



**CIDB 5 ME (4 ME PE)**

CIDB REFERENCE NUMBER: \_\_\_\_\_

**PROJECT NO: ERW202007/TNDR – 015**

**DESCRIPTION: REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

**DEPARTMENT: INFRASTRUCTURE PLANNING AND PROJECTS**

**COMPULSORY BRIEFING SESSION: FRIDAY, 23<sup>rd</sup> APRIL 2021 @ 10H00 AT THE ERWAT HEAD OFFICE, HARTEBEESTFONTEIN OFFICE PARK, R25 BAPSFONTEIN ROAD, KEMPTON PARK**

**NAME OF BIDDER:**

\_\_\_\_\_  
(BIDDING ENTITY) FULL NAME i.e. (CC, (PTY) LTD, LTD, JV, SOLE PROPRIETOR etc.)

**TEL NUMBER** : \_\_\_\_\_

**FAX NUMBER** : \_\_\_\_\_

**NATIONAL TREASURY CSD NUMBER** : MAAA \_\_\_\_\_

**BIDDERS OFFER** : R \_\_\_\_\_ INCLUDING VAT

**ERWAT STAMP**



**PROJECT NO: ERW202007/TNDR – 015**

**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*



## PROJECT NO: ERW202007/TNDR – 015

**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

**T1.1 REQUEST FOR PROPOSAL NOTICE AND INVITATION**

**TENDER NOTICE**

Bidders are hereby invited to submit tender offers for the project listed below:

Project No.	Project Description	CIDB Grading	Contact	Compulsory Briefing Session Date	Closing Date	Tender Cost
ERW202007/TNDR – 015	REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION	5 ME (4 ME PE)	Mr. Sifiso Sibiyi 011 929 7000	Friday, 23 <sup>rd</sup> April 2021 @ 10h00	Friday, 14 May 2021 @ 12h00	R250

Tender documents will be available at ERWAT Head Office, Hartebeestfontein Office Park, R25 (Bapsfontein/ Bronkhorstspuit), Kempton Park or at the **compulsory briefing meeting on Friday, 23<sup>rd</sup> April 2021 at 10:00am**. The Tender documents can be bought from the ERWAT head Office for a non- refundable fee of **R250** per Tender document during office hours from 08h00 -13h00 and 14h00 -16h00 weekdays.

Compulsory clarification meeting with the representative of the employer will be held at the ERWAT HEAD OFFICE, HARTEBEEFONTEIN OFFICE PARK, R25 BAPSFONTEIN ROAD, KEMPTON PARK. The briefing sessions will be conducted in sessions to ensure adherence to COVID – 19 regulations and preventative measures.

Completed Tenders in ink and clearly marked "**Contract No.: ERW202007/TNDR – 015: REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**" must be placed in the Tender Box, ERWAT Head Office, Hartebeestfontein Office Park, R25 (Bapsfontein/ Bronkhorstspuit), Kempton Park, not later than **12:00 on Friday, 14<sup>th</sup> May 2021** at which hour and date the Tenders will be opened in public at ERWAT Head Office. Tenders shall remain valid for a period of 120 days from closing date and no late, faxed, e-mailed or other form of Tender will be accepted.

**All SCM Enquiries shall be addressed to Phumzile Mdlalose at [publictenders@erwat.co.za](mailto:publictenders@erwat.co.za)**

**All Technical Enquiries shall be addressed to Sifiso Sibiyi at [sifiso.sibiyi@erwat.co.za](mailto:sifiso.sibiyi@erwat.co.za)**

**Site inspections or visits will be conducted as per the approval of the Accounting Officer in different days and sessions, Bidders are advised to RSVP on the sessions to be provided during the briefing session.**

Bids will be evaluated in terms of ERWAT' Supply Chain Management Policy, the MFMA SCM Regulations, the Preferential Procurement Policy Framework Act and its Regulations, 2017, the General Condition of Contract (GCC) and, if applicable, any other special conditions of contract.

**NB: NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE (as defined in Regulation 44 of the Local Government: Municipal Supply Chain Management Regulations).**

\_\_\_\_\_

Contractor

\_\_\_\_\_

Witness 1

\_\_\_\_\_

Witness 2

\_\_\_\_\_

Employer

\_\_\_\_\_

Witness 1

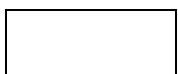
\_\_\_\_\_

Witness 2

ERWAT accepts no responsibility for bidders accessing the tender notices from other sites/sources other than the newspapers used, its website ([www.erwat.co.za/procurement](http://www.erwat.co.za/procurement)) and the National Treasury's e-tender portal ([www.etenders.gov.za](http://www.etenders.gov.za)).

**09 APRIL 2021 (date of ad on the website and advertised)**

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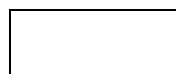
*Contractor*



*Witness 1*



*Witness 2*



*Employer*



*Witness 1*



*Witness 2*



**PROJECT NO: ERW202007/TNDR – 015**

**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

**T1.2 TENDER DATA**

**General**

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of Board Notice 136 of 2015 in Government Gazette 38960 of 10 July 2015, Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement. See [www.cidb.org.za](http://www.cidb.org.za) which is reproduced without amendment or alteration for the convenience of tenderers as an Annex to this Tender Data.

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

**The following variations, amendments and additions to the Standard Conditions of Tender as set out in the Tender Data below shall apply to this tender.**

Clause No.	TENDER DATA
F1.1	<p><b>The Employer is:</b></p> <p>Ekurhuleni Water Care Company (ERWAT)                      Hartebeestfontein Office Park                      R25 (Bapsfontein/Bronkhorstspruit Road)                      Kempton Park</p>
F.1.2	<p><b>The Tender document’s contents is as follows:</b></p> <p><b><u>THE TENDER</u></b></p> <p><b>Part T1: Tender Procedures (Pink)</b>                      T1.1 Tender notice and invitation to Tender                      T1.2 Tender Data</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

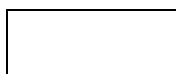
	<p><b>Part T2: Returnable Documents (Pink)</b></p> <p>T2.1 List of returnable documents T2.2 Returnable schedules</p> <p><b><u>THE CONTRACT</u></b></p> <p><b>Part C1: Agreements and Contract Data (Yellow)</b></p> <p>C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Form of Guarantee C1.4 Occupational Health and Safety C1.5 Corporate Governance Breach Clause</p> <p><b>Part C2: Pricing Data (Yellow)</b></p> <p>C2.1 Pricing Instructions C2.2 Bill of Quantities</p> <p><b>Part C3: Scope of Work (Blue)</b></p> <p>C3.1 Description of Works C3.2 Engineering C3.3 Construction C3.4 Management of Works C3.5 Health and Safety C3.6 Environmental Management During Construction C3.7 Technical Specifications</p> <p><b>Part C4: Site Information (White)</b></p> <p>C4 Site Information</p>
<p><b>F1.3</b></p>	<p><b>Interpretation</b></p> <p>The Tender data and additional requirements contained in the Tender schedules that are included in the returnable documents are deemed to be part of these Tender conditions.</p>
<p><b>F.1.4</b></p>	<p><b>The Employer’s Representatives are:</b></p> <p><b><u>SCM:</u> Inkosinathi Nhlapo - 011 929-7115</b></p> <p>E-mail Address: <a href="mailto:publictenders@erwat.co.za">publictenders@erwat.co.za</a></p> <p><b><u>Technical:</u> Mr Sifiso Sibiyi - 011 929 7143</b></p> <p>E-mail Address: <a href="mailto:sifiso.sibiyi@erwat.co.za">sifiso.sibiyi@erwat.co.za</a></p> <p>Attention is drawn to the fact that verbal communication given by the Employer’s representative prior to the close of Request for Proposals (Tender) will not be regarded as binding on the employer. Only information issued formally by the employer in writing to the bidders, under the</p>



Contractor



Witness 1



Witness 2



Employer

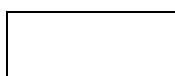


Witness 1

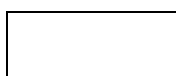


Witness 2

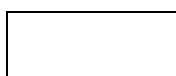
	<p>signature of the Accounting Officer or his nominee will be regarded as amending the Tender documents. Tender offer communicated on paper shall be submitted as an original.</p> <p>In the event that no correspondence or communication is received from ERWAT within one hundred and twenty (120) days after the stipulated closing date and time of the Tender, the Tender proposal will be deemed to be unsuccessful.</p>
<b>F.1.5</b>	<p><b>Reject or Accept</b></p> <p>The Employer may accept or reject any variation, deviation, Tender offer, or alternative Tender offer, and may cancel the Tender process and reject all Tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a bidder for such a cancellation and rejection, but will give written reasons for such action upon written request to do so.</p>
<b>F.2.1</b>	<p><b>CIDB Requirements</b></p> <p>Only those tenderers 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 tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a <b>5 ME (4 ME EP) class</b> of construction work, are eligible to have their tenders evaluated.</p> <p>Joint ventures are eligible to submit tenders 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>5 ME (4 ME PE) class</b> 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 tendered for a <b>5 ME (4 ME PE) class</b> of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.</li> </ol> <p>The bulk of the work for this Contract is Mechanical, however it also includes civil, electrical and control &amp; instrumentation aspects. Should these portions be sub-contracted, each Sub-Contractor shall have a sufficient CIDB grading in their field to cover their portion of the Contract price. An indication of the portion of the total Contract price allocated to each Sub-Contractor as well as proof of each Sub-Contractors CIDB grading shall be included in the Tenderers submissions.</p>
<b>F.2.2</b>	<p><b>Cost of Bidding</b></p> <p>Accept that the Employer will not compensate the Bidders for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer satisfy requirements.</p>
<b>F.2.3</b>	<p><b>Check documents</b></p> <p>The Tenderer shall satisfy himself that the set of tender documents is complete and in accordance with the index. If any page has been omitted or duplicated, or if the script or</p>



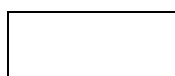
Contractor



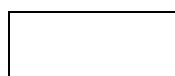
Witness 1



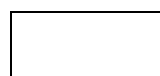
Witness 2



Employer



Witness 1



Witness 2

	<p>dimensions, or anything else in the tender document is indistinct, or if doubt exists as to the meaning of any description, or if the tender document contains any obvious errors, the Tenderer shall immediately notify the Employer’s Agent accordingly, in writing, so that such discrepancy or indistinctness can be clarified and rectified, as ERWAT or the Agent will not accept any responsibility or consider any claim in connection with such discrepancy or indistinctness, which are not rectified during the tender period.</p>			
<b>F.2.4</b>	<p><b>Confidentiality and copyright of documents</b></p> <p>Treat as confidential all matters arising in connection with the Tender. Use and copy the documents issued by the employer only for the purpose of preparing and submitting a proposal offer in response to the invitation.</p>			
<b>F2.5</b>	<p><b>Reference Documents</b></p> <p>Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference</p>			
<b>F2.6</b>	<p><b>Acknowledge Addenda</b></p> <p>Acknowledge receipt of addenda to the proposal documents, which the employer may issue, and if necessary apply for an extension of the closing time stated in the Tender data, in order to take the addenda into account.</p>			
<b>F.2.7</b>	<p><b>The arrangements for a compulsory briefing/clarification meeting are:</b></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 40%; padding: 5px;"> <p><b>Date: 23<sup>rd</sup> April 2021</b> <b>Time: 10h00</b></p> </td> <td style="width: 60%; padding: 5px;"> <p><b>Location: Head Office, R25 Bapsfontein Road, Kempton Park</b></p> </td> </tr> </table> <p>No individual should represent more than one bidder at the compulsory briefing session. Non-completion in full of the fields required on the attendance register may lead to automatic disqualification.</p> <p>At least one member of the JV be represented at the compulsory clarification meeting.</p>		<p><b>Date: 23<sup>rd</sup> April 2021</b> <b>Time: 10h00</b></p>	<p><b>Location: Head Office, R25 Bapsfontein Road, Kempton Park</b></p>
<p><b>Date: 23<sup>rd</sup> April 2021</b> <b>Time: 10h00</b></p>	<p><b>Location: Head Office, R25 Bapsfontein Road, Kempton Park</b></p>			
<b>F.2.8</b>	<p><b>Seek clarification</b></p> <p>Questions or queries must be submitted to the Employer at least five (5) working days before the stipulated closing date and time of the Tender. However, ERWAT shall not be liable nor assume liability for failure of the bidder to receive response to any questions and / or queries raised by the bidder by the closing time.</p>			
<b>F.2.10</b>	<p><b>Pricing the Tender</b></p> <p>State the rates and prices in South African Rand (ZAR). <b>Please note that only firm prices would be accepted by ERWAT.</b></p>			
<b>F.2.11</b>	<p><b>Alterations to documents</b></p> <p>Bidder must not make any alterations or additions to the proposal documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the bidder. All signatories to the Tender offer shall sign next to all such alterations. Erasures and the use of masking fluid are prohibited. Copies are not allowed, only original documents will be accepted.</p>			



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2



<p><b>F.2.13</b></p>	<p><b>Submitting a Tender offer</b></p> <p>No late, faxed, emailed or other form of Tender will be accepted. Completed Tenders with attached documents, if any, must be submitted in Black ink in sealed envelopes and clearly marked:</p> <p><b><u>“CONTRACT NO ERW202007/TNDR – 015: REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION”</u></b></p> <p>and must be placed in Tender Box at ERWAT Head Office, Hartebeestfontein Office Park, R25 (Bapsfontein / Bronkhorstspuit), Kempton Park.</p> <p>Accept that the tender submitted to the employer cannot be withdrawn or substituted. <b>No substitute tender offers will be considered.</b></p> <p>All Tenders received by ERWAT will remain in the Company’s possession.</p>
<p><b>F.2.14</b></p>	<p><b>Information and data to be completed in all respects</b></p> <p>To facilitate review of this Tender by ERWAT, it is requested that submissions conform to the following format:</p> <ol style="list-style-type: none"> <li><b>Coversheet:</b> List Tender Statement, the name of your firm, and the name, address and telephone number of a contact person for questions concerning the Tender submitted.</li> <li><b>Executive Summary:</b> Provide a brief overview of the project, description of the overall approach to the project, key features of the technologies offered and an overview of the performance guaranteed.</li> <li><b>Relevant Experience and Reference Projects:</b> Information of similar sized projects completed by the Tenderer (in South Africa and worldwide) using the specific technologies requested must be provided. The referenced projects must be comparable in size, complexity and performance achieved to the tendered project. Operation and maintenance experience must also be included here.</li> <li><b>Project Team:</b> Provide a project team organogram showing the structure and composition of the proposed team. A CV highlighting the relevant project specific experience for each team member must be supplied. Permanent staff and contracted staff must be distinguished.</li> <li><b>Project Schedule:</b> A detailed project schedule must be submitted showing details with respect to the different phases of the project as well as the different aspects pertaining to engineering, procurement, construction, installation, commissioning and start up. The key milestones during the project must be indicated.</li> <li><b>Electrical and C&amp;I:</b> All information asked for regarding the electrical and C&amp;I equipment shall be included here.</li> </ol> <p>Accept that Tender offers, which do not provide all the data or information requested completely and in the form required, may be regarded by the employer as non-responsive. Responsive Tenders are ONLY those Tenders with all documents and pages, contained herein, that have been signed by the responsible person duly authorised to sign all documents indicated on the returnable document <b>“FORM C Authority of Signatory”</b>.</p>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

