13**      **BASE PLATE**

A suitable baseplate shall be used to effectively close the top of the borehole to prevent any foreign matter from entering. The rising pipe shall be effectively bolted to the baseplate. The baseplate shall further be provided with the necessary openings for the drop cable site, earth wire and water level monitoring device.

**PJ 02.14**      **ACCESSORIES**

Over and above any reflux valves installed and specified above ground level, the pump shall be fitted with a non-slam type reflux valve situated at the pump outlet. The reflux valve shall be a matched component supplied and tested by the pump manufacturer for efficient and troublefree operation.

**PJ 02.15**      **PUMP TECHNICAL DETAILS**

The pump shall be a currently catalogued product. Documentation shall include performance curves or selection tables, indicating flow, head, NPSH required, power absorbed, speed and efficiency for the expected range of operational conditions.

Performance curves and selection tables shall be based on a reproducible and certified test carried out in an approved laboratory. Certified detail selection shown on these performance curves or tables shall be submitted.

The flow rate at break-off point of the curve for the impeller selected shall be at least 1,5 times that of the maximum flow rate specified.

The head at zero delivery of the curve for the impeller selected shall be at least 1,2 times the operating head.

The efficiency of the pump shall not be less than 95% of its maximum efficiency at the selected duty point. The efficiency of the pump at the selected duty point as stipulated in PJ 02.1 shall not be less than 75%.

The possible percentage variation of data measured on Site by the supplied and/or installed instrumentation when compared with the catalogued performance data must be submitted.

All calculations for static and dynamic heads are to be based on an atmospheric pressure above mean sea level of 1 478 m, which is the site elevation of the borehole site.

The pump shall be installed in accordance with the manufacturer's instructions and shall be maintained in "as new" condition at start up.

Details of the equipment shall include the following:

- (a) Operating, testing and commissioning instructions.
- (b) Trouble analysis guide.

Full details of periodic and annual maintenance and service to be undertaken by the maintenance staff, in accordance with a preventive maintenance programme shall be submitted.

The Contractor shall state in the technical data sheets, the minimum selected service life for which the pump has been engineered and the components selected when operated under normal working conditions with optimum servicing and maintenance.

The minimum acceptable service life is 15 years with 8 500 operating hours per annum.

The Engineer or his representative reserves the right to call for -

- (a) test certificates and reports from the manufacturer's quality control laboratory or an independent test laboratory such as SABS, and/or
- (b) Site inspection, customer reports/references and user's interviews, and/or
- (c) full engineering, design and component selection details -

in order to check the correctness of the service life claimed.

### **PJ 03 MEASUREMENT AND PAYMENT**

#### **PJ.01 SUPPLY AND DELIVERY OF SUBMERSIBLE BOREHOLE PUMPS:**

- (a) (Pump description).....Unit : number
- (b) (Etc for other descriptions)

The unit of measurement shall be the number of units supplied and delivered where each unit shall include one pump, one motor, one base plate, drop cable set, earth wire, flow inducer if required and all other accessories as specified.

The tendered rates shall include full compensation for the design, manufacture, corrosion protection, testing, delivery to site, storage, patent rights, etc of all the equipment complete as per the Sites and Specifications.

#### **PJ.02 INSTALLATION OF SUBMERSIBLE BOREHOLE PUMPS:**

- (a) (Pump description).....Unit : number
- (b) (Etc for other descriptions)

The unit of measurement shall be the number of units installed. Each unit shall include one pump with motor or engine, base plate and all other accessories as specified.

The tendered rates shall include full compensation for the installation of the units, the making good of all damaged corrosion protection areas, maintenance and for all other costs and actions that are necessary to provide a complete and efficiently working system.

Payment under this item may only be claimed after the relevant operating manuals have been handed over to the Engineer.

#### **PJ.03 SUPPLY, DELIVER AND INSTALL RISING PIPE (DIAMETER AND PRESSURE CLASS INDICATED) ..... Unit : m**

The unit of measurement shall be the metre of rising pipe installed.

The tendered rate shall include full compensation for all labour, Plant, transport and materials required to manufacture, supply and install the rising pipe, corrosion protection fixing to the pump and base plate, including couplings, gaskets, nuts and bolts.

**PJ.04**

**REMOVE EXISTING EQUIPMENT FROM BOREHOLE AND  
STORE ON SITE AS DIRECTED BY THE ENGINEER:**

(a) (Equipment description)..... Unit : sum

(b) (Etc for other descriptions)

The tendered sum shall include full compensation for .....

## **PARTICULAR SPECIFICATION**

### **PS ELECTRICAL INSTALLATION**

#### **CONTENTS**

PS 01	SCOPE
PS 02	SUITABILITY OF ELECTRICAL DESIGN FOR OPERATION OF MECHANICAL EQUIPMENT
PS 03	RESPONSIBILITY FOR FIRST ENERGIZING AND FOR FULL TESTING OF ALL ELECTRICALLY DRIVEN AND CONTROLLED EQUIPMENT
PS 04	COMMISSIONING TESTS
PS 05	STANDARD SPECIFICATION FOR ELECTRICAL WORK IN CIVIL ENGINEERING INSTALLATIONS
PS 06	PROJECT SPECIFICATION
PS 07	MEASUREMENT AND PAYMENT

#### **PS 01 SCOPE**

This Particular Specification covers the electrical installation required for the project. It consists of two parts, viz a Standard Specification and a Project Specification, both of which are applicable to this specific project. In the case of discrepancies between the two, the latter specification shall have precedence.

#### **PS 02 SUITABILITY OF ELECTRICAL DESIGN FOR OPERATION OF MECHANICAL EQUIPMENT**

The Contractor shall be responsible for checking the Engineer's design with regards to the method of starting and the method of control of all equipment to ensure that the conditions of warranty of all equipment supplied are not affected by the method of starting and control of such equipment. In the event of the Contractor not agreeing with the proposed design of starting and control circuits, such objections shall be given to the Engineer in writing within 14 days of receipt of the proposed designs, failing which, the designs shall be deemed to have been approved by the Contractor.

#### **PS 03 RESPONSIBILITY FOR FIRST ENERGIZING AND FOR FULL TESTING OF ALL ELECTRICALLY DRIVEN AND CONTROLLED EQUIPMENT**

**PS 03.1** The Contractor shall be responsible for arranging for the first energizing of all circuits and controls to all electrically driven and controlled equipment. The Contractor shall ensure that all equipment and the Works in general is suitable for energizing and commissioning and shall ensure that all equipment functions correctly.

**PS 03.2** The Contractor shall, prior to energizing, ensure that all safety and protective devices are properly set. The Contractor shall do all tests specified by the Engineer and considered necessary to ensure proper and safe functioning of all equipment supplied under this Contract.

#### **PS 04 COMMISSIONING TESTS**

The Contractor shall be responsible for doing all commissioning tests as specified by the Engineer and shall provide a duplicate copy of the full commissioning report as specified by

the Engineer. The Contractor shall make all arrangements for these tests and shall give 48 hours prior notice thereof to the Engineer.

**PS 05      STANDARD SPECIFICATION FOR ELECTRICAL WORK IN CIVIL ENGINEERING INSTALLATIONS**

**PS 05.1      INTRODUCTION**

- (a) This specification is intended to be used together with specifications for civil, mechanical and process-control projects where the final nature of the electrically propelled machines and equipment is not necessarily known during the tender period.
- (b) The specification has therefore been compiled as a quality specification which prescribes guidelines for the selection of the electrical distribution equipment and the design and equipment of the control system.
- (c) Tenderers and Contractors should note that this specification implies, in its entirety, an operationally acceptable installation, even if only the functional need has been indicated.

**PS 05.2      RELEVANT ACTS, REGULATIONS AND STANDARDS**

All work and materials shall comply with the terms and directions of the latest amendment or edition of the relevant Acts, Regulations and Standards such as:

- (a) The Occupational Health and Safety Act, No 85 of 1993 and Regulations;
- (b) The Code of Practice for the Wiring of Premises, SABS 0142;
- (c) The by-laws and regulations of the local authority and/or the electricity supply authority concerned;
- (d) The relevant SABS, BS and IEC supporting specifications referred to herein.

**PS 05.3      PREFERENTIAL PRODUCTS**

- (a) Preference shall be given at all times to South African manufactured products bearing the SABS mark. Permission shall be obtained from the Engineer for the use of any imported materials and equipment where a locally produced product is in fact available. Imported materials and equipment shall be approved by the SABS for use in electrical installations. All equipment offered shall be freely obtainable commercially.
- (b) As far as possible, similar types of circuit-breakers, contactors, switches, instruments, luminaires, distribution boards and related items shall be used with a view to symmetry, availability, maintenance and supplies.

**PS 05.4      THE ELECTRICITY SUPPLY AUTHORITY**

The electricity supply authority concerned is mentioned in the Project Specification.

**PS 05.5      FORMS AND FEES**

- (a) Before commencing with the Works, the Contractor shall make sure that:
  - (i) all forms for the procurement of electricity supply are completed and handed in;
  - (ii) all fees for the connection are paid to the supply authority;

- (iii) the supply authority has been informed of the intention to start work before any work may be done on the premises;
- (b) The Contractor shall before first energisation and at his own cost obtain a certificate of compliance by an accredited person as prescribed by the Occupational Health and Safety Act and Regulation.

#### **PS 05.6**

#### **APPROVAL OF DRAWINGS AND DESIGN INFORMATION**

- (a) In accordance with the accepted progress programme, the Contractor shall furnish the Engineer with the following information four weeks before the Engineer's approval is required:
  - (i) A complete power-line diagram showing the connection point, all high-voltage cables, high-voltage switchgear, transformers, low-voltage switchgear, low-voltage distribution cables to equipment inside and outside buildings and instruments, together with the conductor sizes, the capacity of the transformers and the current rating, the fault capacity of all switchgear and details of cable supports;
  - (ii) A complete schematic drawing of and a symbols description list for all distribution boards and control panels, together with a component specification for all components in which the manufacturer's name, the type of product, the code, the nominal and fault ratings (current and voltage as applicable to specific apparatus) and the nearest local agency are given;
  - (iii) Complete production drawings for the control panels and stands for stop blocks, isolating switches, etc, which clearly show construction methods;
  - (iv) All distribution boards, switchgear, transformers, alarm systems, control systems and any specially manufactured items shall be subjected to the appropriate SABS or other prescribed tests, in the factory in the presence of the Engineer with at least 7 day's prior notice having been given to the Engineer;
  - (v) A complete estimate of the electricity demand for the entire installation, as set out elsewhere;
  - (vi) SABS approved drawings of lightning protection for structures.
- (b) No manufacturing or installation may take place before the above information has been approved, in writing, by the Engineer.
- (c) The Engineer may, at his discretion, insist that the Contractor have his drawings approved by the electricity supply authority.