	The above is to be read in conjunction with F3.11 below as well as the Project Specifications detailed in Section C3: Scope of Works.
<b>F.2.15</b>	<p><b>Closing time</b></p> <p><b>Closing Date: FRIDAY, 14<sup>th</sup> May 2021</b></p> <p><b>Closing Time: 12h00</b></p>
<b>F.2.16</b>	<p><b>Tender offer validity</b></p> <p>The Tender offer validity period is 120 Days.</p>
<b>F2.18</b>	<p><b>Provide other information</b></p> <p><b>The bidders are required to submit following documents and if requested to resubmit in case if it was not initially submitted, it will result in automatic disqualification:</b></p> <ol style="list-style-type: none"> <li>(1) Proof of SARS Tax status (pin issued by the South African Revenue Services);</li> <li>(2) Completion of MBD 2, 4, 5, 6.1, 6.2, 7.1, 8 and 9 forms</li> <li>(3) Copy of municipal Statement not older than 3 months or letter from landlord stating that rates and taxes are not in arrears for more than 90 days from date of closing of bid.</li> <li>(4) In case of Joint Venture – the Joint Venture Agreement</li> <li>(5) Letter of intent to submit <b>Third Party Liability Insurance and All risk contractor's insurance</b> to cover this contract</li> </ol> <p><b>NB: - Please note that non-compliance to specification may be deemed as an automatic disqualification. Service Providers must quote for all aspects as per the specification.</b></p>
<b>F2.23</b>	<p><b>Certificates</b></p> <p>The Tenderer is required to submit with his Tender a letter of intent from an approved insurer undertaking to provide the Performance Guarantee to the format included in Part C1.3 of this Tender Document.</p>
<b>F3.4</b>	<p><b>Opening of tender</b></p> <p>Tenders will be opened in public at the ERWAT Head Office, Hartebeestfontein Office Park, R25 (Bapsfontein / Bronkhorstspuit), Kempton Park.</p>
<b>F3.5</b>	<p><b>Two-envelope System</b></p> <p>A two-envelope procedure will <b>NOT</b> be followed.</p>
<b>F3.6</b>	<p><b>Non-disclosure</b></p> <p>After the opening of the Tender offers, no information relating to the clarification, determination of responsiveness, evaluation and comparison of Tender offers and recommendations concerning the award of the Tender shall be disclosed to any other Bidder or persons not concerned with such process until the award of the Tender has been announced by ERWAT.</p>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

<p><b>F3.9</b></p>	<p><b>Arithmetical errors, omissions and discrepancies</b></p> <p>ERWAT is to check BID offers for arithmetical errors in the following manner:</p> <ul style="list-style-type: none"> <li>a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern.</li> <li>b) If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.</li> <li>c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.</li> </ul> <p>Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.</p>
<p><b>F3.11</b></p>	<p><b>1. Evaluation of tender offers</b></p> <p>The Bidders notice is drawn to the fact that the evaluation, adjudication and awarding of this Tender will be in terms of the Supply Chain Management Policy of ERWAT and the Preferential Procurement Regulations of 2017.</p> <p>If the submitted Tender does not comply with the Tender conditions, the Tender may be rejected. If specifications are not met, the Tender may also be rejected. With regard to the above, certain actions or errors are unacceptable, and warrant <b>REJECTION OF THE TENDER</b>, for example:</p> <ul style="list-style-type: none"> <li>▪ Proof of SARS Tax status (pin issued by the South African Revenue Services);</li> <li>▪ Non submission of company registration certificates.</li> <li>▪ Pages that were to be completed being removed from the Tender document and have therefore not been submitted.</li> <li>▪ Failure to fully complete form of offer.</li> <li>▪ Scratching out without initialing next to the amended rates or information.</li> <li>▪ Writing over / painting out rates / the use of Tippex/correction fluid or any erasable ink.</li> <li>▪ Failure to attend compulsory briefing meetings</li> <li>▪ The Tender has not been properly signed by a party having the authority to do so, according to the <b>Form C– “Authority for Signatory”</b>.</li> <li>▪ No authority for signatory submitted.</li> <li>▪ Particulars required in respect of the proposal have not been provided: non- compliance of Tender requirements and/or specifications.</li> <li>▪ The Bidder’s attempts to influence, or has in fact influenced the evaluation and/or awarding of the contract.</li> <li>▪ The Proposal has been submitted after the relevant closing date and time.</li> <li>▪ If any municipal rates and taxes or municipal service charges owed by that Bidder or any of its directors to the company, or to any other company or municipal entity, are in arrears for more than three months (90 days).</li> <li>▪ If any Bidder who during the last five years has failed to perform satisfactorily on a previous</li> </ul>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

contract with the company or any other organ of state after written notice was given to that Bidder that performance was unsatisfactory.

**2. Good standing with SA Revenue Services**

- Determine whether the bidders tax matters are in order as provided for by SARS.
- The Bidder must complete the MBD 2 form in the returnable schedule and or attach their valid SARS Pin to verify their Tax matters to the designated page of the Tender document.

If the Tender does not meet the requirements contained in the ERWAT Supply Chain Policy, and the mentioned framework, it will be rejected and may not subsequently be made acceptable by correction or withdrawal of the non-conforming deviation or reservation.

**3. Penalties**

ERWAT will, if upon investigation it is found that a preference in terms of the Preferential Procurement Policy Framework Act, 2000 and these regulations has been obtained on a fraudulent basis, or any specified goals are not attained in the performance of the contract, one or more of the following penalties will be imposed:

- Cancel the contract and recover all losses or damages incurred or sustained from the Bidder.
- Impose a financial penalty of twice the theoretical financial preference associated with the claim, which was made in the Tender.
- Restrict the firm, its shareholders and directors on obtaining any business from ERWAT for a period of 5 years and blacklisted on the National Treasury database of restricted suppliers.

**4. Evaluation Criteria**

ERWAT will establish a Bid Evaluation Committee (BEC) whose responsibility it is to make recommendations to the Bid Adjudication Committee (BAC). The Bid Evaluation Committee will short list and evaluate the bid document in accordance with the criteria below and make recommendations to the BAC.

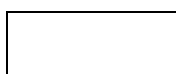
- 1) Pre compliance evaluation to be done and pre-qualified bidders goes through for the functionality evaluation. Where some pre compliance information is not provided the ERWAT supply chain will contact the responsible bidder to submit within 5 working days and failure to do so will result in disqualification.
- 2) Score Bid evaluation points for price and preference points
- 3) Calculate total Bid evaluation points, to two decimal places
- 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.

**FUNCTIONALITY CRITERIA: -**

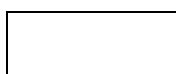
Note: The minimum required score for functionality is stipulated in the functionality table listed elsewhere in the document. Bidders scoring less than the stipulated threshold on functionality shall not proceed to the next stage of the evaluation.



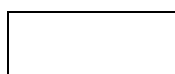
Contractor



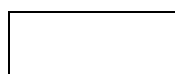
Witness 1



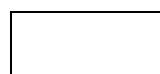
Witness 2



Employer



Witness 1



Witness 2

	<p>Functionality criteria maximum points in respect of each criterion shall be as set out at the bottom of this table.</p> <p>All Tender submission will be evaluated by at least three evaluators against the Table below. Tenderers shall ensure that their tender submissions are sufficiently detailed and that all required information is included in their submissions. Information not provided will result in zero points awarded for the respective item.</p> <p><b>Tender evaluation points</b></p> <p>Tender evaluation points will be allocated as per the Supply Chain Management policy and the Preferential Procurement Policy Framework Act, 2000: Preferential Procurement Regulations, 2017 including the following:</p> <p>The points allocation for this Tender is:</p> <ul style="list-style-type: none"> <li>a) Price: 80</li> <li>b) B-BBEE Status Level of Contribution:20</li> </ul> <p>Regulations of disputes, objections, complaints and queries will be handled in accordance with the Supply Chain Management Policy of ERWAT.</p>
<p><b>F3.17</b></p>	<p><b>Provide copies of the contracts</b></p> <p>The number of paper copies of the signed contract to be provided by the Employer is <b>one</b>.</p>
	<p>The additional conditions of the proposal are:</p> <ol style="list-style-type: none"> <li>1) ERWAT may also request that the Bidder provide written evidence that his financial, labour and resources are adequate for carrying out the project.</li> <li>2) ERWAT reserves the right to appoint a firm of chartered accountants and auditors and / or execute any other financial investigations on the financial resources of any Bidder. The Bidders shall provide all reasonable assistance in such investigations.</li> </ol>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

## 1.1 TECHNICAL / FUNCTIONALITY EVALUATION

Potential service providers will have to achieve a minimum of **75 points out of 100** for their technical proposals before their financial proposals and B-BBEE status are evaluated. This is required so that there is a level of comfort that the potential service provider can deliver the project with the required professionalism and quality.

### 1.1.1 SCORING PROCESS

The Technical / Functional Evaluation Task Team will be established to determine the following:

- Whether or not the Bidder understood the project specifications.
- The bidders experience with similar projects.
- The suitability of the bidder's proposed Plant and Equipment.
- The quality of the methodology proposed.
- The qualifications and experience of the key staff proposed.
- The suitability of Sub-Contractors proposed.

No alteration of technical / functionality proposals will be permitted after the deadline for receipt of bids. Questions may be asked for clarification needed to evaluate their proposals, but bidders would not be permitted to change the substance or price of their bids after bid opening. Requests for clarification and the bidder's responses would be made in writing. No interviews will be conducted in this regard.

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*Contractor*



*Witness 1*



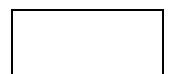
*Witness 2*



*Employer*



*Witness 1*



*Witness 2*

**SCORING CRITERIA FOR CIDB CONTRACTS:**

The score for the Technical / Functionality Evaluation will be calculated in accordance with the table below:

CRITERION	CRITERION DETAILS	POINTS
<p><b>Company Experience</b></p>	<p><b>Company experience in Installation of Pumps, provide completion certificates:</b> Only signed completion certificates and reference letters on the letterheads of the previous client/employer with a clear description of works, contract value, contact person, and contact details of the contact person (day telephone number and company email address) will be accepted.</p> <ul style="list-style-type: none"> <li>• 5 and More Letters/Certificates = 30</li> <li>• 4 Letters/Certificates = 24</li> <li>• 3 Letters/Certificates = 18</li> <li>• 2 Letters/Certificates = 12</li> <li>• 1 Letter/Certificate = 6</li> <li>• No information submitted = 0</li> </ul> <p>Appointment Letters, Contractual Agreements, and Invoices will not be accepted. Each letter should represent the entire works completed not section or plants partially completed.</p>	<p><b>30</b></p>
<p><b>Expertise of key staff</b></p>	<p><b>Expertise of key staff: Bidders to provide testimonials and/ or Curriculum Vitae(s) to prove the relevant experience. No points shall be allocated for 0 – 1 Year experience, including submission of irrelevant experience that does not speak to the Scope of Works for this Contract. Copies of the qualifications must also be attached.</b></p> <p><u>Project Manager/Site Supervisor with a National Diploma Mechanical Engineering: (10)</u></p> <ul style="list-style-type: none"> <li>• No submission/No Experience = 0</li> <li>• 2 – 4 Years' Experience = 3</li> <li>• 4 – 7 Years' Experience = 7</li> <li>• 7 and More Years' Experience = 10</li> </ul> <p><u>Health and Safety Officer with Safety Management Certification: (10)</u></p> <ul style="list-style-type: none"> <li>• No submission\No Experience = 0</li> <li>• 2 – 4 Years' Experience = 3</li> <li>• 4 – 7 Years' Experience = 7</li> <li>• 7 and More Years' Experience = 10</li> </ul> <p><u>Mechanical Fitter with a trade test in Fitting: (10)</u></p> <ul style="list-style-type: none"> <li>• No submission\No Experience = 0</li> <li>• 2 – 4 Years' Experience = 3</li> <li>• 4 – 7 Years' Experience = 7</li> <li>• 7 and More Years' Experience = 10</li> </ul> <p><u>Electrician with a trade test in Electrical Engineering (Heavy Current or MVLV): (10)</u></p> <ul style="list-style-type: none"> <li>• No submission\No Experience = 0</li> <li>• 2 – 4 Years' Experience = 3</li> <li>• 4 – 7 Years' Experience = 7</li> <li>• 7 and More Years' Experience = 10</li> </ul>	<p><b>40</b></p>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

<p><b>Methodology and Project Understanding</b></p> <p>Detailed Comprehensive Methodology that demonstrate Project Understanding which comprises of the following 3 components:</p> <p>(1) Shows detailed explanation of how the works will be carried out.</p> <p>(2) Indicating tools and resources to be used for the entire project life cycle.</p> <p>(3) Quality Control Plan</p>	<p><b>All bidders to submit detailed methodology covering the project objectives, scope of work and deliverables and shows detailed explanation of how the works will be carried out, indicating tools and resources to be used for the entire project life cycle. Relevance and suitability of tools and processes to ensure quality control and assurance in all phases of the project.</b></p>	<p><b>15</b></p>
	<p>Bidder has submitted a detailed Method Statement Inclusive of all 3 components = 15</p>	
	<p>Bidder has submitted a detailed Method Statement Inclusive of 2 components = 10</p>	
	<p>Bidder has submitted the Method Statement Inclusive of 1 components = 5</p>	
	<p>Bidder did not submit (Methodology) = 0</p>	
<p><b>Letters of Support</b></p>	<p>Manufacturer's (Supplier) Statement of Support</p> <ul style="list-style-type: none"> <li>• Letter of support for Self-Priming Pumps = 7</li> <li>• Letter of support for Electrical Panels = 5</li> <li>• Letter of support for Instruments = 3</li> <li>• Irrelevant Letter/No Information Supplied = 0</li> </ul> <p>NB: Letters should come from Original Equipment Manufacturers and/ or Service Agents with proof of being an agent to the OEM. On the Company's Letterhead with a contactable reference.</p>	<p><b>15</b></p>
<p><b>TOTAL</b></p>	<p><b>Bidder must score a minimum of 75 points to be considered for further evaluation</b></p>	<p><b>100</b></p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2





**PROJECT NO: ERW202007/TNDR – 015**  
**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

**T 2.1 LIST OF RETURNABLE DOCUMENTS**

1. Failure to fully complete and sign the relevant returnable documents shall render such a tender offer unresponsive.
2. Bidders shall note that their signatures appended to each returnable form represents a declaration that they vouch for the accuracy and correctness of the information provided, including the information provided by candidates proposed for the specified key positions.
3. Notwithstanding any check or audit conducted by or on behalf of the Employer, the information provided in the returnable documents is accepted in good faith and as justification for entering into a contract with a Bidder. If subsequently any information is found to be incorrect such discovery shall be taken as willful misrepresentation by that Bidder to induce the contract. In such event the Employer has the discretionary right to terminate the contract.

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**THE BIDDER MUST COMPLETE AND SIGN THE FOLLOWING RETURNABLE SCHEDULES:**

**RETURNABLE SCHEDULES REQUIRED FOR TENDER EVALUATION PURPOSES**

MBD 1	INVITATION TO BID
MBD 2	TAX CLEARANCE REQUIREMENTS
MBD 3.1	PRICING STRUCTURE: FIRM PRICES
MBD 4	DECLARATION OF INTEREST
MBD 5	DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)
MBD 6.1	DECLARATION FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS
MBD 6.2	LOCAL CONTENT PRODUCTION
MBD 7.1	CONTRACT FORM: PURCHASE OF GOODS/SERVICES
	PART 1: TO BE COMPLETED BY THE BIDDER
	PART 2: TO BE COMPLETED BY ERWAT
MBD 8	DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES
MBD 9	CERTIFICATE OF INDEPENDENT BID DETERMINATION
FORM A	MUNICIPAL SERVICES, RATES AND TAXES OR RENTAL AGREEMENT WITH LANDLORD:  Copy of Municipal Statement not older than 3 months before date of closing of bid OR Letter from landlord stating that you are renting from his/her property OR a Copy of Lease agreement and Contact details.  Rates and taxes must not be in arrears for longer than 90 (ninety) days of date of closing of bid.
FORM B	NATIONAL TREASURY CENTRALISED SUPPLIER DATABASE
FORM C	AUTHORITY OF SIGNATORY
FORM D	FINANCIAL REFERENCES /BIDDER'S CREDIT RATING AND BANK DETAILS
FORM E	DECLARATION OF GOOD STANDING REGARDING TAX
FORM E	RECORD OF ADDENDA TO TENDER DOCUMENTS
FORM F	CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF OCCUPATIONAL HEALTH AND SAFETY ACT, 1993 (ACT NO
FORM G	OCCUPATIONAL HEALTH AND SAFETY AGREEMENT
FORM H	PREFERENCE SCHEDULE
FORM I	CURRENT CERTIFICATE OF GOOD STANDING FROM COMPENSATION COMMISSIONER
FORM J	PROGRAM OF WORKS/SERVICES

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM K	EXPERTISE OF THE KEY PERSONNEL
FORM L	SANS/SABS/ISO CERTIFICATION OR TQM CERTIFICATION OR OTHER CERTIFICATES REQUIRED IN TERMS OF THE REGULATORY AUTHORITY AS SET OUT IN THE SPECIAL CONDITIONS OF CONTRACT
FORM M	LETTER OF INTENT TO SUBMIT THIRD PARTY LIABILITY INSURANCE AND ALL RISK CONTRACTORS INSURANCE TO COVER THIS CONTRACT
FORM N	COPY OF COMPANY REGISTRATION DOCUMENTS
FORM O	SUB-CONTRACTING AS CONDITION OF TENDER FOR A CONTRACT

**Returnable Documents that will be incorporated into the contract**

C1.1	OFFER PORTION OF FORM OF OFFER AND ACCEPTANCE
C1.2	CONTRACT DATA (PART 2)
C1.3	FORM OF GUARANTEE ( THIRD PARTY LIABILITY AND ALL RISK INSURANCE)

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**T2.1.1 IMPORTANT: Required Returnable Documentation:**

Please ensure that the following supporting documents are attached to your Bid Document. Failure to submit the below mentioned documents will result in disqualification of your bid.

Item	Description of Document/Proof Sought	To be completed by the Bidder: Please fill in Yes or No if Proof/ Documentation attached	For Office Use Only Verified by SCM Official: Please fill in Yes or No if Proof/ Documentation attached
1	A valid Tax Clearance Certificate/SARS issued pin		
2	Certified Copy of ID documents of owners/members/shareholders (see Bidders Information Section).		
3	Copy of Municipal Statement not older than 3 months OR Letter from landlord stating that you are renting from his/her property OR Copy of Lease agreement and Contact details (Statement and arrears should not be older than 3 months)		
4	Current Certificate of Good Standing from Compensation Commissioner		
5	Programme of Works		
6	Expertise of the Key Personnel		
7	Letter of intent to submit Third Party Liability Insurance and All Risk Contractors Insurance to cover this contract		
8	Occupational Health & Safety Plan		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**T2.1.2 Other Returnable Documents required for the evaluation**

Item	Description of Document/Proof Sought	To be completed by the Bidder: Please fill in Yes or No if Proof/ Documentation attached	For Office Use Only Verified by SCM Official: Please fill in Yes or No if Proof/ Documentation attached
1	Copy of Company/ Registration Documents (see Bidders Information Section). – Failure to submit will result in disqualification.		
2	Original or Certified copy of BBBEE Verification certificate from an accredited Verification Agency – failure to submit will result in a zero score for BBBEE Contribution Level Status points awarded.		
3	For companies: A letter from the auditors confirming shareholding percentages. – Failure to submit will result in disqualification.		
4	Audited Financial Statements for the past three financial years - failure to submit this information will result in disqualification		
5	Certificate that there are no outstanding commitments for municipal rates and taxes for more than 30 days – failure to submit this information will result in disqualification.		
6	Proof of CSD registration (Supplier number and unique reference ID) – failure to supply this information will result in disqualification. This tender may not be awarded to a person who is not registered on the CSD database.		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



**PROJECT NO: ERW202007/TNDR – 005**

**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS  
AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY,  
DELIVERY, INSTALL AND COMMISSION**

**T2.2 RETURNABLE SCHEDULES**

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

## **RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES**

### **COMPULSORY ENTERPRISE QUESTIONNAIRE**

The successful bidder will be required to fill in and sign a written Contract Form (MBD7).

Completed Tender documents with attached documents, if any, must be completed in Ink and submitted in a sealed envelope and clearly marked "**CONTRACT NO: ERW202007/TNDR – 015**" to be placed in Tender Box at ERWAT Head Office, Hartebeestfontein Office Park, R25 (Bapsfontein / Bronkhorstspuit), Kempton Park.

*Bidders should ensure that bids are in the tender box at the closing time and date, including couriered documents. Any late documents will not be accepted for consideration.*

The box is generally open during office hours: 07:00 – 17:00 Mondays to Fridays.

**N.B** .: *Bidders must ensure that they submit the full bidding document with all the pages, all requested information completed and signed, including all supporting documents in the areas provided.*

*All bids must be submitted on the official forms – (not to be re-typed). Failure to complete the document in full may result in disqualification.*

*Bids completed in pencil, re-typed or where correction tape/fluid is used will be regarded as invalid bids.*

THIS BID IS SUBJECT TO THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT

THIS BID WILL BE EVALUATED AND ADJUDICATED ACCORDING TO THE FOLLOWING CRITERIA:

1. Relevant specifications and technical proposals
2. Value for money
3. Capability to execute the contract
4. PPPFA & related regulations (including BBBEE)
5. Standard conditions of bidding
6. Special conditions of contract
7. General conditions of contract
8. Supporting documents where required

*NB: NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE (see definition on MBD 4 attached)*

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

**In the case of a Joint Venture – This page is to be completed and submitted in respect of each partner**

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

<b>NAME OF ENTERPRISE</b>					
<b>PHYSICAL ADDRESS:</b>					
<b>POSTAL ADDRESS:</b>					
<b>CONTACT PERSON</b>					
TEL NO: _____		CELL NO: _____			
FAX NO: _____		EMAIL: _____			
<b>COMPANY REGISTRATION NUMBER:</b>					
<b>VAT NUMBER:</b>		<b>TAX REF NUMBER:</b>			
<b>CENTRALISED SUPPLIER DATABASE (CSD) NUMBER:</b>		<u>MAAA</u>			
<b>CIDB REGISTRATION NUMBER</b>					
<b>CIDB GRADING</b>					
<b>ERWAT VENDOR NUMBER (NOT COMPULSORY):</b>					
<b>TOTAL BID PRICE/VALUE (INC. VAT) CARRIED OVER FROM BOQ/PRICING SCHEDULE:</b>		R _____ INCLUDING VAT			
<b>TOTAL NUMBER OF ITEMS OFFERED</b>					
<b>* PREFERENCE POINTS CLAIMED AS PER FORM MBD 6.1</b>	<b>B-BBEE RATING [LEVEL _____]</b>	<b>VALID B-BBEE CERTIFICATE ATTACHED</b>	Yes	No	
<b>ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS/SERVICES/WORKS OFFERED?</b>			Yes	No	
<b>DISABLED [ _____%]</b>	<b>WOMEN [ _____%]</b>	<b>YOUTH [ _____%]</b>			

**\*IF YES, WHO WAS THE CERTIFICATE ISSUED BY?**

A VERIFICATION AGENCY ACCREDITED BY THE SOUTH AFRICAN NATIONAL ACCREDITATION SYSTEM (SANAS)

A REGISTERED AUDITOR

A SWORN AFFIDAVIT

*(tick applicable block)*

**(A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE OR SWORN AFFIDAVIT (SEE MBD6.1) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE)**

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



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

YES		NO	
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NAME AND SURNAME:

\_\_\_\_\_

SIGNATURE OF BIDDER:

\_\_\_\_\_

CAPACITY UNDER WHICH THIS BID IS SIGNED:

\_\_\_\_\_

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

**ANY ENQUIRIES REGARDING THE BIDDING PROCEDURE AND TECHNICAL INFORMATION MAY BE DIRECTED TO:**

**SUPPLY CHAIN BIDDING PROCEDURES:**

CONTACT PERSON: Ms. Phumzile Mdlalose

CONTACT DETAILS: (TEL) 011 929 7000

E-MAIL: [publictenders@erwat.co.za](mailto:publictenders@erwat.co.za)

**TECHNICAL QUERIES MAY BE DIRECTED TO:**

CONTACT PERSON: Mr. Sifiso Sibiya

CONTACT DETAILS: (TEL) 011 929 7000

E-MAIL: [sifiso.sibiya@erwat.co.za](mailto:sifiso.sibiya@erwat.co.za)

\_\_\_\_\_

Contractor

\_\_\_\_\_

Witness 1

\_\_\_\_\_

Witness 2

\_\_\_\_\_

Employer

\_\_\_\_\_

Witness 1

\_\_\_\_\_

Witness 2

**MBD 2**

**TAX CLEARANCE CERTIFICATE REQUIREMENT**

**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.**

**NEED A TAX CLEARANCE? GO ONLINE**

- Electronically request your Tax Compliance Status which will include a unique PIN which you can provide to any third party (if requested) to enable them to verify your tax compliance status online via e-Filing.
- Request a TCC via e-filing which will give you the option to print the TCC.
- Or request a TCC at a SARS branch where a SARS agent will be able to print or e-mail the TCC to you.
- To register for e-filing go to: [www.sarsefiling.co.za](http://www.sarsefiling.co.za)

A tax compliant status is a holistic view of your tax compliance level across all your registered tax types.

**Is your tax compliance status green?**

- Ensure all tax returns are submitted
- No outstanding debt owed to SARS
- SARS has been notified of any change of residential or business address
- Your business is registered for all required tax types e.g. PAYE, VAT, income tax.

Check your tax compliance status by logging onto your e-filing profile and viewing your “my compliance Profile” and rectify any non-compliance.

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**THIRD PARTY AUTHORISATION TO VIEW BIDDER TCS:**

To assist with the evaluation process of your bid we require your consent to check your SARS tax compliance via e-filing. Kindly complete the table below authorising MLM to check TCC for tender purposes only.

<b>TCS Details</b>	
<b>Tax payer name</b>	
<b>Trading Name</b>	
<b>Purpose of request</b>	TENDER
<b>Request Reference number</b>	
<b>PIN</b>	
<b>PIN EXPIRY DATE</b>	

**Note: Bidders may attach their Tax compliance status printout to the bidding document.**

I, \_\_\_\_\_ in my capacity as \_\_\_\_\_ duly appointed as authorised signatory holder, hereby grant **ERWAT** permission to check the TCC status of \_\_\_\_\_ and it is duly understood that the search is for tender purposes only.

\_\_\_\_\_  
NAME AND SURNAME

\_\_\_\_\_  
DESIGNATION

\_\_\_\_\_  
DATE

\_\_\_\_\_  
SIGNATURE

**FOR ERWAT OFFICE USE ONLY:**  
VERIFIED  YES /  NO

\_\_\_\_\_  
*Contractor*

\_\_\_\_\_  
*Witness 1*

\_\_\_\_\_  
*Witness 2*

\_\_\_\_\_  
*Employer*

\_\_\_\_\_  
*Witness 1*

\_\_\_\_\_  
*Witness 2*

**MBD 3.1**

**PRICING SCHEDULE – FIRM PRICES**  
**(PURCHASES)**

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

**NAME OF BIDDER:** \_\_\_\_\_

**BID NUMBER:** ERW202007/TNDR – 015

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

**TIME:** \_\_\_\_\_

OFFER TO BE VALID FOR **ONE HUNDRED AND TWENTY CONSECUTIVE (120) DAYS** FROM THE CLOSING DATE OF BID.