#### **PS 05.7**

#### **FAULT CAPACITY**

- (a) The system fault capacity for three-phase faults is set out in the Project Specification. The Contractor shall make sure that all equipment such as cables, busbars and switchgear, is suitable for connection to the system, with specific reference to fault capacity.
- (b) Where necessary, high-rupturing-capacity fuses shall be used to ensure that the fault capacity of the system is kept within the limits of the available equipment.

#### **PS 05.8**

#### **LV CONTROL PANELS AND DISTRIBUTION BOARDS**

- (a) Equipment for control panels and distribution boards shall be specified separately.
- (b) Control panels and distribution boards standing on the floor shall be manufactured as modular units, with a robust steel channel section base frame, steel section framework

and formed panels with mounting frames, facia panels and doors, as specified. Removable gland plates and panels shall be fixed in such a way that the control panel is rodent resistant, even if it stands over an open trench. Where panels with doors have been prescribed, all alarm lights shall be grouped together on a fixed panel above the doors, and shall be constantly visible.

- (c) Surface and flush-mounted boards shall have a robust framework and shall be fitted with removable equipment mounting frames, face panels and doors.
- (d) Engraved labels shall clearly indicate, in English and Afrikaans, the function, group function and nature of all equipment and groups of equipment, and shall be fitted with self-tapping screws or rivets.
- (e) All panels shall have sufficient ventilation openings fitted with rodent-resistant mesh wire. All distribution boards and all control panels installed in general areas or outside, shall be provided with doors with cast hinges and robust door locks of the ESKOM meter-box type for locking the panel.
- (f) Control panels installed in highly corrosive environments, eg in chlorine dosing chambers and chemical dosing chambers, shall be of a polycarbonate type and shall be ventilated by special ventilators. Control panels in switch rooms constructed specifically for the control panel, shall be without doors and shall be manufactured with hinged face panels.
- (g) Each distribution board and control panel shall be equipped complete with robust copper busbars for each phase as well as for neutral and earth connections. Busbars shall be of sufficient length to allow single conductors to be tied individually.
- (h) Each control panel which feeds one or more motor circuits, as opposed to building distribution boards, shall have a dedicated main panel consisting of power and control compartments equipped as follows:
  - (i) Main switch adequately rated for load and fault current, normally of the circuit-breaker type unless otherwise specified in the Project Specification;
  - (ii) Metering consisting of suitably rated, 1% accuracy metering, class C T's, 3 x maximum-demand ammeters with resetting pointer, HRC potential fuses, 3 position plus off-position interphase voltmeter selector switch, a voltmeter to match the ammeters in style and pattern and a combination 3 phase kWh and kVA maximum demand meter.
  - (iii) One overvoltage, undervoltage and phase unbalance protection relay, with individual settings for overvoltage, undervoltage and phase unbalance. The minimum setting range for the above variables are:
 

Undervoltage	:	80 - 100% of rated voltage
Overvoltage	:	100 - 120% of rated voltage
Phase unbalance	:	0 - 5% Negative sequence voltage as % of positive sequence voltage.
  - (iv) Reverse phase protection relay.
  - (v) One timer, 0 - 10 sec, to delay the activation of the over/under voltage protection relays if delayed operation is not provided for by the protection relay. The reverse phase relay shall be instantaneous.
  - (vi) Relay(s) with sufficient contacts and of adequate rating to break the control supply to each motor fed from the board in the event of any one of the above protection relays operating. In such cases the control supply to the motors shall stay interrupted for an adjustable period of 0 - 10 minutes.
  - (vii) Fault indication lights, visually indicating the cause of the trip initiated by one of the above relays.



- (viii) A moulded case circuit breaker for the protection of the control circuits actuated by the above protection relays.
- (ix) An audible alarm system activated by any of the above protection relays, any electrical trip (overload, thermister or earthleakage as fitted) and any automatic control alarm condition, together with an audible alarm accept facility, that will temporarily cancel the audible alarm, but will reactivate it if the alarm condition persists for an adjustable time of between 0 - 1 hour. The alarm circuit shall be protected by it's own moulded case circuit breaker and the alarm shall have a reach of 0,5 km.
- (i) Distribution boards for lighting and power in buildings shall not be equipped with metering equipment unless specified in the Project Specification.
- (j) Complete production drawings which clearly show the construction method, together with a complete control diagram and equipment specification, shall be submitted to the Engineer before production may start.

## **PS 05.9      LOW-VOLTAGE SWITCHGEAR AND CONTROL EQUIPMENT**

### **PS 05.9.1      Isolators**

- (a) As far as possible isolators shall be of the moulded case miniature type with current rating and fault rating which in both cases shall be at least 50% higher than that expected under operating conditions.
- (b) In the case of main switches and sub-main switches, the panel door shall be fitted with a rotating-type of switch lever on the outside for controlling the isolator mounted behind the door, and the switch lever shall lock mechanically so that the door can only be opened in the OFF position.
- (c) Local isolators or emergency stop switches shall switch off the equipment served by them in case of an emergency; the control circuit shall be designed in such a manner that it can be switched on only by a voluntary action (a lever or push-button-turning action). Equipment switched off by the local control switch shall again be switched on at the same control point. Equipment up to and including 3 kW switched on directly on line shall be controlled with a 45 A three-pole switch, and larger equipment shall be controlled with an emergency-stop switch with positive ON and OFF positions.
- (d) Where local controls are mounted outdoors, it shall be rated for outdoor use and be protected from sun and rain by means of a galvanised sheet steel cover that will allow free access to the switch. The strapping of cables to posts shall be done with stainless steel buckles and strapping.
- (e) Equipment shall bear the SABS mark and be readily obtainable commercially.

### **PS 05.9.2      Circuit breakers**

- (a) Moulded case miniature circuit breakers shall be used as far as possible. For larger loads oil or air circuit breakers shall be used.
- (b) The current rating shall be so selected as to ensure adequate protection of the conductors and/or the cables.
- (c) The fault rating of the circuit breakers shall be at least 25% higher than the system fault rating, taking into account the effect of fuses that may be in the supply circuit. For illumination and socket-outlet circuits a minimum fault rating of 5 kA will be accepted.

### **PS 05.9.3      Motor starters**

- (a) Unless otherwise specified, all squirrel cage motors shall be equipped with the following types of starters:

- Motors rated up to 10 kW : DOL starters
- Motors rated between 10 kW and 20,0 kW : Star/Delta starters
- Motors rated above 20 kW : Starters shall limit the starting current to less than 2 x full-load current

- (b) The type of starter shall be selected by taking into consideration the expected load pattern to ensure no over-heating caused by slow starting.
- (c) All starters shall be equipped with the following protection:
  - (i) Single-phase protection;
  - (ii) Adjustable overcurrent elements which will react on overcurrent in each phase.

The selection of a type of protection shall take cognisance of the motor manufacturer's recommendations.

#### **PS 05.9.4      Contactors**

- (a) Unless otherwise specified all contactor coils shall be of the 230 V 50 Hz type, but shall be suitable for the nominal load  $\square$  10% as prescribed in the Project Specification.
- (b) Contactors with a removable coil, yoke and contact set shall be used as far as possible.
- (c) All contactors shall be suitable for connecting additional auxiliary contacts and overcurrent elements with tripping mechanism for motor protection.
- (d) The current rating shall be selected to maintain a working life of one million switching cycles at category AC3 service.
- (e) The mounting of each contactor shall be of such a nature that there will be adequate convection cooling of the coil without heat from the coil being transferred to adjacent equipment.

#### **PS 05.9.5      Control switches**

- (a) Spring-loaded, separate ON and OFF push-button switches are preferred to rotary switches.
- (b) Rotary switches shall be of robust construction, with labelling forming part of the mounting plate.
- (c) Switches shall be of the modular type so that additional contact blocks can be added.

#### **PS 05.9.6      Pilot lights**

- (a) Composite LED-type pilot lights equal to Mimic Crafts type Mac 22 or approved equivalent shall be used. Units utilising resistors for voltage reduction will not be considered.
- (b) The colours to be used are as follows:
  - GREEN - Equipment switched ON
  - RED - Equipment switched OFF
  - AMBER - Equipment tripped; alarms; danger
  - WHITE - General functions excluding the above.

#### **PS 05.9.7      Control-circuit wiring**

- (a) Conductor sizes and conductor types shall be selected according to their application.

- (b) Conductor colours shall be selected to suit their application and purpose, provided that all conductors on neutral potential shall be black and all earth conductors bare copper conductors.
- (c) All conductors in control circuits shall be provided with suitable purpose-made wiring numbers at both ends, which numbers shall also be clearly marked on the wiring diagrams. Where conductors are coupled to terminal blocks, the terminals shall be numbered with the same number as the conductor.
- (d) Conductors shall be arranged in neat horizontal bundles and be grouped together with cable ties and/or in plastic cable ducts. The number of conductors per bundle shall be limited to prevent overheating.
- (e) Conductor passages through sheet metal or any other sharp objects shall be finished with purpose-made rubber or plastic linings to prevent damage to the conductor insulation.

**PS 05.9.8      Running-hour meters**

Each motor circuit shall be provided with a running-hour meter together with the selection switches and pilot lights for the motor circuit. These meters shall not be equipped with a resetting facility.

**PS 05.9.9      Process-control equipment**

(a) Time switches

- (i) Time switches shall be adjustable over 24 hours, the smallest adjustment being 15 minutes. At least 48 switching steps shall be provided.
- (ii) The time switch shall be provided with a spring reserve of at least 100 hours.