- REQUIRED BY: **EKURHULENI WATER CARE COMPANY**
- AT: **INFRASTRUCTURE PLANNING AND PROJECTS**
- BRAND AND MODEL \_\_\_\_\_ OFFERED
- COUNTRY OF ORIGIN \_\_\_\_\_
- DOES THE OFFER COMPLY WITH ALL SPECIFICATIONS? **YES/NO\***
- IF NOT TO SPECIFICATION, INDICATE DEVIATION(S) AND SUBMIT FULL TECHNICAL DETAIL AND DRAWINGS ON DEVIATIONS

\_\_\_\_\_

- DELIVERY PERIOD: \_\_\_\_\_ DAYS/WEEKS/MONTHS
- DELIVERY BASIS: \_\_\_\_\_ FIRM/NOT FIRM

\_\_\_\_\_

*Contractor*

\_\_\_\_\_

*Witness 1*

\_\_\_\_\_

*Witness 2*

\_\_\_\_\_

*Employer*

\_\_\_\_\_

*Witness 1*

\_\_\_\_\_

*Witness 2*



in the service of the state and who may be involved with the evaluation and or adjudication of this bid?

**YES / NO**

If so, furnish particulars.

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4.11 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**

If so, furnish particulars.

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4.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?

**YES / NO**

If so, furnish particulars.

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4.13 Are any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?

**YES / NO**

If so, furnish particulars.

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4.14 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**

If so, furnish particulars.

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---

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*



**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

\_\_\_\_\_

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*



**MBD 6.1**

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

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

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

**1. GENERAL CONDITIONS**

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

- the 80/20 system for requirements with a Rand value below R50 000 000 (all applicable taxes included).
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

1.2 The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and 80/20 preference point system shall be applicable to this tender.

1.3 Preference points for this bid shall be awarded for:

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

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

<b>POINTS</b>	
<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 submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

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

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

## 2. DEFINITIONS

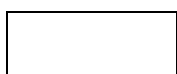
- (a) **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- (b) **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment, issued in terms 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);
- (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:
  - i. B-BBEE Status level certificate issued by an authorized body or person;
  - ii. A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
  - iii. 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. POINTS AWARDED FOR PRICE

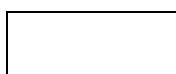
### 3.1 THE 80/20 PREFERENCE POINT SYSTEMS

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

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



Contractor



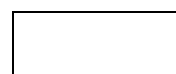
Witness 1



Witness 2



Employer



Witness 1



Witness 2

Where:

- Ps = Points scored for comparative price of bid under consideration
- Pt = Comparative price of bid under consideration
- Pmin = Comparative price of lowest acceptable bid

**4. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION**

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

B-BBEE Status Level of Contributor	Number of points (80/20 system)	Kindly tick the applicable level and points
1	20	
2	18	
3	14	
4	12	
5	8	
6	6	
7	4	
8	2	
Non-compliant contributor	0	

**5. BID DECLARATION**

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

**6. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPHS 1.4 AND 4.1**

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

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 4.1 and must be substantiated by relevant proof of B-BBEE status level of contributor.

**7. SUB-CONTRACTING**

7.1 Will any portion of the contract be sub-contracted?

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

(Tick applicable box)

7.1.1 If yes, indicate:

- i) What percentage of the contract will be subcontracted \_\_\_\_\_%?
- ii) The name of the sub-contractor \_\_\_\_\_

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

iii) The B-BBEE status level of the sub-contractor \_\_\_\_\_

iv) Whether the sub-contractor is an EME or QSE  
(Tick applicable box)

YES		NO	
-----	--	----	--

v) Specify, by ticking the appropriate box, for subcontracting with an enterprise in terms of Preferential Procurement Regulations,2017:

**7.1.2 BIDDERS DECLARATION FOR CONFORMING TO THE FOLLOWING ADVANCED DESIGNATED GROUPS:**

NO.	ADVANCE DESIGNATED GROUPS	B-BBEE Accreditation	SIGNATURE
1	an EME or QSE		

**8. DECLARATION WITH REGARD TO COMPANY/FIRM**

8.1 Name of company/firm: \_\_\_\_\_

8.2 VAT registration number \_\_\_\_\_

8.3 Company registration number: \_\_\_\_\_

**8.4 TYPE OF COMPANY/ FIRM**

- Partnership/Joint Venture / Consortium
  - One-person business/sole propriety
  - Close corporation
  - Company
  - (Pty) Limited
- [TICK APPLICABLE BOX]

**8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**8.6 COMPANY CLASSIFICATION**

- Manufacturer
  - Supplier
  - Professional service provider
  - Other service providers, e.g. transporter, etc.
- [TICK APPLICABLE BOX]

**8.7 MUNICIPAL INFORMATION**

Municipality where business is situated: \_\_\_\_\_

Registered Account Number: \_\_\_\_\_

Stand Number: \_\_\_\_\_

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

8.8 Total number of years the company/firm has been in business: \_\_\_\_\_

8.9 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBE status level of contributor indicated in paragraphs 1.4 and 6.1 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 paragraphs 1.4 and 6.1, 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 contributor has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
  - (a) disqualify the person from the bidding process;
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person’s conduct;
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
  - (d) 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
  - (e) forward the matter for criminal prosecution.

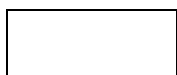
**WITNESSES:**

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_

\_\_\_\_\_  
**SIGNATURE(S) OF BIDDER(S)**

**ADDRESS:** \_\_\_\_\_

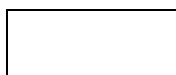
**DATE:** \_\_\_\_\_



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

**NB – BIDDERS MUST TAKE NOTE THAT ERWAT ONLY ACCEPTS THE FOLLOWING FORMATS OF SWORN AFFIDAVIT FOR EME’S OR QSE’S WHERE YOUR ANNUAL TURNOVER IS LESS THAN R10 MILLION.**

**NO SWORN AFFIDAVITS WILL BE ACCEPTED WHERE A BEE CERTIFICATE HAS BEEN ISSUED TO A BIDDER.**

**WHERE A BEE CERTIFICATE AND SWORN AFFIDAVIT HAS BEEN ATTACHED, THE ORIGINAL OR CERTIFIED BEE CERTIFICATE WILL TAKE PRESENDECE AND POINTS WILL BE AWARDED BASED ON THE CERTIFICATE ONLY.**

**Please note that that the form is completed only once annually, as the certificate is valid for a period of one year from date of signature of affidavit.**

---



*Contractor*



*Witness 1*



*Witness 2*



*Employer*



*Witness 1*



*Witness 2*

**PART A - SWORN AFFIDAVIT: B-BBEE EXEMPTED MICRO ENTERPRISE**

I, the undersigned,

<b>Full name &amp; Surname</b>	
<b>Identity number</b>	

Hereby declare under oath as follows:

- The contents of this statement are to the best of my knowledge a true reflection of the facts.
- I am a member / director / owner of the following enterprise and am duly authorised to act on its behalf:

<b>Enterprise Name</b>	
<b>Trading Name</b>	
<b>Registration Number</b>	
<b>Enterprise Address</b>	

- I hereby declare under oath that:
  - The enterprise is \_\_\_\_\_% black owned;
  - The enterprise is \_\_\_\_\_% black woman owned;
  - Based on the management accounts and other information available on the \_\_\_\_\_ financial year, the income did not exceed R10,000,000.00 (ten million rands);
  - Please confirm on the table below the B-BBEE level contributor, **by ticking the applicable box.**

100% black owned	<b>Level One</b> (135% B-BBEE procurement recognition)	
More than 51% black owned	<b>Level Two</b> (125% B-BBEE procurement recognition)	
Less than 51% black owned	<b>Level Four</b> (100% B-BBEE procurement recognition)	

- The entity is an empowering supplier in terms of **the dti** Codes of Good Practice.
- I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the owners of the enterprise which I represent in this matter.
- The sworn affidavit will be valid for a period of 12 months from the date signed by commissioner.

**Deponent Signature:** \_\_\_\_\_

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

**Commissioner of Oaths Signature & Stamp:** \_\_\_\_\_

**COMMISSIONER OF OATHS STAMP**

--

*Contractor*

--

*Witness 1*

--

*Witness 2*

--

*Employer*

--

*Witness 1*

--

*Witness 2*

**PART B - SWORN AFFIDAVIT: B-BBEE QUALIFYING SMALL ENTERPRISE**

I, the undersigned,

<b>Full name &amp; Surname</b>	
<b>Identity number</b>	

Hereby declare under oath as follows:

- The contents of this statement are to the best of my knowledge a true reflection of the facts.
- I am a member / director / owner of the following enterprise and am duly authorised to act on its behalf:

<b>Enterprise Name</b>	
<b>Trading Name</b>	
<b>Registration Number</b>	
<b>Enterprise Address</b>	

- I hereby declare under oath that:
  - The enterprise is \_\_\_\_\_% black owned;
  - The enterprise is \_\_\_\_\_% black woman owned;
  - Based on the management accounts and other information available on the \_\_\_\_\_ financial year, the income did not exceed R50,000,000.00 (Fifty Million Rands);
  - The entity is an Empowering Supplier in terms of Clause 3.3 (a) or (b) or (c) or (d) or as amended 3.3 (e) **(select one)** \_\_\_\_\_ of the DTI Codes of Good Practice.
  - Please confirm on the table below the B-BBEE level contributor, **by ticking the applicable box.**

100% black owned	<b>Level One</b> (135% B-BBEE procurement recognition)	
More than 51% black owned	<b>Level Two</b> (125% B-BBEE procurement recognition)	
(a) At least 25% of cost of sales, (excluding labour costs and depreciation) must be procurement from local producers or suppliers in South Africa; for the services industry include labour costs but capped at 15%.	(b) Job Creation – 50% of jobs created are for black people, provided that the number of black employees in the immediate prior verified B-BBEE measurement is maintained	
(c) At least 25% transformation of raw material / beneficiation which include local manufacturing, production and /or assembly, and/ or packaging	(d) At least 12 days per annum of productivity deployed in assisting QSE and EME beneficiaries to increase their operation or financial capacity	
(e) At least 85% of labour costs should be paid to South African employees by service industry entities.		

- I know and understand the contents of this affidavit and I have no objection to take the prescribed oath and consider the oath binding on my conscience and on the owners of the enterprise which I represent in this matter.
- The sworn affidavit will be valid for a period of 12 months from the date signed by Commissioner.

**Deponent Signature:** \_\_\_\_\_

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

**Commissioner of Oaths Signature & Stamp:** \_\_\_\_\_

**COMMISSIONER OF OATHS STAMP**

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



**MBD 6.2**

**LOCAL PRODUCTION: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

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, 2017 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, 2017 (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_development/ip.jsp) at no cost.**

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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**

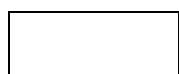
- 2.1. “**bid**” includes written price quotations, advertised competitive bids or proposals;
- 2.2. “**bid price**” price offered by the bidder, excluding value added tax (VAT);
- 2.3. “**contract**” means the agreement that results from the acceptance of a bid by an organ of state;
- 2.4. “**designated 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.

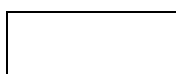
**3. The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:**

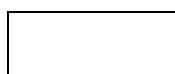
The stipulated minimum threshold percentage for local production and content for this project is:

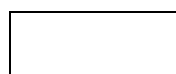
<b>Electrical/Telecom Cables:</b>	<b><u>90%</u></b>
<b>Valves</b>	<b><u>70%</u></b>

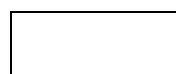
**Please refer to *Annexure* attached hereto for full details.**

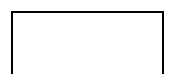
  
Contractor

  
Witness 1

  
Witness 2

  
Employer

  
Witness 1

  
Witness 2

4. Does any portion of the services, works or goods offered 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.

--

Contractor

--

Witness 1

--

Witness 2

--

Employer

--

Witness 1

--

Witness 2

**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. ERW202007/TNDR-015**

**ISSUED BY: ERWAT**

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/industrial\\_development/ip.jsp](http://www.thedti.gov.za/industrial_development/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.
- (a) 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;

\_\_\_\_\_  
*Contractor*

\_\_\_\_\_  
*Witness 1*

\_\_\_\_\_  
*Witness 2*

\_\_\_\_\_  
*Employer*

\_\_\_\_\_  
*Witness 1*

\_\_\_\_\_  
*Witness 2*

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

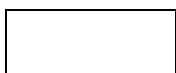
**DATE:** \_\_\_\_\_

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

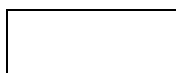
**DATE:** \_\_\_\_\_

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

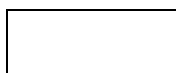
**DATE:** \_\_\_\_\_



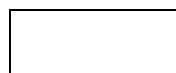
Contractor



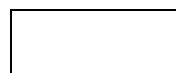
Witness 1



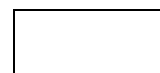
Witness 2



Employer



Witness 1



Witness 2

**MBD 8**

**DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

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

Item	Question	Yes	No
4.1	<p>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?</p> <p>(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).</p> <p>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.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.1.1	If so, furnish particulars:		
4.2	<p>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)?</p> <p>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.</p>	Yes <input type="checkbox"/>	No <input type="checkbox"/>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.3.1	If so, furnish particulars:		
4.4	Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the company / 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"/>
4.4.1	If so, furnish particulars:		
4.5	Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes <input type="checkbox"/>	No <input type="checkbox"/>
4.7.1	If so, furnish particulars:		

**CERTIFICATION**

I, THE UNDERSIGNED (FULL NAME \_\_\_\_\_)

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

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

**SIGNATURE ON BEHALF OF BIDDER**

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**MBD 9**

**CERTIFICATE OF INDEPENDENT BID DETERMINATION**

1. This Municipal Bidding Document (MBD) 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. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
  - a. take all reasonable steps to prevent such abuse;
  - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
  - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
4. This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid-rigging.
5. In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid:

---

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*



**CERTIFICATE OF INDEPENDENT BID DETERMINATION**

I, the undersigned, in submitting the accompanying bid:

**DESCRIPTION: REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

**PROJECT NO: ERW202007/TNDR – 015**

in response to the invitation for the bid made by:

**EKURHULENI WATER COMPANY (ERWAT)**

(Name of Municipality/Entity)

do hereby make the following statements that I certify to be true and complete in every respect:

I certify, on behalf of \_\_\_\_\_ (Name of Bidder) that:

1. I have read and I understand the contents of this Certificate;
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word “competitor” shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation;
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.
7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation)
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit, a bid;
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid; or

\_\_\_\_\_  
Contractor

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

\_\_\_\_\_  
Employer

\_\_\_\_\_  
Witness 1

\_\_\_\_\_  
Witness 2

- (f) bidding with the intention not to win the bid.
- 8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
- 9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
- 10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No. 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No. 12 of 2004 or any other applicable legislation.

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

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

\_\_\_\_\_  
**POSITION**

\_\_\_\_\_  
**NAME OF BID**

\_\_\_\_\_  
*Contractor*

\_\_\_\_\_  
*Witness 1*

\_\_\_\_\_  
*Witness 2*

\_\_\_\_\_  
*Employer*

\_\_\_\_\_  
*Witness 1*

\_\_\_\_\_  
*Witness 2*

**FORM A**

**MUNICIPAL SERVICES, RATES AND TAXES CLEARANCE CERTIFICATE FOR SUPPLY CHAIN MANAGEMENT PURPOSE**

The purpose of this form is to obtain prove that municipal services, rates and taxes of the service provider are **not more than three months in arrears** with the relevant municipality / landlord in the municipal area where the service provider conduct his / her business. Kindly attach the latest municipal rates and taxes account not older than 3 months from date of advertising of bid.

**Where bidders are not owners of a property and cannot submit a copy of the municipal account, the following must be completed together with a Rental/lease agreement:**

<b>( TO BE COMPLETED BY THE LANDLORD)</b>		
Name of the Landlord:		
Property Physical Address:		
<b>Please tick below</b>		<b>Yes</b>
Rental:	in arrears for more than 3 months	<input type="checkbox"/>
Municipal services:	in arrears for more than 3 months	<input type="checkbox"/>
Landlord Signature:		
Date: _____		
<b>Landlord's business stamp here (where applicable)</b>		

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**FORM B**

**CONFIRMATION OF REGISTRATION ON NATIONAL TREASURY CENTRALISED SUPPLIER DATABASE**

CONFIRMATION OF CSD VENDOR INFORMATION		
1	VENDOR NAME	
2	CSD APPROVED NUMBER	M _____
3	COMPANY REG NUMBER	
4	COMPANY TAX NUMBER	
5	COMPANY VAT NUMBER	
6	COMPANY BEE LEVEL	
7	CONTACT PERSON	
8	OFFICE TEL. NUMBER	
9	OFFICE FAX NUMBER	
10	E-MAIL ADDRESS	
11	CELL NUMBER	

I, \_\_\_\_\_ in my capacity as \_\_\_\_\_  
being the

authorized signatory, hereby declare that the above information is true and correct.

\_\_\_\_\_  
**AUTHORISED SIGNATORY DESIGNATION**

\_\_\_\_\_  
**NAME AND SURNAME**

\_\_\_\_\_  
**RESOLUTION DATE: AUTHORISED SIGNATORY APPOINTMENT**

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

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

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**FORM C**

**AUTHORITY OF SIGNATORY TO SIGN BIDS**

The bid shall be signed by a person duly authorised thereto and the following is applicable:

Company: A resolution by its board of directors authorising a director or other official of the company to sign the documents on behalf of the company.

Close Corporation: A resolution by its members authorising a member or other official of the corporation to sign the documents on each member’s behalf.

Partnership: All the partners shall sign the documents unless one partner or a group of partners has been authorised to sign on behalf of each partner, in which case proof of such authorisation shall be included in the bid.

Joint Venture: Should two or more firms jointly submit a bid, the bid shall be accompanied by the document of establishment of the joint venture, duly registered and authenticated by a notary public or other official deputed to witness sworn statements, which defines the conditions under which the joint venture will function, the period of duration, the persons authorised to represent the Joint Venture and who are obligated thereby, the participation of the several firms forming the joint venture, and well as any other information necessary to permit a full appraisal of its functioning.

One Man Concern: This shall be clearly stated and all documents shall be signed accordingly.

---

Details of person responsible for Bid Document process:

Name :

.....

Contact number :

.....

Office address :

.....

Signatories for close corporations and companies shall confirm their authority by attaching to this form a **duly signed and dated original or certified copy on the Company Letterhead** of the relevant resolution of their members or their board of directors, as the case may be.

---

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

---

**PRO-FORMA FOR COMPANIES AND CLOSE CORPORATIONS:**

"By resolution of the board of directors passed on *(date)* \_\_\_\_\_

Prof./Dr/Mr/Ms \_\_\_\_\_

has been duly authorized to sign all documents in connection with the Bid Document for Contract Number \_\_\_\_\_ and any Contract which may arise there from on behalf of \_\_\_\_\_

**(BLOCK CAPTIALS)**

**SIGNED ON BEHALF OF THE COMPANY** \_\_\_\_\_

**IN HIS CAPACITY AS** \_\_\_\_\_

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

**FULL NAMES OF SIGNATORY** \_\_\_\_\_

**AS WITNESSES:** 1. \_\_\_\_\_

2. \_\_\_\_\_

---

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**PRO-FORMA FOR JOINT VENTURES:  
Certificate of Authority for Joint Ventures**

We, the undersigned, are submitting this Bid Document offer in Joint Venture and hereby authorise Mr/Ms \_\_\_\_\_, authorised signatory of the company \_\_\_\_\_, acting in the capacity of lead partner, to sign all documents in connection with the Bid Document offer an any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
		Signature: ..... Name: ..... Designation: .....
		Signature: ..... Name: ..... Designation: .....
		Signature: ..... Name: ..... Designation: .....
		Signature: ..... Name: ..... Designation: .....

**N.B.: THE DULY SIGNED AND DATED ORIGINAL OR CERTIFIED COPY OF AUTHORITY OF SIGNATORY ON COMPANY LETTERHEAD SHOULD BE INCLUDED IN THE RETURNABLE DOCUMENTS PACK.**

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**FORM D**

**FINANCIAL REFERENCES/ BIDDERS'S CREDIT RATING AND DETAILS OF BIDDERS**  
**BANKING INFORMATION**

**Notes to Bidder:**

1. The Bidder shall attach to this form a letter from the bank confirming the bank account and details. Failure to provide the required letter with the Bid Document submission shall render the Bidder's offer unresponsive.
2. The Bidder's banking details as they appear below shall be completed.
3. In the event that the Bidder is a joint venture enterprise, details of all the members of the joint venture shall be similarly provided and attached to this form.

<b>BANK NAME:</b>										
<b>ACCOUNT NAME:</b> (e.g. ABC Civil Construction cc)										
<b>ACCOUNT TYPE:</b> (e.g. Savings, Cheque etc)										
<b>ACCOUNT NO:</b>										
<b>ADDRESS OF BANK:</b>										
<b>CONTACT PERSON:</b>										
<b>TEL. NO. OF BANK / CONTACT:</b>										
How long has this account been in existence:	<table border="1" style="display: inline-table; border-collapse: collapse;"> <tr> <td style="padding: 2px;">0-6 months</td> <td style="width: 30px; text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;">7-12 months</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;">13-24 months</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td style="padding: 2px;">More than 24 months</td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>	0-6 months	<input type="checkbox"/>	7-12 months	<input type="checkbox"/>	13-24 months	<input type="checkbox"/>	More than 24 months	<input type="checkbox"/>	(Tick which is appropriate)
0-6 months	<input type="checkbox"/>									
7-12 months	<input type="checkbox"/>									
13-24 months	<input type="checkbox"/>									
More than 24 months	<input type="checkbox"/>									

\_\_\_\_\_  
**Signature on behalf of Bidder**

**N.B.: ORIGINAL LETTER FROM BANK OR BANK STATEMENT (NOT OLDER THAN THREE MONTHS) SHOULD BE INCLUDED IN THE RETURNABLE DOCUMENTS PACK.**

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*





**FORM F**

**CERTIFICATE OF AUTHORITY FOR SIGNATORY TO AGREEMENT IN TERMS OF THE 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:** \_\_\_\_\_

\_\_\_\_\_

*Contractor*

\_\_\_\_\_

*Witness 1*

\_\_\_\_\_

*Witness 2*

\_\_\_\_\_

*Employer*

\_\_\_\_\_

*Witness 1*

\_\_\_\_\_

*Witness 2*

**FORM G**

**OCCUPATIONAL HEALTH AND SAFETY AGREEMENT /PLAN (WHERE APPLICABLE)**

---

**Contractor**

**Witness 1**

**Witness 2**

**Employer**

**Witness 1**

**Witness 2**

**FORM H**

**CERTIFIED COPY OF ID DOCUMENT/S OF OWNERS/MEMBERS/SHAREHOLDERS**

---

**Contractor**

**Witness 1**

**Witness 2**

**Employer**

**Witness 1**

**Witness 2**

**FORM I**

**CURRENT CERTIFICATE OF GOOD STANDING FROM COMPENSAION COMMISSIONER**

---

**Contractor**

**Witness 1**

**Witness 2**

**Employer**

**Witness 1**

**Witness 2**

**FORM J**

**PROGRAMME OF WORKS**

**Work Plan**

**(Detailed Programme of works and Project associated cash flow)**

Note: For programme and cash flow:

Five (No5) components must be stated in writing/or be visible on a programme and cash flow spreadsheet;

- (1) Milestones,
- (2) Critical Path
- (3) Resource allocation
- (4) Task dependency map
- (5) Monthly project cash flow, (cash flow must be in-line with the project cost and programme of works).

---

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**FORM K**

**EXPERTISE OF THE KEY PERSONNEL**

1. **Personnel / Individual adequacy:** Portfolio of evidence (CV) should be provided. Indicating similar projects / jobs by the personnel stated below
2. **Qualifications:** Portfolio of evidence should be provided for the key staff with supporting Qualifications and detailed organogram

<b>Position on this Contract</b>	<b>Full Name</b>	<b>Qualifications</b>	<b>No. of Relevant Years of Experience</b>
<b>Project Manager or Site Supervisor</b>			
<b>Health &amp; Safety Officer</b>			
<b>Mechanical Fitter</b>			
<b>Electrician</b>			

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**FORM L**

**PROOF OF RELEVANT REGULATORY REQUIREMENT**

**Bidder must have the following CIDB grading.**

- 1. CIDB: 5 ME or 4 ME PE**

---

**Contractor**

**Witness 1**

**Witness 2**

**Employer**

**Witness 1**

**Witness 2**



**FORM M**

**LETTER OF INTENT TO SUBMIT THIRD PARTY LIABILITY INSURANCE AND ALL RISK CONTRACTORS INSURANCE TO COVER THIS CONTRACT**

Bidders are required to ensure the safekeeping and insurance of items in place until such time that the works/goods or services are handed over to ERWAT and ERWAT has signed off thereon.

---

**Contractor**

**Witness 1**

**Witness 2**

**Employer**

**Witness 1**

**Witness 2**

**FORM N**

**INLCUDE THE FOLLOWING DOCUMENTS IN THE SUPPORING DOCUMENTS  
FILE TO BE SUBMITTED WITH THE ORIGINAL BIDDING DOCUMENT**

1. **FOR CLOSED CORPORATIONS**

CK1 or CK2 as applicable (Founding Statement).

2. **FOR COMPANIES**

- A copy of the Certificate of Incorporation
- Certified Copies of the ID's of the Directors and
- The shareholders' register.

3. **FOR JOINT VENTURE AGREEMENTS**

- Copy of the Joint Venture Agreement between all the parties,
- As well as the documents in (1) or (2) and (6) of each Joint Venture member.

4. **FOR PARTNERSHIP**

- Certified Copies of the ID's of the partners

5. **ONE-PERSON BUSINESS / SOLE TRADER/SOLE PROPRIETOR**

- Certified Copy of ID

---

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**FORM O**

**BACKGROUND AND WORK EXPERIENCE**

Briefly summarize the Company's experience with regard to pump installations in industrial plants/ and/ or municipal wastewater treatment plants. Select up to five projects completed in South Africa that are similar in scope and magnitude to this project. For each project completed, attach a Certificate of Completion and/ or Reference Letter.

	EMPLOYER	EMPLOYER'S REPRESENTATIVE (NAME, TEL, E-MAIL)	PROJECT TITLE AND DESCRIPTION OF WORK Inc. CAPACITY OF THE WORKS	VALUE OF WORK (R- Rand)	COMPLETION DATE
PROJECT 1					
PROJECT 2					
PROJECT 3					
PROJECT 4					
PROJECT 5					

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**FORM P**

**PRE-QUALIFYING CONDITION OF TENDER BELOW R30 MILLION**

Regulation 4 of the Preferential Procurement Policy Act, 2000 (Act 5 of 2000) – Preferential Procurement Regulations, 2017 provides the following:

**1. Pre-qualification criteria for preferential procurement:**

*“4. (1) If an organ of state decides to apply pre-qualifying criteria to advance certain designated groups, that organ of state must advertise the tender with a specific tendering condition that only one or more of the following tenderers may respond-*

*(a) a tenderer having a stipulated minimum B-BBEE status level of contributor;*

*(b) an EME or QSE;*

*(c) a tenderer subcontracting a minimum of 30% to-*

*(i) an EME or QSE which is at least 51% owned by black people;*

*(ii) an EME or QSE which is at least 51% owned by black people who are youth;*

*(iii) an EME or QSE which is at least 51% owned by black people who are women;*

*(iv) an EME or QSE which is at least 51% owned by black people with disabilities;*

*(v) an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships;*

*(vi) a cooperative which is at least 51% owned by black people;*

*(vii) an EME or QSE which is at least 51% owned by black people who are military veterans;*

*(viii) an EME or QSE.*

*(2) A tender that fails to meet any pre-qualifying criteria stipulated in the tender documents is an unacceptable tender.”*

**2. Bidders attention is drawn to the definitions applicable to this section as set out in the MBD 6.1 form.**

**3. BIDDERS DECLARATION FOR CONFORMING TO THE FOLLOWING ADVANCED DESIGNATED GROUPS:**

NO.	ADVANCE DESIGNATED GROUPS	B-BBEE Accreditation	SIGNATURE
1	an EME or QSE		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



**PROJECT NO: ERW202007/TNDR – 015**

**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

**C. AGREEMENTS AND CONTRACT DATA**

**Part C1: Agreements and Contract Data**

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Form of Guarantee
- C1.4 Occupational Health and Safety
- C1.5 Corporate Governance Breach Clause

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*



**PROJECT NO: ERW202007/TNDR – 015**

**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

**C1 AGREEMENTS AND CONTRACT DATA**

**Part C1: Agreements and Contract Data**

- C1.1 Form of Offer and Acceptance
- C1.2 Contract Data
- C1.3 Form of Guarantee
- C1.4 Occupational Health and Safety
- C1.5 Corporate Governance Breach Clause

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**C1.1 FORM OF OFFER AND ACCEPTANCE**

**OFFER**

The Employer, identified in the Acceptance signature block, has solicited offers to enter in contract in respect of the following works: **PROJECT NO: ERW202007/TNDR – 015 REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

The Bidder, identified in the Offer signature block below, has examined the documents listed in the Tender Data and addenda thereto as listed in the Tender Schedules, and by submitting this Offer has accepted the Conditions of Tender.