(b) Liquid-level-control switches

- (i) Preference shall be given to the nylon or plastic encapsulated mercury type of float switches with continuous cladding covering the extended conductors.
- (ii) Switches shall be provided with rust-free mounting frames to enable level adjustments to be made without the switch getting stuck.
- (iii) Connections between the integral switch conductors above water level shall be made in a draw box with screwed-down lid.

**PS 05.10      CONTROL SYSTEM PHILOSOPHY**

Unless otherwise specified, the following principles shall apply in designing the control circuits:

**PS 05.10.1**

During a power failure caused by an external failure, or where the main switch of a control has been switched off, the control system shall make provision for the following:

- (a) All manually operated equipment shall, during power failures, be disconnected from the network and shall not switch on automatically when the supply is restored;
- (b) Equipment with both automatically and manually operated modes shall, depending on the selection of the HAND/AUTO selector switch, switch on automatically or shall react as if under manual control as soon as the supply is restored;
- (c) All equipment switching on automatically shall be interlocked to prevent simultaneous switching-on. The nature and extent of the interlocking will depend on the specific equipment and the relevant starting currents and shall be so designed that the normal starting-current to full-load-current ratio shall not be exceeded.

**PS 05.10.2** Where more than one motor is controlled from a control panel, interlocking shall be provided for the switching-on of all motors to ensure that only one motor can start at a time under all conditions.

**PS 05.10.3** Where motors such as those of pumps, mixers etc, are controlled by level control switches or in any other manner where the temperature, pressure or height/depth of liquids are measured for purposes of control, operation of the control circuit outside the control panel shall be at a voltage of 50 V or less.

**PS 05.10.4** All parts of control circuits outside the control panel which, as a result of damage or the deterioration of insulation may cause equipment or structures with which persons may come into contact, to attain a voltage potential in excess of the earth potential, shall be operated at a voltage of 50 V or less.

**PS 05.10.5** In the case of essential services such as fire booster pumps, no sophisticated protective equipment shall be installed.

**PS 05.11**     **MOTOR-CONTROL CIRCUITS**

Unless otherwise specified, all motor-control circuits shall comply with the following requirements:

**PS 05.11.1** For automatically controlled motor circuits with time switches, pushbutton switches, floating switches, etc, a MANUAL/AUTO selector switch shall be required on the control panel so that the equipment can be switched to manual control, and the motor can be controlled with an ON and OFF push-button switch.

**PS 05.11.2** Each motor circuit shall be equipped as follows:

- (a) A circuit breaker or fuse switch as primary protection for the cable, wiring and starter equipment, while allowing for the starting current of the motor;
- (b) A circuit breaker for the control circuit, which may be shared by other control circuit functions only if the control equipment is shared;
- (c) A starter, the type of which shall be determined by the size and type of duty to be performed;
- (d) ON, OFF and TRIPPED pilot lights;
- (e) AUTO/MANUAL rotary type of selector switch for automatically controlled starters;
- (f) ON and OFF push-button switches;
- (g) A running-hour meter;
- (h) An adjustable overcurrent protection device;
- (i) Control devices such as relays and time switches to obtain the required control;
- (j) Terminals with labels for connection to external equipment;
- (k) A centre phase current transformer with a 50 mm x 50 mm ammeter for motors exceeding 3 kW;
- (l) The protection as specified under subclause PS 05.09.03 above.

**PS 05.12**     **LOW-VOLTAGE POWER DISTRIBUTION ON THE SITE**

**PS 05.12.1**     **General**

- (a) Power on the Site shall be distributed from control panels and distribution boards to the equipment and lights by means of PVC-insulated cables.
- (b) Cable routes shall be determined on Site and shall form neat straight-line routes with right-angled changes of direction, and, where possible, cables shall be grouped together.
- (c) If cables are grouped together, the manufacturer's instructions regarding the lowering of rating as a result of grouping shall be strictly complied with.
- (d) A separate bare copper earth conductor shall be installed with each distribution cable and shall be fixed to it with plastic cable ties at intervals of 800 mm. The conductor size shall be determined as specified in SABS 0142.
- (e) Low-voltage cables shall be laid and installed with the underside of the cable at a depth of 850 mm below the final ground level.
- (f) Where cables enter buildings or are installed under other permanent surfaces or structures, such cables shall be installed in 100 mm diameter PVC sleeve pipes unless otherwise specified in the Project Specifications or Drawings.

**PS 05.12.2      Cables**

PVC-insulated cables with stranded copper conductors and galvanised-steel-wire armouring shall be used, and all cables shall bear the SABS mark.

**PS 05.12.3      Cable joints**

- (a) Only watertight, epoxy-filled joints of proven manufacture will be accepted.
- (b) The Engineer's approval shall be obtained beforehand in respect of any joint in a cable with a total length of less than 300 m.

**PS 05.12.4      Cable glands**

- (a) Every cable end shall be terminated with the aid of a Pratley-type cable gland and rubber shroud. Cable glands used in highly corrosive environments, for example in chlorine and chemical dosing chambers, shall be completely coated with a corrosion resistant material such as CCG type CW.
- (b) As far as possible, conductor ends shall be terminated with the aid of a crimped lug.
- (c) Identification labels shall be fixed directly under the gland.

**PS 05.13          CONNECTION OF EQUIPMENT**

**PS 05.13.1**      A watertight rust-free terminal box shall be provided for all electrically driven equipment. The box shall be such that it can be opened only with a screwdriver.

**PS 05.13.2**      Feeder cables shall be attached directly to the terminal boxes with glands, in such a manner that water cannot penetrate the box or the gland.

**PS 05.14          ELECTRICAL INSTALLATION WITHIN THE PUMP ROOM**

**PS 05.14.1      Distribution boards**

- (a) Unless otherwise specified the distribution board shall form part of the low-voltage control panel.
- (b) The following shall be provided:

- (i) One 45 A, 10 kA double-pole isolator switch as main switch
- (ii) Two 10 A, 10 kA single-pole circuit-breakers for light circuits
- (iii) one 30 A, 10 kA single-phase circuit breaker type earth-leakage unit.

**PS 05.14.2 Illumination of pump room**

- (a) All fluorescent lamp luminaires shall be of the industrial type with two 65 W starter-type lamps, shall comply with SABS 1119 and shall bear the SABS mark.
- (b) All filament luminaires shall be of the bulkhead type with aluminium base and glass lens suitable for 100 W, 230 V globes.
- (c) Switches shall be of the flush-mounted 10 A rocker type and shall be installed 1 350 mm above floor level.
- (d) Wiring shall be two 2,5 mm<sup>2</sup> PVC-insulated conductors plus a 2,5 mm<sup>2</sup> bare copper earth conductor in a 20 mm conduit.

**PS 05.14.3 Multi-purpose socket outlets**

- (a) The installation of multi-purpose socket outlets shall be carried out as specified for socket outlets in substations and in accordance with SABS 0142.
- (b) Unless otherwise specified socket outlets shall be mounted 1,2 m above floor level.
- (c) Where a socket outlet is installed in a damp environment or outdoors, a surface-mounted watertight, switched socket outlet shall be used.
- (d) In corrosive areas such as chlorine chambers, special corrosion resistant socket outlets shall be used.

**PS 05.14.4 Three-phase socket outlets**

Only surface-mounted four-pin 25 A switched sockets with safety screen and bearing the SABS mark shall be installed. A suitable plug must be supplied with every socket outlet.

**PS 05.14.5 Wiring installation**

- (a) Only built-in conduits, draw boxes and end boxes shall be used within the pump room.
- (b) To facilitate wiring and conduit installation in the pump room, the Contractor may use local electric Subcontractors after approval has been obtained from the Engineer.
- (c) When for any special reasons, it becomes necessary for the wiring to be done with the aid of surface-mounted conduits or cables in ducts or on racks, drawings of the proposed installation shall be submitted to the Engineer for approval.
- (d) Cables shall not be installed over lengths exceeding 1,8 m without the support of cable racks, cable ladders or saddles.
- (e) No PVC conduits will be accepted for surface-mounted installations.
- (f) No routes across the floor will be accepted.
- (g) Wiring must be done in accordance with SABS 0142. The minimum requirements for wiring is as follows :
  - (i) Illumination circuits : Two 2,5 mm<sup>2</sup> PVC/copper conductors with a 2,5 mm<sup>2</sup> bare conductor in a 20 mm conduit;

- (ii) Socket outlet circuits : Two 4 mm<sup>2</sup> PVC/copper conductors with a 2,5 mm<sup>2</sup> bare conductor in a 20 mm conduit;
- (iii) Three-phase socket outlet circuits : Three 4 mm<sup>2</sup> PVC/copper conductors with a 4 mm<sup>2</sup> bare conductor in a 25 mm conduit;
- (iv) Geyser circuits : Two 4 mm<sup>2</sup> PVC/copper conductors with a 2,5 mm<sup>2</sup> bare conductor in a 20 mm conduit;
- (v) Air-conditioning circuits : Two 6 mm<sup>2</sup> PVC/copper conductors with a 4 mm<sup>2</sup> bare conductor in a 25 mm conduit.

**PS 05.14.6     Earthing**

The Contractor shall be responsible for earthing the system in accordance with the standard specification and the earthing of the pump room including all water pipes, gutters, roof, etc in accordance with requirements of the local authority and SABS 0142.

**PS 05.15     SYSTEM EARTHING**

The following earth connections shall be provided with bare stranded copper conductors of a size as specified in SABS 0142 (minimum size 2,5 mm<sup>2</sup>):

- (a) A cable core or separate conductor for every socket-outlet circuit.
- (b) A cable core or separate earth conductor for every illumination circuit if wall-mounted, external or fluorescent lamp luminaires are connected to the circuit.
- (c) A cable core or separate earth conductor for each supply to every electric machine, motor, instrument or any other electrical equipment.
- (d) All metal structures, safety screens and other conducting objects in contact with electrical equipment shall be properly earthed with earth conductors and/or copper earth straps.
- (e) The requirements of SABS 0142 shall be strictly complied with, especially in respect of installations within the pump room.

**PS 05.16     IDENTIFICATION OF EQUIPMENT**

**PS 05.16.1** Every cable, pump or any electrically controlled equipment shall, over and above the descriptive name, be provided with a unique number, e g P33, M11, etc. This number shall appear on all drawings, on the engraved labels of distribution boards and control panels where control of and supply to this equipment takes place.