By the representative of the Bidder, deemed to be duly authorised, 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 FOR ALL THE WORKS (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 Tender Data, whereupon the Bidder becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

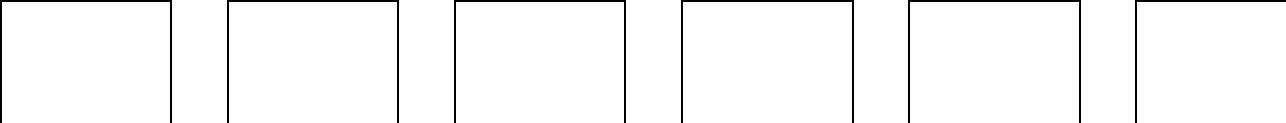
Signature(s) .....

Name(s) .....

Capacity .....

For the Bidder .....  
(Name and address of organisation)

Name & Signature  
Of Witness .....  
Name Date

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

**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:

- Agreements and Contract Data (which includes this Agreement)
- Pricing Data
- Scope of Work
- Site information

And drawings and documents or parts thereof, which may be incorporated by reference into above stated terms.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender 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, which must be duly signed by the authorised representative(s) of both parties.

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 at or just after the date this Agreement comes into effect. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Bidder receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Bidder (now Contractor) within five 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(s) .....

Name(s) .....

Capacity .....

For the Bidder .....  
(Name and address of organisation)

Name & Signature  
Of Witness .....  
Name Date

---

<i>Contractor</i>	<i>Witness 1</i>	<i>Witness 2</i>	<i>Employer</i>	<i>Witness 1</i>	<i>Witness 2</i>



**SCHEDULE OF DEVIATIONS**

**Notes:**

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

**1 Subject** .....

Details.....

.....

**2 Subject** .....

Details.....

.....

**3 Subject** .....

Details.....

.....

**4 Subject** .....

Details.....

.....

**5 Subject** .....

Details.....

.....



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

By the duly authorised representatives signing this Schedule of Deviations, 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 Tender Data and addenda thereto as listed in the Tender Schedules, as well as any confirmation, clarification or change 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 Tender 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.

**FOR THE BIDDER:**

Signature(s) .....

Name(s) .....

Capacity .....

For the Bidder .....  
(Name and address of organisation)

Name & Signature

Of Witness .....  
Name Date

**FOR THE EMPLOYER**

Signature(s) .....

Name(s) .....

Capacity .....

For the Employer .....  
(Name and address of organisation)

Name & Signature

Of Witness .....  
Name Date



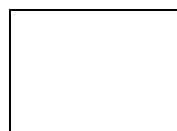
Contractor



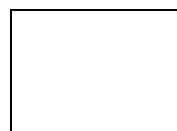
Witness 1



Witness 2



Employer



Witness 1



Witness 2

**C1.2 CONTRACT DATA**

**GENERAL CONDITIONS OF CONTRACT**

This Contract will be based on the “General Conditions of Contract for Construction Works *General Conditions of Contract 2015 (GCC 2015, Third Edition)*”

Documents can be ordered from SAICE who can be contacted through their website [www.saice.org.za](http://www.saice.org.za). Physical address: SAICE House, Block 9, Thornhill Office Park, Bekker Street, Midrand, Johannesburg. Telephone number: (011) 805 5947.

It is agreed that the only variations from the General Conditions of Contract 2015 are those set out hereafter under "Special Conditions of Contract".

**SPECIAL CONDITIONS OF CONTRACT**

These Special Conditions of Contract (SCC) form an integral part of the Contract. The Special Conditions of Contract shall amplify, modify or supersede, as the case may be, the General Conditions of Contract 2015 to the extent specified below, and shall take precedence and shall govern.

The clauses of the Special Conditions hereafter are numbered "SCC" followed in each case by the number of the applicable clause or subclause in the General Conditions of Contract 2015, and the applicable heading, or (where a new special condition that has no relation to the existing clauses is introduced) by a number that follows after the last clause number in the General Conditions, and an appropriate heading.

**AMENDMENTS TO THE GENERAL CONDITIONS OF CONTRACT**

**DATA PROVIDED BY THE EMPLOYER**

Clause	Data
	<p><b>Definitions</b></p> <p>The definitions contained in Clause 1.1 are hereby amended and/or supplemented as follows:</p>
<b>SCC 1.1.1.13</b>	The Defects Liability Period is <b>12</b> months from the date of the Certificate of Completion.
<b>SCC 1.1.1.14</b>	The Works shall be completed within <b>40</b> weeks from the commencement date.
<b>SCC 1.1.1.15</b> <b>1.2.1.2</b>	<p>The Name of the Employer is <b>ERWAT</b></p> <p>The address of the Employer is:</p> <p>The Managing Director Hartebeestfontein Office Park</p>



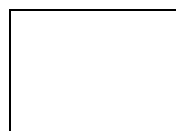
Contractor



Witness 1



Witness 2



Employer



Witness 1

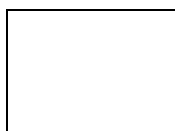


Witness 2

Clause	Data
	R25 (Bapsfontein/Bronkhorstspruit) Kempton Park  Telephone: 011 929 7000
<b>SCC 3.2.3</b>	<b>Add the following:</b>  Approval of the Employer is required for:  i). Cessions – issuing of cessions by the Contractor is expressly prohibited except if and when prior written approval of the Employer under the signature of the Municipal Manager for the issue of the cession has been requested and obtained ii). Use of contingencies – for all items for which rates have not been approved in terms the contract. iii). Extension of Time – extension of time can only be granted by the Employer.
<b>SCC 4.1.2</b>	<b>Add the following:</b>  “When completed, the parts of the works designed by the Contractor, to the extent specified in the Contract, shall be fit for the purposes for which the Works are intended”
<b>SCC 4.4.1</b>	<b>Add the following:</b>  The Contractor is to submit to the Employer’s Agent in writing a request for appointment of a particular sub-contractor. Accompanying this request is to be the full detail of the sub-contractor, including: <ul style="list-style-type: none"> <li>▪ Previous experience</li> <li>▪ Work which will be sub-contracted to him/her</li> <li>▪ Approximate value of the work to be sub-contracted</li> </ul> Before the Employer’s Agent in terms of Clause 6.10 hereof issues any certificate that includes any payment in respect of work done or goods supplied by any sub-contractor appointed in accordance with the provisions of Clause 4.4 of the General Conditions of Contract for Construction works (2015, Third Edition), he shall be entitled to call upon the Contractor to furnish reasonable proof that all payments (less retention moneys) included in previous certificates in respect of the work or goods of such sub-contractors have been made or discharged by the Contractor, in default of which, unless the Contractor: <ul style="list-style-type: none"> <li>▪ Informs the Employer’s Agent in writing that he has reasonable cause for withholding or refusing such payment; and</li> <li>▪ Submits to the Employer’s Agent reasonable proof that he has so informed such sub-contractor in writing.</li> </ul>



Contractor



Witness 1



Witness 2



Employer




Witness 1




Witness 2


Clause	Data
<p><b>SCC 4.9.1</b></p>	<p><b>Add the following:</b></p> <p>“All equipment on site shall be in a good working order, and is to be in such a condition that it can achieve production rates which are typical of the industry standards.</p> <p>Should any equipment, in the opinion of the Employer’s Agent, be substandard or breaks down frequently to such an extent that it affects the progress on the project, the Employer’s Agent may instruct the Contractor to replace such equipment.”</p>
<p><b>SCC 5.3.1</b></p>	<p><b>Add the following to 5.3.1:</b></p> <p>The documentation required before Commencement of the Works are:</p> <ul style="list-style-type: none"> <li>• Health &amp; Safety Plan (Refer to Cl. 4.3)</li> <li>• Initial Programme (Refer to Cl. 5.6)</li> <li>• Security (Deed of Guarantee) (refer to Cl. 6.2)</li> <li>• Insurances (Refer to Cl. 8.6)</li> </ul>
<p><b>SCC 5.3.1</b></p>	<p><b>Add the following:</b></p> <p>Commencement of the Works shall be within <b>14</b> days from the Commencement Date.</p>
<p><b>SCC 5.3.3</b></p>	<p><b>Add the following:</b></p> <p>The time to the documentation required before Commencement of the Works execution is <b>28</b> days</p>
<p><b>SCC 5.4.1</b></p>	<p><b>Add the following:</b></p> <p>The Commencement Date shall be the date the contractor is given possession of site.</p>
<p><b>SCC 5.8.1</b></p>	<p><b>Add the following:</b></p> <p>The special non-working days are the official builder’s holiday plus all statutory public holidays. The year-end break commences on 15 December 2021 and ends on 10 January 2021.</p>
<p><b>SCC 5.12</b></p>	<p><b>Add the following:</b></p> <p>A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Employer’s Agent, all progress on an item or items of work on the critical path of the working programme of the contractor has been brought to a halt.</p> <p>Delays on working days only (based on a five-day working week) will be taken into account for the extension of time, but the Contractor shall make provision in his programme of work for an expected delay of "n" working days caused by normal rainy weather, for which he will not receive any extension of time, where "n" equals 5 days.</p>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

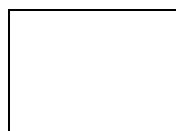
Clause	Data
	<p>Extension of time during working days will be granted to the degree to which actual delays, as defined above, exceed the number of "n" workings days.</p>
<p><b>SCC 5.12.2.1</b></p>	<p><b>Add the following:</b></p> <p>Extensions of time in respect of clause 5.12 in respect of abnormal rainfall shall be calculated using the following formula for each calendar month or part thereof:</p> $V = (Nw - Nn) + \frac{(Rw - Rn)}{X}$ <p>Where:</p> <p>V = Extension of time in calendar days in respect of the calendar month under consideration.</p> <p>Nw = Actual number of days during the calendar month on which a rainfall of 10 mm or more has been recorded.</p> <p>Nn = Average number of days in the relevant calendar month, as derived from existing rainfall records, on which a rainfall of 20mm or more has been recorded for the calendar month.</p> <p>Rw = Actual average rainfall in mm recorded for the calendar month under consideration.</p> <p>Rn = Average rainfall in mm for the calendar month as derived from existing rainfall records as stated in the Site Information.</p> <p>For purposes of the Contract Nn, Rn, X and Y shall have those values assigned to them in the South African Weather Service's rainfall records of the nearest station to the site.</p> <p>If V is negative and its absolute value exceeds Nn, then V shall be taken as equal to minus Nn.</p> <p>The total extension of time shall be the algebraic sum of all monthly totals for the period under consideration, but if the total is negative the time for completion shall not be reduced due to subnormal rainfall. Extensions of time for part of a month shall be calculated using pro rata values of Nn and Rn.</p> <p>This formula does not take account flood damage which could cause further or concurrent delays and will be treated separately as far as extension of time is concerned.</p> <p>The factor (Nw – Nn) shall be considered to represent a fair allowance for variations from the average in the number of days during which rainfall exceeds 10 mm. The factor (Rw-Rn) shall be considered to represent a fair allowance for variations from the average in the number of days during which the rainfall did not exceed 10 mm but wet conditions prevented or disrupted work.</p> <p>For the purpose of applying the formula, accurate rain gauging shall be taken at a suitable point on the Site and the Contractor shall at his own expense, take all necessary precautions to ensure that rain gauges cannot be interfered with by unauthorized persons.</p>



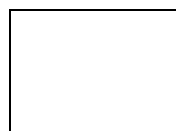
Contractor



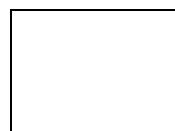
Witness 1



Witness 2



Employer




Witness 1



Witness 2


Clause	Data
SCC 5.13.1	<p><b>Add the following:</b></p> <p>The penalty for failing to complete the works is <b>R6 500.00 per day</b>.</p>
SCC 6.2.1	<p><b>Add the following:</b></p> <p>The Security to be provided by the Contractor shall be the Performance guarantee liability of <b>10 %</b> of the Contract Sum. This guarantee shall be delivered within 21 days of the Commencement Date.</p>
SCC 6.2.2	<p><b>Add the following:</b></p> <p>The Form of Guarantee is to contain the wording of the pro-forma document included in the General Conditions of Contract (Pro-forma included in section C1.3 to this document).</p> <p>Form of Guarantee: construction guarantee: the successful bidder will be required to submit a construction guarantee that is equal to 10% of the total contract value all-inclusive and must be submitted to the SCM office within 10 working days from date of appointment. Only original guarantees issued by an accredited and registered financial institution will be accepted and will only be released on final completion of works. “</p>
SCC 6.9.1	<p>All materials shall comply with the requirements of the South African Bureau of Standards, and shall bear the official standardization mark. Where SABS standard does not exist for a certain material, or a material does not bear the official standardization mark, the Client's Representatives approval of such material must be gained before use thereof.</p>
SCC 6.10.1.5	<p><b>Add the following:</b></p> <p>The percentage advance on materials not yet built into the Permanent Works but received on site is <b>80 %</b>.</p>
SCC 6.10.3	<p><b>Add the following:</b></p> <p>The percentage retention on the amounts due to the Contractor is <b>5%</b>.</p>
SCC 6.10.3	<p><b>Add the following:</b></p> <p>The limit of retention money is <b>5 %</b> of the contract value.</p>
SCC 7.2.1	<p><b>Add the following:</b></p> <p>All materials shall comply with the requirements of the South African Bureau of Standards, and shall bear the official standardization mark. Where SABS/SANS/ISO standard does not exist for a certain material, or a material does not bear the official standardization mark, the Employer's Agents approval of such material must be gained before use thereof.</p>
SCC 8.6.1.5	<p><b>Add the following:</b></p> <p>In addition to the insurances required in terms of the GCC Clauses 8.6.1.1 to 8.6.1.4 the following is also required:</p>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

Clause	Data
	<p><b>Add to 8.6.1.</b></p> <p>The Contractor shall insure in the joint names of the Employer, the Contractor and all Sub-Contractors (whether nominated or otherwise) for an amount of R2 million per occurrence against the liability stated in Sub-Clause 8.6.1.</p>
<p><b>SCC 8.6.1.1.2</b></p>	<p><b>Add the following:</b></p> <p>The value of the materials supplied by the Employer to be included in the insurance sum is nil.</p>
<p><b>SCC 8.6.1.1.3</b></p>	<p><b>Add the following:</b></p> <p>The required insured amount to cover professional fees for repairing damaged infrastructure and equipment and loss of time on the construction schedule is to be 15% of the contract value.</p>
<p><b>SCC 8.6.1.3</b></p>	<p><b>Add the following:</b></p> <p>The limit of indemnity for liability insurance is 10 % of contract value. Public Liability Insurance to a minimum of R20 million to be provided.</p>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2



**PART 2: DATA PROVIDED BY THE CONTRACTOR**

Sub- Clause	Data
1.1.17	<p>The Contractor is:</p> <p>Name: .....</p> <p>The Address of the Contractor is:</p> <p>Address (physical): ..... ..... .....</p> <p>Address (postal): ..... .....</p> <p>Telephone: .....</p> <p>Facsimile: .....</p> <p>E-mail: .....</p>
1.1.22	<p>Contractors Representative</p> <p>Name: .....</p> <p>Telephone: .....</p> <p>Facsimile: .....</p> <p>E-mail: .....</p>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

**C1.3 FORM OF GUARANTEE**

**PROJECT NO: ERW202007/TNDR – 005**

**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

WHEREAS .....

at .....  
*(Hereinafter referred to as "the Employer")*

Entered into, on the ..... day of ..... 20 ....., at .....

a Contract with .....  
at .....  
*(Hereinafter referred to as "the Contractor")*

for the construction of .....