**PS 05.16.2** This number shall also be fixed with permanent markers on the outside of equipment and inside the terminal boxes of equipment, and, in the case of cables, at both ends directly below the gland.

**PS 05.16.3** Permanent markers such as punched, rust-free metal plates, directly punched numbers and letters and stencil-painted identifications will be acceptable, provided that they are neat, clear and permanent.

**PS 05.17     DETERMINATION OF CONDUCTOR SIZES AND THE RATING OF PROTECTION AND CONTROL EQUIPMENT**

**PS 05.17.1** Conductor sizes for cables and busbars shall be selected so as:

- (a) to be able to handle the load and reserve capacity on a continuous basis under site conditions in respect of grouping, solar insulation, etc, without the temperature of the conductor exceeding 65 °C;
- (b) to take account of the power factor and the efficiency grade of all equipment;

- (c) to limit, while taking into account the starting current and conductor length, the drop in voltage during the starting process and normal operation to within the limits of the equipment specification and accepted norms;
- (d) to withstand safely the system fault capacity until the fault has been isolated from the network by the protection equipment.

**PS 05.17.2** Primarily protection equipment shall be provided for each supply line by way of a fuse switch or an overcurrent/fault-current-activated circuit-breaker.

**PS 05.17.3** Supplementary protection equipment in the form of contactors with motor-protection type of overcurrent elements shall be provided for all three-phase motors.

**PS 05.17.4** The rating of primary protection equipment shall be selected to withstand the system fault capacity, as well as to protect the cables or conductors serving the equipment against over currents and faults. The supplementary protection rating shall be selected to protect the equipment from being damaged.

**PS 05.17.5** A minimum fault capacity of 10 kA applies to all low-voltage switchgear.

## **PS 05.18** **TESTS AND COMMISSIONING**

### **PS 05.18.1** **Test before the energizing of the electrical network**

- (a) Before any part of the electrical network may be energised, the following tests and inspections shall be carried out:
  - (i) All switchgear, cables and conductors shall be inspected to ensure that the prescribed size and rating are correct;
  - (ii) All labels shall be checked to ensure that cables and equipment have been correctly identified;
  - (iii) Earth continuity tests shall be conducted on all circuits;
  - (iv) The insulation resistance of all the circuits (with the exception of electronic components which must be removed for the purpose of the tests) shall be tested with a 1 000 V megger;
  - (v) The earthing installation shall be inspected visually;
  - (vi) All adjustable protection equipment shall be set.
- (b) All results shall be recorded and handed over to the Engineer after they have been signed by the Contractor.

### **PS 05.18.2** **Tests during commissioning of the installation**

- (a) The following tests shall be conducted in the Engineer's presence:
  - (i) Three-phase-voltage tests on busbars in all control panels and distribution boards;
  - (ii) Control-circuit-functioning tests for all equipment;
  - (iii) Rotation-direction tests for all electrical motors;
  - (iv) Protective functioning of all protection equipment by means of tripping tests or adjustments where possible;
  - (v) Actual phase-current tests for all motors under load and at no load;
  - (vi) Testing of earth-leakage sensitivity;



- (vii) Inspection of all motor bearings after half-an-hour and after six hours of uninterrupted operation;
- (viii) Inspection of all control-circuit and distribution-board wiring after six hours of uninterrupted operation in order to observe any heating of conductors or equipment.
- (b) All voltage and load current results, as well as the correct operation of every control circuit and the protection equipment, shall be recorded and shall be handed over to the Engineer by the Contractor after they have been signed by the Contractor. The name plate information including serial numbers of all electrically driven equipment shall also be recorded.
- (c) Equipment performance tests are specified elsewhere and shall be conducted and recorded separately.

**PS 05.19      GUARANTEE**

**PS 05.19.1**      The entire installation, including all materials and equipment, shall be guaranteed for 12 months from the date of acceptance by the Engineer.

**PS 05.19.2**      Within this period the Contractor shall immediately replace, at his expense, all faulty material and equipment with new, unused equipment on the instruction of the owner or the Engineer, and the guarantee period of 12 months for such replaced material and equipment shall commence on the day of acceptance of such replaced material and equipment.

**PS 05.19.3**      The Engineer's decision regarding the repair or replacement of faulty material and equipment will be final.

**PS 05.20      ACCEPTANCE**

After all the tests have been conducted to the satisfaction of the Engineer and the entire installation has been completed in accordance with the Specifications and Drawings, the Engineer will issue an acceptance certificate as soon as a complete operation and maintenance manual has been received in triplicate.

**PS 05.21      FINAL DRAWINGS**

Before the installation is accepted by the Engineer, the Contractor shall furnish the following drawings:

- (a) Distribution-board line diagrams showing all switchgear with rating and service identification;
- (b) Schematic control-panel diagrams, complete with equipment schedules;
- (c) Cable-route diagrams with "as-built" dimensions of all cable positions.

**PS 05.22      MANUALS**

Before acceptance of the installation by the Engineer, a manual shall be provided containing the following:

- (a) Operating instructions for all control systems and instruments;
- (b) Maintenance instructions for all electrical equipment;
- (c) A parts schedule for all control panels and motors reflecting the manufacturer's name, the model and type number, and the nearest agency for all the equipment and control panels.

**PS 05.23      SAFETY**

Absolute safety measures shall be observed at all times for the duration of the Contract, and all relevant statutory requirements shall be observed in this connection.

**PS 05.24      ALTERNATIVE OFFERS**

Tenderers may, if they so wish, offer alternatives to the specification, provided that such alternative is clearly set out under separate cover and is complete in every detail.

**PS 06      PROJECT SPECIFICATION**

**PS 06.1      GENERAL**

- (a) This specification covers the supply, installation and commissioning of equipment to complete the installation as specified in the following pages.
- (b) Although the motor and cable sizes are specified they are subject to confirmation after the mechanical equipment has been approved. In the event of changes to motor sizes that affect the electrical network, renegotiation with the Nominated Subcontractor will take place on the basis of variation prices offered at the time of Tender.

**PS 06.2      SUPPLY AUTHORITY**

The supply authority is ESKOM.

**PS 06.3      MANUALS**

**PS 06.3.1**      Three copies of the operating manuals shall be supplied as detailed in Subclause PS 05.22 complete with a set of wiring diagrams in each manual.

## PARTICULAR SPECIFICATION

### POHS : OCCUPATIONAL HEALTH AND SAFETY

---

#### POHS 1 SCOPE

This specification details the health and safety requirements associated with the Works.

#### POHS 2 INTERPRETATIONS

Occupational Health and Safety Act, Act 85 of 1993 shall apply to this Contract. The Construction Regulations promulgated on 18 July 2003 and incorporated into the said Act by Government Notice R1010, published in Government Gazette 25207 apply to any person involved in construction work. These regulations are hereinafter referred to as "the Construction Regulations" and the said Act as "the Act".

Construction work is defined as:

"Any work in connection with:-

- a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;
- c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar Type of work".

#### POHS 3 GENERAL

**POHS 3.1** The Employer will appoint the Contractor in writing for execution of the Works.

The Contractor shall accept his appointment under the terms and Conditions of Contract. The Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labour of the intended construction work in terms of Regulation 3 of the Construction Regulations. The Contractor shall submit the notification in writing prior to commencement with work.

**POHS 3.2** The Contractor shall ensure that it is fully conversant with the requirements of this Specification.

This Specification is not intended to supersede the Act nor the Construction Regulations. Those sections of the Act and the Construction Regulations which apply to the scope of work to be performed by the Contractor in terms of this Contract continue to be a legal requirement of the Contractor.

- POHS 3.3** The Contractor shall provide and demonstrate to the Employer a suitable and sufficiently documented health and safety plan, based on this Specification, the Act and the Construction Regulations, which shall be applied from the date of commencement of and for the duration of execution of the Works.
- The Employer will take reasonable steps to ensure that the Contractor's health and safety plan is implemented and maintained. The steps taken will include periodic audits at intervals once every month.
- POHS 3.4** Should the Contractor at any stage in execution of the Works.
- a) fail to implement or maintain his health and safety plan;
  - b) execute construction work which is not in accordance with his health and safety plan; or
  - c) act in any way which may pose a threat to the health and safety of persons, the Employer will stop the Contractor from executing construction work.
- POHS 3.5** The Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the Works.
- POHS 3.6** The Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and the Construction Regulations.
- POHS 3.7** The Contractor shall constantly demonstrate his competence and adequacy of resources to perform the duties imposed on the Contractor in terms of this Specification, the Act and the Construction Regulations.
- POHS 3.8** The Contractor shall ensure that a copy of his health and safety plan is available on request to the Employer, an inspector, employee or sub-contractor.
- POHS 3.9** The Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this Specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Employer or inspector upon request.
- Upon completion of the Works, the Contractor shall hand over a consolidated health and safety file to the Employer.
- POHS 3.10** The Contractor shall, throughout execution of the Contract, ensure that all conditions imposed on his sub-contractors in terms of the Act and the Construction Regulations are complied with, as if they were the Contractor.
- POHS 4 GENERAL REQUIREMENTS**
- POHS 4.1 Contractor's Construction Safety Officer**
- Before commencing work, the Contractor shall designate a competent construction safety officer (CSO) who shall be acceptable to the Engineer, to represent and act for the Contractor. The Contractor shall inform the Engineer in writing of the name and address of the officer, together with the scope and limitations of the CSO's authority to act for the Contractor. The Contractor's CSO shall make available to the Employer an all-hours telephone number at which the CSO can be contacted at any time in the event of an emergency involving any of the Contractor's employees or other persons at the Works.

## **POHS 4.2 Log Books**

The Contractor shall keep the following log books and shall make them available to the Engineer on request:

- POHS 4.2.1 A record of the weekly inspections of first aid boxes.
- POHS 4.2.2 A record of the weekly inspections of ladders.
- POHS 4.2.3 A record of the weekly inspections of fire-fighting equipment.
- POHS 4.2.4 A record of the names and addresses of its employees who are registered as trained fire-fighting personnel and who are available on site for fire-fighting duties.
- POHS 4.2.5 A record of the monthly inspections of welding machines.
- POHS 4.2.6 A record of the monthly inspections of oxy-acetylene equipment.
- POHS 4.2.7 A record of the weekly inspections of scaffolding structures.
- POHS 4.2.8 A record of the monthly inspections of builder's hoists.
- POHS 4.2.9 A record of the monthly inspections of mobile and tower cranes.
- POHS 4.2.10 A record of the monthly inspections of lifting gear.
- POHS 4.2.11 A record of the inspections of electrical equipment.
- POHS 4.2.12 A record of the monthly tests of earth leakage units.