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

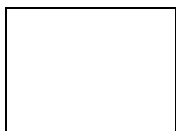
AND WHEREAS .....  
has/ have at the request of the Contractor, agreed to give such security;

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

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorised and/or contemplated by the terms of the said contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the Due 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 Due Completion Date which the Employer may make, give, concede or agree to under the said Contract.
2. The Employer shall be entitled, without reference to us, to release any securities held by it, and to give time to or compound or make any other arrangement with the Contractor.
3. 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



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

shall remain in full force and effect until all such claims have been paid or liquidated.

- 4. Our total liability hereunder shall not exceed the sum of (R .....).
- 5. We hereby choose *domicilium citandi et executandi* for all purposes arising hereof at

IN WITNESS WHEREOF this guarantee has been executed by us at ..... on this day of .. 20.....

As witnesses:

- 1. .... Signature
- 2. .... Signature

Duly authorised to sign on behalf of.....

Address

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



Contractor



Witness 1



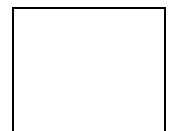
Witness 2



Employer



Witness 1



Witness 2

**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 EKURHULENI WATER CARE COMPANY (ERWAT) (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 REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSIONS and has accepted a Bid 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 WITNESSED 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 Approval Certificate issued in terms of Clause 5.16 of the General Conditions of Contract 2010 (hereinafter referred to as "the GCC"), as contained in the Contract Documents pertaining to this Contract, or

[Signature box]

Contractor

[Signature box]

Witness 1

[Signature box]

Witness 2

[Signature box]

Employer

[Signature box]

Witness 1

[Signature box]

Witness 2

(b) The date of termination of the Contract in terms of Clauses 9.1, 9.2, 9.3 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 mandatories

(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 Clause 8.4 of the GCC (as amended by Special Condition of Contract) and all relevant requirements of the above-mentioned Volume, 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; the safety procedures and rules of the employer 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.



Contractor



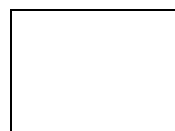
Witness 1



Witness 2



Employer



Witness 1



Witness 2

- 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 hereof the parties are to 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) .....



Contractor



Witness 1



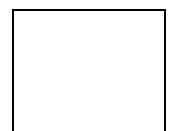
Witness 2



Employer



Witness 1



Witness 2

**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 : .....






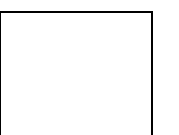
DATE : .....

SIGNATURE OF SIGNATORY : .....

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

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



					
<i>Contractor</i>	<i>Witness 1</i>	<i>Witness 2</i>	<i>Employer</i>	<i>Witness 1</i>	<i>Witness 2</i>

**C1.5 CORPORATE GOVERNANCE BREACH CLAUSE**

1. Ekurhuleni Water Care Company (“ERWAT”) requires [insert name of company] (“the Company”) to comply, mutatis mutandis with the Code contained in the King III Report and Code of Good Corporate Governance (below “the Code”) for the term of this Agreement and any extension thereof.
2. The Company irrevocably undertakes and agrees that it will, mutatis mutandis, comply with the Code for the term of this Agreement and any extensions thereof.
3. The Company acknowledges and agrees that:
  - 3.1 It is essential that the Company complies with the Code, in order to discharge all of its obligations under and in terms of the Agreement in a proper, efficient and professional manner, and
  - 3.2 ERWAT will be prejudiced and may suffer damages in the event of the Company failing to comply with the Code.
4. The Company shall be required, within seven (7) days of the end of each calendar month during the term of this Agreement (and any extensions thereof), to furnish ERWAT with a written certificate, signed by the directors of the Company [alternatively members of the Close Corporation], certifying that the Company has complied with the provisions of the Code during the preceding months.
5. ERWAT shall have the right, without assigning any reason therefore and at any time, to appoint either the Institute of Directors of South Africa or a firm of chartered accountants or attorneys, to conduct an audit of the business and affairs of the Company in order to ascertain whether the Company is indeed complying with the terms of the Code.

To this end, the Company irrevocably undertakes and agrees to co-operate fully with the party conducting such investigation for and on behalf of ERWAT and to make available to such party all such documentation and all such information as the investigation party may require to fully discharge its obligations under and in terms hereof and to report fully to ERWAT.

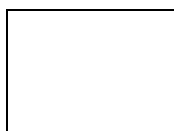
In the event of it being found that the Company is not complying with the Code, then ERWAT shall be entitled to (a) regard this as a breach of the agreement and (b) recover the costs of the investigation, on an attorney and client basis, from the Company. In the event of it being found that the Company is, in fact, discharging its obligations under and in terms of the Code, then ERWAT shall bear the costs incurred in such investigation. In either of the foregoing events, the Company shall be entitled to receive a copy of the written report once same has been concluded by the investigating party.

6. In the event of the Code being replaced with another Code (or similar document), then such replacement document shall replace the Code and a reference to the Code shall be deemed to be a reference to such replacement document. The reference to the Code shall be deemed to include any statutory codification of directors’ obligations and duties which may be enacted in the Republic of South Africa at any time in the future.
7. In entering into this Agreement, the Company represents and warrants to ERWAT that it is familiar with the Code, that it fully understands and appreciates the rights, obligations and recommendations therein contained and agrees to be bound thereby as herein recorded.

Initial: \_\_\_\_\_



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2





## PROJECT NO: ERW202007/TNDR – 015

# REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION

### C2 PRICING DATA

C2.1 Pricing Instructions

C2.2 Bill of Quantities

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

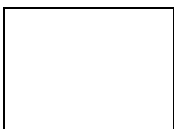


## PROJECT NO: ERW202007/TNDR – 015

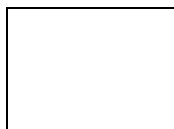
# REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION

### C2.1 PRICING INSTRUCTIONS

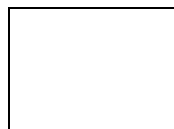
- 1 The applicable Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings shall be read in conjunction with the Bill of Quantities.
- 2 The Bill comprises items covering the Contractor's profit and costs of general liabilities and of the construction of Temporary and Permanent Works.  
  
Although the Tenderer is at liberty to insert a rate of his own choosing for each item in the Bill, he should note the fact that the Contractor is entitled, under various circumstances, to payment for additional work 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 the Contractor inserted in the Bill.
- 3 Descriptions in the Bill of Quantities are abbreviated and may differ from those in the Standardized and Project Specifications. No consideration will be given to any claim by the Contractor submitted on such a basis.
- 4 Unless stated to the contrary, items are measured net in accordance with the Drawings without any allowance having been made for waste.
- 5 The amounts and rates to be inserted in the Bill of Quantities shall be the full inclusive amounts to the Employer for the work described under the several items. Such amounts shall cover all the costs and expenses that may be required in and for the construction of the work described, and shall cover the costs of all general risks, profits, taxes (but excluding value-added tax), liabilities and obligations set forth or implied in the documents on which the Tender is based.
- 6 The quantities set out in the schedule of quantities are only approximate quantities. The quantities of work finally accepted and certified for payment, and not the quantities given in the schedule of quantities, will be used to determine payments to the contractor.
- 7 An amount or rate shall be entered against each item in the Bill of Quantities, whether or not quantities are stated. An item against which no amount or rate is entered will be considered to be covered by the other amounts or rates in the Bill.



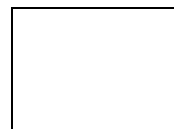
Contractor



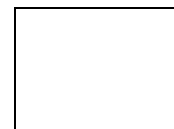
Witness 1



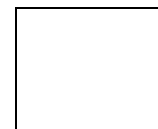
Witness 2



Employer



Witness 1



Witness 2

The Tenderer shall also fill in a rate against the items where the words "rate only" appear in the amount column. Although no work is foreseen under these items and no quantities are consequently given in the quantity column, the tendered rates shall apply should work under these items actually be required.

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

The tendered rates, prices and sums shall, subject only to the provisions of the applicable Conditions of Contract, remain valid irrespective of any change in the quantities during the execution of the Contract.

- 8 The quantities of work as measured and accepted and certified for payment in accordance with the applicable Conditions of Contract, and not the quantities stated in the Bill of Quantities, will be used to determine payments to the Contractor. The validity of the Contract shall in no way be affected by differences between the quantities in the Bill of Quantities and the quantities certified for payment.

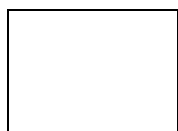
**Ordering of materials** is not to be based on the Bill of Quantities, but only on information issued for construction purposes.

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

- Unit : The unit of measurement for each item of work as defined in the Standardized, Project or Particular Specifications
- Quantity : The number of units of work for each item
- Rate : The payment per unit of work at which the Tenderer Tenders to do the work
- Amount : The quantity of an item multiplied by the tendered rate of the (same) item
- Sum : An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications or elsewhere, but of which the quantity of work is not measured in units

- 10 The units of measurement indicated in the Bill of Quantities are metric units. The following abbreviations may appear in the Bill 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



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

m <sup>3</sup>	=	cubic metre
m <sup>3</sup> -km	=	cubic metre-kilometre
kW	=	kilowatt
kN	=	kilo Newton
kg	=	kilogram
t	=	ton (1 000 kg)
%	=	per cent
MN	=	mega Newton
MN-m	=	mega Newton-metre
PC Sum	=	Prime Cost Sum
Prov Sum	=	Provisional Sum
GSM	=	Global System for Mobile Communication

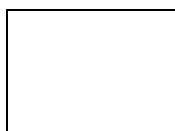
11. Payment for items which are designated to be constructed labour-intensively (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.
12. Rates tendered for BOQ items are deemed to include for all required tools, equipment, plant, materials, labour and supervision necessary to complete that bill item. Off cuts and wastage are to be included in the tendered rate.
13. Mistakes made by the Tenderer in completion of the BOQ shall not be erased or covered with correcting fluid. A line shall be drawn through the incorrect entry and the correct entry shall be written above the deletion and initialled by the Tenderer. Failure to observe this Condition may lead to the Tender being disqualified.
14. By nature, a Design and Build Contract BOQ will contain a significant amount of sums. In order to facilitate payment during the Design Build period, it is in the Contractors interest to append a detailed Bill of Quantity for each sum detailing what the sum is made up of.
15. Bidders are required to price for the items requested and include all direct and indirect fees (e.g. Transportation and Packaging).  
Please note that all quantities stated in the Schedule of rates of this bid document are estimated quantities (indicative only and not guaranteed).  
Due to the nature of this commodity, the bid document will only reflect a quantity of 1 (One) next to each line item. This quantity of 1 (One) is not an indication that ERWAT only intends to buy one of each product or make use of a service once.

However, the quantity of 1 (One) is not an indication that ERWAT is under any obligation to procure all of the indicated products or services stated in the Schedule of rates during the duration of the contract.

Invoicing and payment will be done on actual measured works/services rendered, signed off by the bidder and ERWAT's representative.