## **POHS 4.3 First Aid**

### **POHS 4.3.1 Safety Notice Board**

The Contractor shall provide a safety notice board where safety notices, site regulations concerning safe working practices and information on the location of the nearest first aid station, can be conspicuously displayed to all his staff. The size of the notice board shall be at least 600mm x 800mm.

### **POHS 4.3.2 First Aid Equipment**

The Contractor shall provide for his employees a stretcher for emergencies and an approved first aid box. A responsible person, who shall be appointed by the Contractor, shall check the first aid box weekly and a record shall be kept of the contents. The Contractor shall promptly replenish any deficient medical supplies.

### **POHS 4.3.3 Hazard Notices**

The Contractor shall display hazard notices in all areas where hazardous conditions prevail or may occur.

#### **POHS 4.3.4**     Contractor's First Aid Officer

Before commencing work, the Contractor shall designate a competent First Aid Officer (FAO) who shall be acceptable to the Engineer, to represent and act for the Contractor. The Contractor shall inform the Engineer in writing of the name and address of the officer, together with the qualifications of the FAO for approval. The Contractor's FAO shall make available to the Employer an all-hours telephone number at which the FAO can be contacted at any time in the event of an emergency involving any of the Contractor's employees or other persons at the Works.

#### **POHS 4.3.5**     Reporting on Incidents and/or Injuries

All incidents in respect of damage to Works, property or machinery, or injury to persons, shall be reported by the Contractor's Safety Officer, First Aid Officer or Site Representative to the Engineer by the quickest means possible.

A mandatory report form, containing full details of the incident, shall be completed and submitted to the Engineer within twenty four (24) hours of the occurrence of the incident.

The Engineer shall have the right to make all or any enquiries as to the cause and result of any such incident. The Contractor shall provide the Engineer with full facilities for carrying out such enquiries.

#### **POHS 4.4**        **Good Housekeeping and Safety Policy**

The Contractor shall at all time carry out the Works in a manner to *avoid* the risk of bodily harm to persons or risk of damage to any property. The Contractor shall take all precautions which are necessary and adequate to eliminate any conditions which contribute to the risk of injury to persons or damage to property. The Contractor shall continuously inspect all work, materials and equipment to discover and determine any such conditions and shall be solely responsible for the discovery, determination and elimination of such conditions.

During the period of this Contract, the Contractor shall be responsible for the safe storage of all materials and equipment required for execution of the Contract, and for disposal of all non-usable waste material in an orderly manner.

All materials, whether stored on the construction site or within the Contractor's designated area, shall be stored neatly and safely to prevent possible injury to any personnel. The material shall be stored to facilitate safe access to, and removal of the material from the storage area.

Any flammable material, such as paint, diesel fuel and oil, shall be stored in lockable non-combustible structures, which shall be clearly marked to indicate the hazardous nature of the materials stored within. The flammable materials stores shall be located in safe areas away from hazardous surroundings and adequate and suitable fire-fighting equipment shall be provided within easy reach of the materials stores.

#### **POHS 4.5**        **Exposed Danger Areas**

All exposed danger areas shall be demarcated by the Contractor with appropriate barrier tape and hazard notices to prevent unauthorized entering the danger area.

#### **POHS 4.6**        **Personal Protective Clothing**

The Contractor shall provide the necessary personal protective clothing for its employees in hazardous areas, appropriate to the nature of the hazard.

**POHS 4.6.1     Hard Hats**

All employees of the Contractor shall wear hard hats in areas where appropriate hazard notices are displayed. The Engineer shall have the right to ban certain colours if they are similar to the Employer's identifying colours. Hard hats shall not be painted or otherwise defaced.

**POHS 4.6.2     Eye Protection**

Suitable eye protection shall be worn in areas where appropriate hazard notices are displayed, or when grinding, chipping, breaking, drilling, arc-welding, cutting with oxy-acetylene equipment or similar activities are taking place.

**POHS 4.6.3     Hearing Protection**

Suitable hearing protection shall be worn in areas where appropriate hazard notices are displayed.

**POHS 4.6.4     Foot Wear**

All employees of the Contractor shall wear steel capped safety boots or shoes, undamaged, laced-up, suitable for the intended purpose, in prescribed areas where appropriate hazard notices are displayed.

**POHS 4.6.5     Gloves**

All employees of the Contractor shall wear suitable protective gloves in areas where appropriate hazard notices are displayed, or when handling hot or hazardous materials or chemicals.

**POHS 4.6.6     Clothing**

All employees of the Contractor shall wear suitable protective clothing when working in proximity of machinery, power tools, hazardous materials or chemicals.

**POHS 4.6.7     Overalls & Reflective Vests**

All employees of the Contractor shall at all times wear overalls and reflective vests as specified by the Employer.

**POHS 4.6.8     Dust masks**

All employees of the Contractor shall wear suitable dust masks when working in areas where dust nuisance is experienced.

**POHS 4.7        Road Traffic / Transportation**

**POHS 4.7.1**     The Contractor shall ensure that drivers of motor vehicles are in possession of a driver's licence, valid for the class of vehicle which they are required to drive, and shall produce the licence on request

**POHS 4.7.2**     The Contractor shall not permit any driver to be in control of a vehicle at the Works while under the influence of alcohol or drugs.

**POHS 4.7.3**     All vehicles of the Contractor shall display a name board bearing the Contractor's name. Hired vehicles shall bear an identifying sticker.

#### **POHS 4.8 Overhead Powerlines**

Regulations of the Electricity Supply Authority in connection with prohibition of operations in the vicinity of overhead powerlines shall be observed by the Contractor at all times.

#### **POHS 4.9 Machine Guarding**

All power tools and machinery driven by belts, gears, ropes, chains, couplings and similar drives shall be adequately guarded. The Contractor shall prohibit the use of any equipment with a damaged, missing or inadequate guard.

#### **POHS 5 SPECIAL REQUIREMENTS**

##### **POHS 5.1 Formwork and Support Work**

The Contractor shall ensure that -

- A) all formwork and support work operations are carried out under the supervision of a competent person who has been appointed by the Contractor in writing for that purpose;
- B) all formwork and support work structures are adequately designed, erected, supported, braced and maintained so that they will be capable of supporting all anticipated vertical and lateral loads that may be applied to them and also that no loads are imposed onto the structure that the structure is not designed to withstand;
- C) the foundation conditions are and remain suitable to withstand the load caused by the formwork and support structure and any imposed loads such that the formwork and support work structure are stable;
- D) all formwork and support work structures are inspected by a competent person, who has been appointed by the Contractor in writing for that purpose, immediately before, during and after the placement of concrete or any other imposed load and thereafter on a daily basis until the formwork and support work structure has been removed and the results have been recorded in a register and made available on the site of the Works; and
- E) upon casting concrete, the support work of formwork structure should be left in place until the concrete has acquired sufficient strength to support safely, not only its own load, but also any imposed loads and not removed until authorisation has been given by the competent person contemplated in sub-paragraph (a).

##### **POHS 5.2 Prevention of Uncontrolled Collapse**

The Contractor shall ensure that -

- A) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work; and
- B) no structure or part of a structure is loaded in a manner that would render it unsafe.



### **POHS 5.3 Safe Working Loads**

The Contractor shall ensure that -

- a) the safe working loads of hoists, load-bearing beams and cranes are prominently displayed at all times.
- b) the safe working loads are not exceeded under any circumstances.
- c) all lifting gear is marked with a unique identity number and recorded in a register.

### **POHS 5.4 Commissioning Safety Precautions**

The Contractor shall ensure that whatever repairs, adjustments or any work are undertaken on any plant or machinery, the power supply is switched off, disconnected or the plant / machinery disengaged until the work or repairs have been completed.

### **POHS 5.5 Toxic Materials**

The Contractor shall exercise all necessary care in the handling of toxic compounds and shall be able to identify the major chemical components in the event of medical treatment being required.

### **POHS 5.6 Hazardous Chemicals and Materials**

- a) The Contractor shall provide suitable and adequate protective equipment when working in an area where hazardous chemicals and materials are being used.
- b) The Contractor shall ensure that its employees have familiarised themselves with the hazardous material data sheets applicable to the specific site as well as the location of firefighting equipment, safety showers/baths and other washing facilities; prior to commencement of work.

### **POHS 5.7 Indemnity of Employer and his Agents**

- a) The Form of Tender to this Contract Document contain a "Mandatory Form of Authority and Agreement in terms of Section 37(2) of the Occupational Health and Safety Act, No. 85 of 1993" which agreement shall be entered into and duly signed by both the Employer and Contractor prior to commencement with work.
- b) A copy of the signed agreement shall be included in the Contractor's health and safety plan.
- c) Any acceptance, approval, check, certificate, consent, examination, inspection, instruction, notice, observation, proposal, request, test or similar act by either the Employer, any of his agents or the Engineer (including absence of disapproval) shall not relieve the Contractor from any responsibility he has under the Contract, the Act and the Construction Regulations, including responsibility for errors, omissions, discrepancies and non-compliances.

## **POHS 6 MEASUREMENT AND PAYMENT**

### **POHS 6.1 Health and Safety Plan Compilation Unit : Sum**

Preparation of a Health and Safety Plan by a competent for compliance with all the requirements of the Department of Labour, OHS Act based on the Risk Assessment and the Construction Regulations 2014.

### **POHS 6.2 Health and Safety Plan Management Unit : Months**

Compilation and keeping up to date the Health & Safety plan and file, including all documentation required in terms of the act, over the entire construction period.

### **POHS 6.3 Personal Protective Clothing Unit : Sum**

Providing and keeping in good order, for the duration of the construction period, the protective clothing as per specification.

### **POHS 6.4 First Aid Unit : Sum**

Providing and keeping in good order, for the duration of the construction period, the first aid requirements as per specification.

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C6. OHS Specifications for construction projects

#### 1.1 Specification

##### 1. PREAMBLE

In terms of Construction Regulation 4(1)(a) of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), the SEKHUKHUNE District Municipality, as the Client, shall be responsible to prepare Health & Safety Specifications for any intended construction project and provide any Principal Contractor who is making a bid or appointed to perform construction work for the Client on its behalf with the same.

The Client's further duties are as described in The Act and the Regulations made there-under. The Principal Contractor shall be responsible for the Health & Safety Policy for the site in terms of Section 7 of the Act and in line with Construction Regulation 5 as well as the Health and Safety Plan for the project.

This 'Health and Safety Specifications' document is governed by the "Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), hereinafter referred to as 'The Act'. Notwithstanding this, cognisance should be taken of the fact that no single Act or its set of Regulations can be read in isolation. Furthermore, although the definition of Health and Safety Specifications stipulates 'a documented specification of all health and safety requirements pertaining to associated works on a construction site, so as to ensure the health and safety of persons', it is required that the entire scope of the Labour legislation, including the Basic Conditions of Employment Act be considered as part of the legal compliance system. With reference to this specification document this requirement is limited to all health, safety and environmental issues pertaining to the site of the project as referred to here-in. Despite the foregoing it is reiterated that environmental management shall receive due attention.

Due to the wide scope and definition of construction work, every construction activity and site will be different, and circumstances and conditions may change even on a daily basis. Therefore, due caution is to be taken by the Principal Contractor when drafting the Health and Safety Plan based on these Health and Safety Specifications. Prior to drafting the Health and Safety Plan, and in consideration of the information contained here-in, the contractor shall set up a Risk Assessment Program to identify and determine the scope and details of any risk associated with any hazard at the construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard. *This Risk Assessment and the steps identified will be the basis or point of departure for the Health and Safety Plan.* The Health and Safety Plan shall include documented 'Methods of Statement' (see definitions under Construction Regulations) detailing the key activities to be performed in order to reduce as far as practicable, the hazards identified in the Risk Assessment.

##### 2. SCOPE OF HEALTH AND SAFETY SPECIFICATION

The Health and Safety Specifications pertaining to this project; cover the subjects contained in the index and is intended to outline the normal as well as any special requirements of the Client pertaining to the health and safety matters (including the environment) applicable to the project in question. These Specifications should be read in conjunction with the Act, the Construction Regulations and all other Regulations and Safety Standards which were or will be promulgated under the Act or incorporated into the Act and be in force or come into force during the effective duration of the project. The stipulations in this specification, as well as those contained in all other documentation pertaining to the project, including contract documentation and technical specifications shall not be interpreted, in any way whatsoever, to countermand or nullify any stipulation of the Act, Regulations and Safety Standards which are promulgated under, or incorporated into the Act.

### 3. PURPOSE

The Client is obligated to implement measures to ensure the health and safety of all people and properties affected under its custodianship or contractual commitments, and is further obligated to monitor that these measures are structured and applied according to the requirements of these Health and Safety Specifications.

The purpose of this specification document is to provide the relevant Principal Contractor with any information other than the standard conditions pertaining to construction sites which might affect the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; and to protect persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work during the carrying out of construction work for the SEKHUKHUNE District Municipality. The Principal Contractor is to be briefed on the significant health and safety aspects of the project and to be provided with information and requirements on inter alia:

- a) Safety considerations affecting the site of the project and its environment;
- b) Health and safety aspects of the associated structures and equipment;
- c) Submissions on health and safety matters required from the Principal Contractor and,
- d) The Principal Contractor's health & safety plan.

To serve to ensure that the Principal Contractor is fully aware of what is expected from him/her with regard to the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993) and the Regulations made there-under including the applicable safety standards, and in particular in terms of Section 8 of the Act.

To inform the Principal Contractor that the Occupational Health and Safety Act, 1993 (Act 85 of 1993) in its entirety shall apply to the contract to which this specification document applies. The Construction Regulations shall apply to any person involved in construction work pertaining to this project, as will the Act.

### 4. DEFINITIONS

*"Purpose of the Act" –*

To provide for the health and safety of persons at work and the health and safety of persons in connection with the use of plant and machinery; the protection of persons other than persons at work against hazards to health and safety arising out of or in connection with the activities of persons at work; to establish an advisory council for occupational health and safety; and to provide for matters connected therewith.

*"Agent" –*

means any person who acts as a representative for a client;

*"Client" –*

means any person for whom construction work is performed;

*“Construction Work”* is defined as any work in connection with –

- (a) the erection, maintenance, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure;
- (b) the installation, erection, dismantling or maintenance of a fixed plant where such work includes the risk of a person falling;
- (c) the construction, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system or any similar civil engineering structure; or
- (d) the moving of earth, clearing of land, the making of an excavation, piling, or any similar type of work;

*“Contractor”* –

means an employer, as defined in Section 1 of the Act, who performs construction work and includes Principal Contractors;

*“Health and Safety File”* –

means a file, or other record in permanent form, containing the information required a contemplated in the regulations;

*“Health and Safety Plan”* –

means a documented plan which addresses hazards identified and includes safe work procedures to mitigate, reduce or control the hazards identified;

*“Health and Safety Specification”* –

means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons;

*“Method Statement”* –

means a document detailing the key activities to be performed in order to reduce as reasonably as practicable the hazards identified in any risk assessment;

*“Principal Contractor”* –

means an employer, as defined in section 1 of the Act who performs construction work and is appointed by the client to be in overall control and management of a part of or the whole of a construction site;

*“Risk Assessment”* –

means a program to determine any risk associated with any hazard at a construction site, in order to identify the steps needed to be taken to remove, reduce or control such hazard.

## **5. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT**

### **5.1 Structure and Organisation of OH&S Responsibilities**

#### **5.1.1. *Overall Supervision and Responsibility for OH&S***

- The Client and/or its Agent on its behalf to ensure that the Principal Contractor, appointed in terms of Construction Regulation 4(1)(c), implements and maintains the agreed and approved H&S Plan. Failure on the part of the Client or Agent to comply with this requirement will not relieve the Principal Contractor from any one or more of his/her duties under the Act and Regulations.
- The Chief Executive Officer of the Principal Contractor in terms of Section 16 (1) of the Act to ensure that the Employer (as defined in the Act) complies with the Act.
- All OH&S Act (85 /1993), Section 16 (2) appointee/s as detailed in his/her/their respective appointment forms to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).
- The Construction Supervisor and Assistant Construction Supervisor/s appointed in terms of Construction Regulation 6 to regularly, in writing, report to their principals on matters of health and safety per routine and ad hoc inspections and on any deviations as soon as observed, regardless of whether the observation was made during any routine or ad hoc inspection and to ensure that the reports are made available to the principal Contractor to become part of site records (Health & Safety File).
- All Health and Safety Representatives (SHE-Reps) shall act and report as per Section 18 of the Act.

#### **5.1.2. *Legal Appointments***

Several appointments or designations of responsible and /or competent people in specific areas of construction work are required by the Act and Regulations. The following competent appointments, where applicable, in terms of the Construction Regulations are required to ensure compliance to the Act, Regulations and Safety Standards.

**Required appointments as per the Construction Regulations:-**

Item	Regulation	Appointment	Responsible Person
1.	4(1)(c)	Principal contractor for each phase or project	Client
2.	5.(3)(b)	Contractor	Principal Contractor
3.	5(11)	Contractor	Contractor
4.	6(1)	Construction supervisor	Contractor
5.	6(2)	Construction supervisor sub-ordinates	Contractor
6.	6(6)	Construction Safety Officer	Contractor
7.	7(1)	Person to carry out risk assessment	Contractor
8.	7(4)	Trainer/Instructor	Contractor
9.	8(1)(a)	Fall protection planner	Contractor
10.	10 (a)	Formwork & support work supervisor	Contractor
11.	10(e) + (f)	Formwork & support work examiner	Contractor
12.	11(1)	Excavation supervisor	Contractor
13.	11(3)(b)(ii)(b)	Professional engineer or technologist	Contractor
14.	11(3)(k)	Explosives expert	Contractor
15.	12(1)	Supervisor demolition work	Contractor
16.	12(2) + (3)	Demolition expert	Contractor
17.	12(11)	Explosives expert	Contractor
18.	14(2)	Scaffold supervisor	Contractor
19.	15(1)	Suspended platform supervisor	Contractor
20.	15(2)(c)	Compliance plan developer	Contractor
21.	15(8)(c)	Suspended platform expert	Contractor
22.	15(13)	Outrigger expert	Contractor
23.	17(8)(a)	Material hoist inspector	Contractor
24.	18(1)	Batch plant supervisor	Contractor
25.	18(7)	Batch plant operator	Contractor
26.	19(2)(b)	Power tool expert	Contractor
27.	19.2 (g) (i)	Power tool controller	Contractor
28.	20(f)	Tower crane operator	Contractor
29.	21(1)(d)(i)	Construction vehicle and mobile plant operator	Contractor
30.	21(1)(j)	Construction vehicle and mobile plant inspector	Contractor
31.	22(d)	Temporary electrical installations inspector	Contractor
32.	22 (e)	Temporary electrical installations controller	Contractor
33.	26 (a)	Stacking and storage supervisor	Contractor
34.	27 (h)	Fire equipment inspector	Contractor

This list may be used as a reference or tool to determine which components of the Act and Regulations would be applicable to a particular site. This list must not be assumed to be exclusive or comprehensive.

## **5.2 Communication & Liaison**

- 5.2.1 OH&S Liaison between the Employer, the Principal Contractor, the other Contractors, the Designer and other concerned parties shall be through the project Committee as per the procedures determined by the project Committee.
- 5.2.2 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.
- 5.2.3 Consultation with the workforce on OH&S matters will be through their Supervisors and H&S Representatives ('SHE – Reps')
- 5.2.4 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/or its Agent on its behalf 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.

## **6. RESPONSIBILITIES**

### **6.1 Client**

- 6.1.1 The Client or his appointed Agent on his behalf will appoint each Principal Contractor for this project in writing for assuming the role of Principal Contractor as intended by the Construction Regulations and determined by the Bills of Quantities.
- 6.1.2 The Client or his appointed Agent on his behalf shall discuss and negotiate with the Principal Contractor the contents of the health and safety plan of the both Principal Contractor and Contractor for approval.
- 6.1.3 The Client or his appointed Agent on his behalf, will take reasonable steps to ensure that the health and safety plan of both the Principal Contractor and Contractor is implemented and maintained. The steps taken will include periodic audits at intervals of at least once every month.
- 6.1.4 The Client or his appointed Agent on his behalf, will prevent the Principal Contractor and/or the Contractor from commencing or continuing with construction work should the Principal Contractor and/or the Contractor at any stage in the execution of the works be found to:
- have failed to have complied with any of the administrative measures required by the Construction Regulations in preparation for the construction project or any physical preparations necessary in terms of the Act;
  - have failed to implement or maintain their health and safety plan;
  - have executed construction work which is not in accordance with their health and safety plan; or
  - act in any way which may pose a threat to the health and safety of any person(s) present on the site of the works or in its vicinity, irrespective of him/them being employed or legitimately on the site of the works or in its vicinity.



## **6.2 Principal Contractor**

- 6.2.1 The Principal Contractor shall accept the appointment under the terms and Conditions of Contract. The Principal Contractor shall sign and agree to those terms and conditions and shall, before commencing work, notify the Department of Labour of the intended construction work in terms of Regulation 3 of the Construction. The Principal Contractor shall submit the notification in writing prior to commencement of work and inform the Client or his Agent accordingly.
- 6.2.2 The Principal Contractor shall ensure that he is fully conversant with the requirements of this Specification and all relevant health and safety legislation. *This Specification is not intended to supersede the Act nor the Construction Regulations or any part of either.* Those sections of the Act and the Construction Regulations which apply to the scope of work to be performed by the Principal Contractor in terms of this contract will continue to be legally required of the Principal Contractor to comply with. The Principal Contractor will in no manner or means be absolved from the responsibility to comply with all applicable sections of the Act, the Construction Regulations or any Regulations proclaimed under the Act or which may perceivable be applicable to this contract.
- 6.2.3 The Principal Contractor shall provide and demonstrate to the Client a suitable and sufficiently documented health and safety plan based on this Specification, the Act and the Construction Regulations, which shall be applied from the date of commencement of and for the duration of execution of the works. This plan shall, as appendices, include the health and safety plans of all Sub-contractors for which he has to take responsibility in terms of this contract.
- 6.2.4 The Principal Contractor shall provide proof of his registration and good standing with the Compensation Fund or with a licensed compensation insurer prior to commencement with the works.
- 6.2.5 The Potential Principal Contractor shall, in submitting his tender, demonstrate that he has made provision for the cost of compliance with the specified health and safety requirements, the Act and Construction Regulations.
- 6.2.6 The Principal Contractor shall consistently demonstrate his competence and the adequacy of his resources to perform the duties imposed on the Principal Contractor in terms of this Specification, the Act and the Construction Regulations.
- 6.2.7 The Principal Contractor shall ensure that a copy of his health and safety plan is available on site and is presented upon request to the Client, an Inspector, Employee or Sub-contractor.
- 6.2.8 The Principal Contractor shall ensure that a health and safety file, which shall include all documentation required in terms of the provisions of this Specification, the Act and the Construction Regulations, is opened and kept on site and made available to the Client or Inspector upon request. Upon completion of the works, the Principal Contractor shall hand over a consolidated health and safety file to the Client.
- 6.2.9 The Principal Contractor shall, throughout execution of the contract, ensure that all conditions imposed on his Sub-contractors in terms of the Act and the Construction Regulations are complied with as if they were the Principal Contractor.
- 6.2.10 The Principal Contractor shall from time to time evaluate the relevance of the Health and Safety Plan and revise the same as required, following which revised plan shall be submitted to the Client and/or his/her Agent for approval.

## **7. SCOPE OF WORK**

These specifications are applicable to the specific scope of work pertaining to the project as detailed in the tender documents. ***Refer to Project specification.***

## **8. HEALTH AND SAFETY FILE**

The Principal Contractor must, in terms of Construction Regulation 5(7), keep a Health & Safety File on site at all times that must include all documentation required in terms of the Act and Regulations and must also include a list of all Contractors on site that are accountable to the Principal Contractor and the agreements between the parties and details of work being done.

The Health and Safety File will remain the property of the Client and/or its Agent on its behalf throughout the period of the project and shall be consolidated and handed over to the Client and/or its Agent on its behalf at the time of completion of the project.

The safety file shall contain the following documentations:

- Safety reports,
- Notification documents,
- Appointment letters,
- Records of incidents,
- Records of training,
- Records of safety meetings,
- Records of PPE provision,
- And any other document related to safety issues on site.

## **9. MONITORING AND REVIEWING OH&S PERFORMANCE**

The Principal Contractor is required to maintain acceptable incident rate and report on this to the Client and/or its Agent on its behalf on a monthly basis. The frequency rates must reflect permanent disability, lost workdays, restricted workdays, medical treatment and first aid treatment.

## **10. HAZARD IDENTIFICATION AND RISK ASSESSMENT**

The Principal Contractor is required to develop Risk Assessments, Standard Working Procedures (SWP) and Method Statements for each activity executed in the contract or project. The identification of hazards is over and above the hazards identification program and those hazards identified during the drafting of the Health and Safety Plan. Hazard identification should be conducted continuously over and above the baseline risk assessment.

## **11. ARRANGEMENTS FOR MONITORING AND REVIEW**

### **11.1 Monthly Audit by Client**

The Client and/or its Agent on its behalf will be conducting Periodic Audits at times agreed with the Principal Contractor Audit to comply with Construction Regulation 4(1)(d) to ensure that the principal Contractor has implemented, is adhering to and is maintaining the agreed and approved OH&S Plan.

## **11.2 Other audits and inspections**

The Client and/or its Agent on its behalf reserves the right to conduct any other ad hoc audits and inspections as it and/or its Agent on its behalf deem necessary.

A representative of the Principal Contractor and the relevant Health and Safety Representative(s) (SHE-Reps) must accompany the Client and/or its Agent on its behalf on all Audits and Inspections and may conduct their own audit/inspection at the same time. Each party will, however, take responsibility for the results of his/her own audit/inspection results. The Client and/or its Agent on its behalf may require to be handed a copy of the minutes of the previous Health and Safety Committee meeting reflecting possible recommendations made by that committee to the Employer for reference purposes and any other health and safety related issues..

## **11.3 Reports**

11.3.1 The Principal Contractor shall 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 the Provincial Director of the Department of Labour within seven days and at the same time to the Client and/or its Agent on its behalf.

11.3.2 The Principal Contractor is required to provide the Client and/or its Agent on its behalf with copies of all statutory reports required in terms of the Act and the Regulations.

11.3.3 The Principal Contractor is required to provide the Client and/or its Agent on its behalf with a monthly "SHE Risk Management Report".

11.3.4 The Principal Contractor is required to provide the Client and/or its Agent on its behalf with copies of all internal and external accident/incident investigation reports. As soon as the occurrence of any accident/incident of whatever nature comes to the notice of the Principal Contractor, it shall be reported immediately to any of the following:

## **11.4 Review**

The Principal Contractor is to review the Hazard Identification, Risk Assessments and Standard Work Processes at each Production Planning and Progress Report meeting as the construction 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 and/or its Agent on its behalf, and all other concerned parties with copies of any changes, alterations or amendments

## **11.5 Site Safety Rules**

### **11.5.1 Site OH&S Rules**

The Principal Contractor must develop a set of site-specific OH&S rules that will be applied to regulate the Health and Safety Plan and associated aspects of the construction. When required for a site by law, visitors and non-employees upon entering the site shall be issued with the proper Personal Protective Equipment (PPE) as and when necessary.

### **11.5.2 Security Arrangements**

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 shall at all times be provided with fulltime supervision while on site. The Principal Contractor must develop a set of Security rules and procedures and maintain these throughout the construction period.

If not already tasked to the H&S Officer appointed in terms of Construction Regulation 6(6), the Principal Contractor must appoint a competent Emergency Controller who must develop contingency plans for any emergency that may arise on site as indicated by the risk assessments. These must include a monthly practice/testing program for the plans

## **11.6 Training**

The Principal Contractor shall ensure that all employees under the his or her control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

The Principal Contractor shall ensure that all labourers are informed regarding any hazard as stipulated in the risk assessment before any work commences, and thereafter at such times as may be determined in the risk assessment.

The Principal Contractor shall ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

No Principal Contractor shall allow or permit any employee to enter any site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.

The Principal Contractor shall ensure that all visitors to a construction site undergoes health and safety instruction pertaining to the hazards prevalent on the site and shall be provided with the necessary personal protective equipment: Provided that where visits are made only to the site office which is not in direct contact with the construction work activities, those health and safety instructions and the provision of personal protective equipment may not apply.

The contents and syllabi of all training required by the Act and Regulations including any other related or relevant training as required must be included in the Principal Contractor's Health and Safety Plan and Health and Safety File.

The Principal Contractor shall ensure that CETA accredited training ( technical skills and or life skills / generic training) is provided to the local labours to complement the skill shortage gap within the area for local youth. Training needs shall be identified and agreed upon with SDM.

### **11.6.1 General Induction Training**

The Principal contractor must ensure that the employees on site are conversant with the general health and safety requirements on site. All employees of the Principal and other Contractors must be in possession of proof of General Induction training.

### **11.6.2 Site Specific Induction Training**

All employees of the Principal and other Contractors must be in possession of Site Specific Occupational Health and Safety Induction or other qualifying training.

### **11.6.3 Other Training**

All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training. All employees in jobs requiring training in terms of the Act and Regulations must be in possession of valid proof of training as follows:

- 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 in 12.6.1 & 12.6.2 above
- Operation of Cranes (Driven Machinery Regulations 18 (11))
- Operators & Drivers of Construction Vehicles & Mobile Plant (Construction Regulation 21)
- Basic Fire Prevention & Protection (Environmental Regulations 9 and Construction Regulation 27)
- As a minimum basic First Aid to be upgraded when necessary (General Safety Regulations 3)
- Storekeeping Methods & Safe Stacking (Construction Regulation 26)
- Emergency, Security and Fire Coordinator

### **11.7 Accident and Incident Investigation**

The Principal Contractor is responsible to oversee the investigation of all accidents/incidents where employees and non-employees were injured to the extent that he/she/they had to receive first aid or be referred for medical treatment by a doctor, hospital or clinic, (General Administrative Regulation 9). The Principal Contractor is responsible for the investigation of all 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 incidents in future.

The Principal Contractor is responsible for the investigation of all road traffic accidents relating to the construction site and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future. Notwithstanding the requirements of Section 24 of the Act, ALL incidents shall be investigated and reported on in writing, irrespective of whether such incident gave rise to injury or damage.

### **11.8 H&S Representatives and H&S Committees**

#### **11.8.1 Designation of H&S Representatives**

Where the Principal Contractor employs more than 20 persons (including the employees of other Contractors (sub-contractors) he has to appoint one H&S Representative for every 20 employees or part thereof. (Section 17 of the Act and General Administrative Regulation 6. & 7.) H&S Representatives have to be designated in writing and the designation shall be in accordance with the Collective Agreement as concluded between the parties as is required in terms of General Administration Regulation 6.

#### **11.8.2 Duties and Functions of the H&S Representatives**

The Principal Contractor must ensure that the designated H&S Representatives conduct at least a weekly inspection of their respective areas of responsibility using a checklist and report thereon to the Principal

Contractor, after which these reports shall be consolidated for submission to the Health and Safety Committee. H&S Representatives must be included in and be part of accident/incident investigations. H&S Representatives shall be members of at least one H&S Committee and must attend all meetings of that H&S committee.

### **11.8.3 Establishment of H&S Committee(s)**

The Principal Contractor must establish H&S Committees consisting of designated H&S Representatives together with a number of Employers Representatives appointed as per Section 19(3) that are not allowed to exceed the number of H&S Representatives on the committee. The persons nominated by the employer on an H&S Committee must be designated in writing for such period as may be determined by the project period. The H&S Committee shall co-opt advisory (temporary) members and determine the procedures of the meetings including the chairmanship.

## **12. HOUSE KEEPING**

Good housekeeping will be maintained at all times as per Construction Regulation No. 25. Poor housekeeping contributes to three major problems, namely, costly or increased accidents, fire or fire hazards and reduction in production. Good housekeeping will enhance production time.

Particular emphasis is to be placed on the following crucial elements of a construction site:

- Phase priorities and production/plant layout
- Enclosures
- Pits, openings and shoring
- Storage facilities
- Effective, sufficient and maintained lighting or illumination
- Principal sources of injuries e.g. stairways, runways, ramps, loose building material
- Oil, grease, water, waste, rubble, glass, storm water
- Colour coding
- Demarcations
- Pollution
- Waste disposal
- Ablution and hygiene facilities
- First aid disposals
- Hazardous chemical substances

**This list must not be taken to be exclusive or exhaustive.**

In promotion of environmental control all waste, rubble, scrap etc., will be disposed of at a registered dumping site and records will be maintained. Where it is found to be impractical to use a registered dump site or it is not available, the Principal Contractor will ensure that the matter is brought to record with the client or his representative, after which suitable, acceptable alternatives will be sought and applied. Dross and refuse from metals, and waste matters or by-products whose nature is such that they are poisonous or capable of fermentation, putrefaction or constituting a nuisance shall be treated or disposed of by methods approved of by an inspector.

## **13. OPERATIONAL CONTROL**

The Principal Contractor shall take reasonable steps to ensure that necessary control measures are taken to promote safe working environment during all operational works. Routine safety inspections shall be carried out to ensure plant; machinery and tools are safe enough for employees to work with. Operational control measures shall be taken for the following activities and plant or machinery where applicable:

- Fall protection;

- Excavation work;
- Scaffolding;
- Mobile plants;
- Electrical installation and machinery; and
- Other associated activities.

#### **14. SUB CONTRACTORS**

The Principal Contractor shall ensure that agreements are entered into by all sub-contractors on site, and ensure that all sub-contractors are in compliance with the health and safety standards on site. Particulars of sub-contractors involved in specialised work such as blasting, concrete works and electrical installations must be submitted to the designers for approval and their safety plans submitted to the Client for approval.

#### **15. OFFENCES AND PENALTIES**

Any contractor who does not comply with the requirements of the Act, will be penalised or punished as per Section 38 of the Act. The principal contractor must also note that the Client may stop the execution of construction work if it is not in accordance with the health and safety plan or if it poses a threat on the health and safety of employees and the public.

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C7. Site Information

#### 7.1 General

This section describes the site at the time of the tender in order to enable the tenderer to price his tender accordingly and to decide upon his method of working, programming and risks.

The tenderer shall inform him / her on the nature of the site and inspect the site.

The Employer will consider a tender only if the site inspection and/or tenderer's meeting arranged by the Engineer has been attended by a representative who must:

- Be suitably qualified to comprehend the implications of the work involved, and
- Be the tenderer him/herself or a person in the direct employ of the tenderer

#### 7.2 Site location

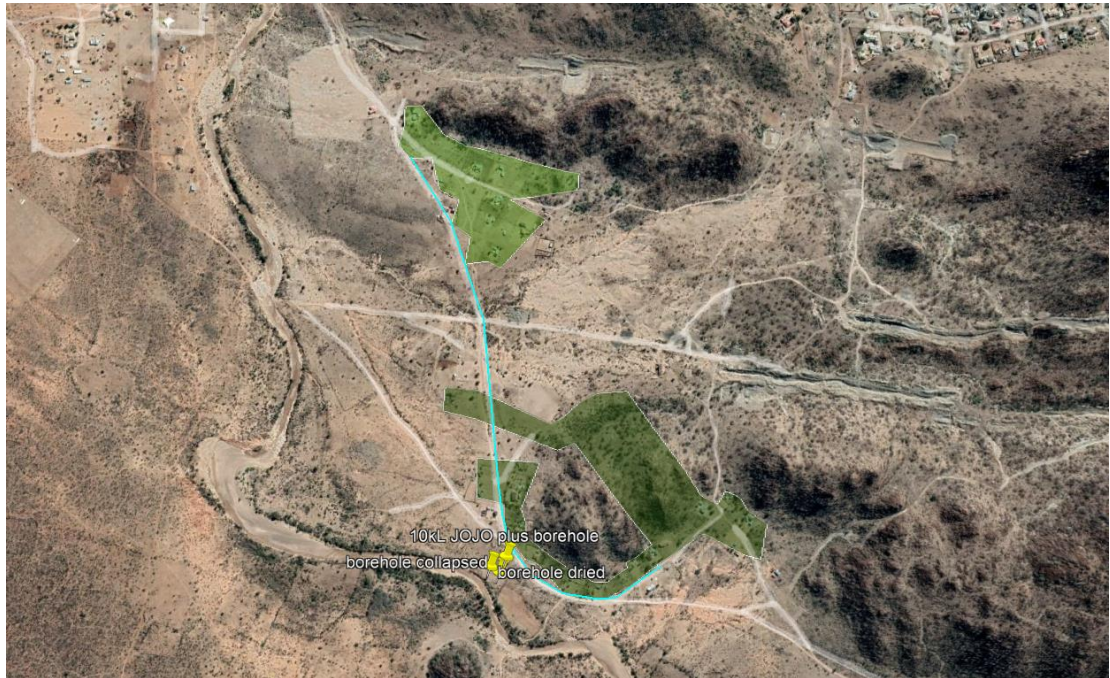
The project area is situated within the boundaries of Mabulela village.

Coordinates are as follows:

Latitude : -24.274211° East  
Longitude : 29.825870° South







The climate is very dry with an average annual rainfall between 500mm and 700mm. General vegetation is denuded because of settlement.

The site has isolated hard rock outcrops of calcretes which needs to be blasted. It is anticipated that between 10% to 15% of the trench excavations between depths of 0.8 to 2.0m deep needs to be blasted and will be classified as hard rock excavation.

### 7.3 Access to site and restrictions

The construction sites are situated in the existing villages as mentioned. These sites can be reached via existing streets/roads and Provincial Roads

The operation of construction vehicles on existing roads or streets, or on streets which have been completed on the level of sub-base or base or bituminous surface treatment, shall be limited to traffic with an axle load not exceeding that allowed by the Road Traffic Ordinance of the authority concerned, or any amendment thereof. Hauling is strictly forbidden on sections of streets that have been completed as described above. The Contractor shall make use of temporary haul roads, or where not practically possible, program his work in such a manner that the haulage of materials shall be restricted to that required for the particular section of street. No additional payment shall be made for the use of temporary haul roads and all relevant costs shall be deemed to be covered by the appropriate rates.

The Contractor must note that no additional payment will be made for the construction of temporary access roads to the construction site, borrow-areas or to the spoil sites, except for payment made under payment item A.8.3.2.2 of SANS 1200 A.

If the Contractor does not make use of existing streets for the hauling of materials to or from the site, he shall be held responsible to clear any spillage caused by his activities on or near the roads by whatever means necessary, within two (2) days after such spillage has occurred. No additional payment will be made for the clearance of spillage and all relevant costs will be deemed to be covered under the relevant items.

### 7.4 Existing services, servitudes and way leaves

All the known existing services are indicated on the drawings.

### 7.5 Security

The security of the Contractor's plant, employers, materials and site camp will be the Contractor's responsibility.

## **7.6 Nature of ground and subsoil conditions**

The Contractor shall familiarize himself with the conditions on site.

The materials on site mainly consist of soft and hard material. The majority of excavation will be in weathered and hard granite.

## SEKHUKHUNE DISTRICT MUNICIPALITY

### C.8 Drawings

The following drawings, **FOR TENDER PURPOSES ONLY**, form part of this contract.

#### Layouts Drawings

<u>Name</u>	<u>Description</u>
SDM/MAB/01	Pipe installation details
SDM/MAB/02	Borehole Information plate
SDM/MAB/03	Submersible pump installation details and pipework
SDM/MAB/04	Lockable steel manhole for submersible pump
SDM/MAB/05	Pump control diagram
SDM/MAB/06	Elevated tank details