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2



**PROJECT NO: ERW202007/TNDR – 015**

**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS  
AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY,  
DELIVERY, INSTALL AND COMMISSION**

**C2.2 BILL OF QUANTITIES**

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**1. Ancor Water Care Works - Bill of Quantity**

<b>BILL OF QUANTITIES</b>					
<b>ANCOR WATER CARE WORKS</b>					
<b>SECTION 1: PRELIMINARY AND GENERAL</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>TOTAL PRICE</b>
<b>Occupational Health and Safety Requirements</b>					
1	Induction of all sub-contractors	Sum			
2	Development of the Occupational Health and Safety File (Including Updating and Maintaining)	Each	1.00		
3	Health and Safety Officer	Each	1.00		
4	Information Boards and Signs including danger tapes as well as barricades (During Execution)	Sum			
<b>Planning, Execution and Quality Requirements</b>					
5	Factory Testing of all equipment covered by this contract including quality control.	Sum			
6	Bi-Weekly Progress Reports for the during of the Contract and 4x Close-Out Report with O & M Manual, SOPs (Soft and Hard Copies) including Drawings (in both .pdf and .dwg formats)	Sum			
7	Training for Pumps: Design, Operations, and Maintenance for Plant Personnel recognised within the SAQA National Qualification Framework	Hours	40.00		
<b>Equipment Hire</b>					
8	Mobile Diesel Pump & Auxiliaries (Including Layflats)	Sum			
9	Combination Truck (Super Sucker)	Sum			
10	Lifting Equipment (Crane) & Accessories	Sum			
<b>SECTION 1: GENERAL TOTAL (Ancor WCW)</b>					

Contractor

Witness 1

Witness 2

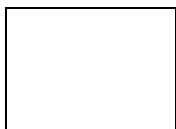
Employer

Witness 1

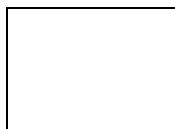
Witness 2

**SECTION 2: MECHANICAL & ELECTRICAL**

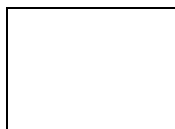
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (From Preliminary and General Total)</b>				
	<b>SUPPLY AND DELIVERY - The following equipment including the preparation and submission of drawings and documents as detailed by the specifications:</b>				
1	Complete Self-Priming Pumps (Sludge Transfer), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	4		
2	11 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Sludge Transfer Pumps)	each	4		
3	75 mm Diameter Pipes for the Sludge Transfer Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Supply and Delivery of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 75mm)	each	4		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 75mm)	each	4		
8	Non – Return Ball Type Valve (75mm)	each	4		
9	Base Plates	each	4		
10	Power Cables (Approx. 120 m) to suit the Proposed Electric Motors	each	4		
11	Control Cables (Approx. 120 m) to suit the Proposed Electric Motors	each	4		
12	11 kW Electrical Soft Starter	each	4		
13	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	4		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	4		



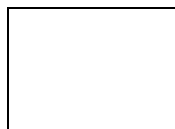
Contractor



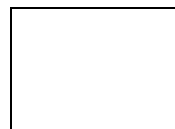
Witness 1



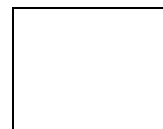
Witness 2



Employer

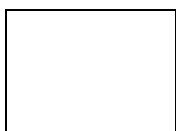


Witness 1

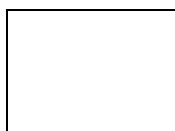


Witness 2

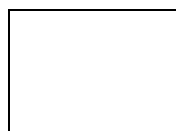
15	Pressure Gauges (including fittings)	each	8		
16	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	2		
17	Complete Self-Priming Pump (Wash Water), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	1		
18	11 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Wash Water Pump)	each	1		
19	100 mm Diameter Pipes for the Wash Water Pump (Including fittings, bends, wyes, supports, flanges and couplings)	sum			
20	Provisional Sum for item No. 19 for Supply and Delivery of Pipes	Prov. Sum	15%		
21	Nitrile Rubber Gaskets	Sum			
22	Non – Rising Spindle Wedge Gate Valve (Suction - 100 mm)	each	1		
23	Non – Rising Spindle Wedge Gate Valve (Discharge - 100 mm)	each	1		
24	Non – Return Ball Type Valve (100 mm)	each	1		
25	Base Plate	each	1		
26	Power Cables (Approx. 250 m) to suit the Proposed Electric Motors	each	1		
27	Control Cables (Approx. 120 m) to suit the Proposed Electric Motors	each	4		
28	11 kW Electrical Soft Starter	each	1		
29	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	1		
30	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	1		



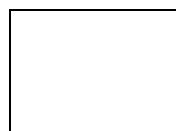
Contractor



Witness 1



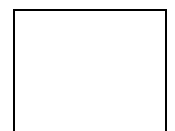
Witness 2



Employer



Witness 1



Witness 2



31	Pressure Gauges (including fittings)	each	2		
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (Supply and Delivery Total)</b>				
	<b>ERECTION AND INSTALLATION Handling, including double handling if stored, erection, installation, quality assurance, and providing competent as well as experienced personnel to carry out the work as per this contract.</b>				
1	Complete Self-Priming Pumps (Sludge Transfer), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	4		
2	11 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Sludge Transfer Pumps)	each	4		
3	75 mm Diameter Pipes for the Sludge Transfer Pumps (Including fittings, bends, wyes, supports, flanges and couplings)	sum			
4	Provisional Sum for item No. 3 for Installation of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction – 75 mm)	each	4		
7	Non – Rising Spindle Wedge Gate Valves (Discharge – 75 mm)	each	4		
8	Non – Return Ball Type Valve (75 mm)	each	4		
9	Base Plates	each	4		
10	Power Cables (Approx. 120 m) to suit the Proposed Electric Motors	each	4		
11	Control Cables (Approx. 120 m) to suit the Proposed Electric Motors	each	4		
12	11 kW Electrical Soft Starter	each	4		



Contractor



Witness 1




Witness 2



Employer



Witness 1



Witness 2


13	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	4		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	4		
15	Pressure Gauges (including fittings)	each	8		
16	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	2		
17	Complete Self-Priming Pump (Wash Water), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	1		
18	11 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Wash Water Pump)	each	1		
19	100 mm Diameter Pipes for the Wash Water Pump (Including fittings, bends, wyes, supports, flanges and couplings)	sum			
20	Provisional Sum for item No. 19 for Installation of Pipes	Prov. Sum	15%		
21	Nitrile Rubber Gaskets	Sum			
22	Non – Rising Spindle Wedge Gate Valve (Suction - 100 mm)	each	1		
23	Non – Rising Spindle Wedge Gate Valve (Discharge - 100 mm)	each	1		
24	Non – Return Ball Type Valve (100 mm)	each	1		
25	Base Plate	each	1		
26	Power Cables (Approx. 250 m) to suit the Proposed Electric Motors	each	1		
27	Control Cables (Approx. 120 m) to suit the Proposed Electric Motors	each	4		
28	11 kW Electrical Soft Starter	each	1		
29	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	1		




Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

30	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	1		
31	Pressure Gauges (including fittings)	each	2		
32	Commissioning and Hand Over	Sum			
33	Alterations and Integration of existing mechanical, electrical and civil work	PC Sum			<b>R 150 000.00</b>
		<b>SECTION 2: MECHANICAL &amp; ELECTRICAL ( Ancor WCW) TOTAL</b>			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**2. Carl Grundling Water Care Works - Bill of Quantity**

BILL OF QUANTITIES					
CARL GRUNDLING WATER CARE WORKS					
SECTION 1: PRELIMINARY AND GENERAL					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
<b>Occupational Health and Safety Requirements</b>					
1	Induction of all sub-contractors	Sum			
2	Development of the Occupational Health and Safety File (Including Updating and Maintaining)	Each	1.00		
3	Health and Safety Officer	Each	1.00		
4	Information Boards and Signs including danger tapes as well as barricades (During Execution)	Sum			
<b>Planning, Execution and Quality Requirements</b>					
5	Factory Testing of all equipment covered by this contract including quality control.	Sum			
6	Bi-Weekly Progress Reports for the during of the Contract and 4x Close-Out Report with O & M Manual, SOPs (Soft and Hard Copies) including Drawings (in both .pdf and .dwg formats)	Sum			
7	Training for Pumps: Design, Operations, and Maintenance for Plant Personnel recognised within the SAQA National Qualification Framework	Hours	40.00		
<b>Equipment Hire</b>					
8	Mobile Diesel Pump & Auxiliaries (Including Layflats)	Sum			
9	Combination Truck (Super Sucker)	Sum			
10	Lifting Equipment (Crane) & Accessories	Sum			
<b>SECTION 1: GENERAL TOTAL (Carl Grundling WCW)</b>					

Contractor

Witness 1

Witness 2

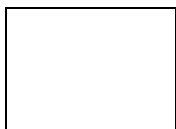
Employer

Witness 1

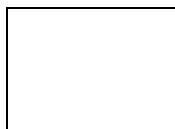
Witness 2

**SECTION 2: MECHANICAL & ELECTRICAL**

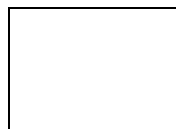
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (From Preliminary and General Total)</b>				
	<b>SUPPLY AND DELIVERY - The following equipment including the preparation and submission of drawings and documents as detailed by the specifications:</b>				
1	Complete Self-Priming Pumps (Irrigation), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	2		
2	15 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Irrigation Pumps)	each	2		
3	100 mm Diameter Pipes for the Irrigation Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Supply and Delivery of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 100mm)	each	2		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 100mm)	each	2		
8	Non – Return Ball Type Valve (100mm)	each	2		
9	Base Plates	each	2		
10	Power Cables (Approx. 100 m) to suit the Proposed Electric Motors	each	2		
11	Control Cables (Approx. 100 m) to suit the Proposed Electric Motors	each	2		
12	15 kW Electrical Soft Starter	each	2		
13	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	2		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	2		



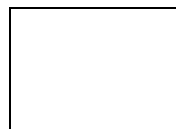
Contractor



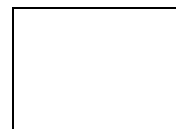
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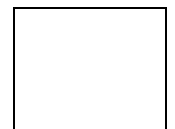
Witness 2



Employer

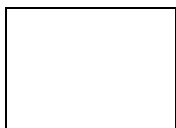


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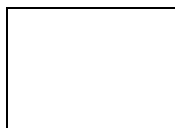


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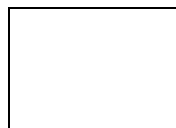
15	Pressure Gauges (including fittings)	each	4		
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (Supply and Delivery Total)</b>				
	<b>ERECTION AND INSTALLATION Handling, including double handling if stored, erection, installation, quality assurance, and providing competent as well as experienced personnel to carry out the work as per this contract.</b>				
1	Complete Self-Priming Pumps (Irrigation), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	2		
2	15 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Irrigation Pumps)	each	2		
3	100 mm Diameter Pipes for the Irrigation Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Supply and Delivery of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 100mm)	each	2		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 100mm)	each	2		
8	Non – Return Ball Type Valve (100mm)	each	2		
9	Base Plates	each	2		
10	Power Cables (Approx. 100 m) to suit the Proposed Electric Motors	each	2		
11	Control Cables (Approx. 100 m) to suit the Proposed Electric Motors	each	2		
12	15 kW Electrical Soft Starter	each	2		



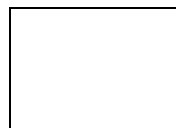
Contractor



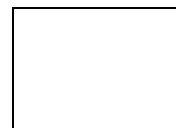
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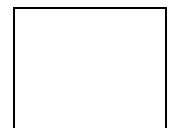
Witness 2



Employer



Witness 1



Witness 2

13	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	2		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	2		
15	Pressure Gauges (including fittings)	each	4		
16	Commissioning and Hand Over	Sum			
17	Alterations and Integration of existing mechanical, electrical and civil work	PC Sum			<b>R 80 000.00</b>
		<b>SECTION 2: MECHANICAL &amp; ELECTRICAL ( Carl Grundling WCW) TOTAL</b>			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**3. Dekema Water Care Works - Bill of Quantity**

BILL OF QUANTITIES					
DEKEMA WATER CARE WORKS					
SECTION 1: PRELIMINARY AND GENERAL					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
<b>Occupational Health and Safety Requirements</b>					
1	Induction of all sub-contractors	Sum			
2	Development of the Occupational Health and Safety File (Including Updating and Maintaining)	Each	1		
3	Health and Safety Officer	Each	1		
4	Information Boards and Signs including danger tapes as well as barricades (During Execution)	Sum			
<b>Planning, Execution and Quality Requirements</b>					
5	Factory Testing of all equipment covered by this contract including quality control.	Sum			
6	Bi-Weekly Progress Reports for the during of the Contract and 4x Close-Out Report with O & M Manual, SOPs (Soft and Hard Copies) including Drawings (in both .pdf and .dwg formats)	Sum			
7	Training for Pumps: Design, Operations, and Maintenance for Plant Personnel recognised within the SAQA National Qualification Framework	Hours	40		
8	Pump Specialist to confirm process unit flow rates and design specifications, produce report before procurement of equipment	each	1		
<b>Equipment Hire</b>					
9	Mobile Diesel Pump & Auxiliaries (Including Layflats)	Sum			
10	Combination Truck (Super Sucker)	Sum			
11	Lifting Equipment (Crane) & Accessories	Sum			
<b>SECTION 1: GENERAL TOTAL (Dekema WCW)</b>					

Contractor

Witness 1

Witness 2

Employer

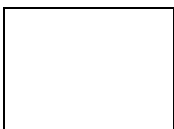
Witness 1

Witness 2

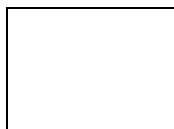


**SECTION 2: MECHANICAL & ELECTRICAL**

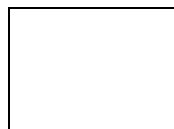
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD</b>				
	<b>SUPPLY AND DELIVERY</b> The following equipment including the preparation and submission of drawings and documents as detailed by the specifications:				
1	Complete Self-Priming Pumps, with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	4		
2	7.5 kW Electric Motor (3 Phase) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Pump)	each	4		
3	Double Flanged Suction Pipe (NB = 75mm, L= 5m)	each	4		
4	Double Flanged Discharge Pipe (NB = 75mm, L=15m)	each	4		
5	90° Pipe Bends (NB = 100mm)	Per Bend	48		
6	Pipe Supports	Per Support			
7	Nitrile Rubber Gaskets	each			
8	Non – Rising Spindle Wedge Gate Valves (Suction)	each	4		
9	Non – Rising Spindle Wedge Gate Valves (Discharge)	each	4		



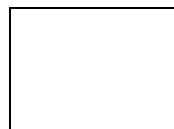
Contractor



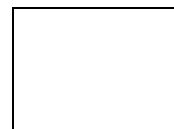
Witness 1



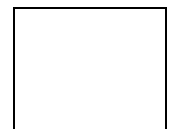
Witness 2



Employer

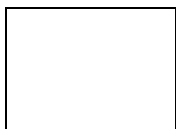


Witness 1

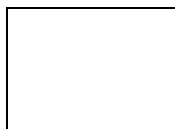


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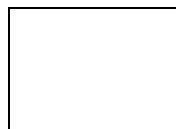
10	Non – Return Ball Type Valves	each	4		
11	Base Plates	each	4		
12	Submersible Power Cables (Approx. 15 m) to suit the Proposed Electric Motors	each	8		
13	Control Cables (Approx. 15 m) to suit the Proposed Electric Motors	each	4		
14	Electrical Soft Starter	each	4		
15	Excavation Work (15m Long, 1m Deep and 500mm Wide trench)	each	4		
16	Covering the Trench with Concrete (Approx. 15m Long, 1m Deep and 500mm Wide)	each	4		
17	Concrete Access Boxes for Flow Meters and Discharge Valves	each	8		
18	Pump and Motor Concrete Plinth (150mm High, 25MPa Strength)	each	4		
19	Hot-Dip Galvanized Mild Steel Cable Trays (based on the bidders proposed cable layout or route)	each	4		
20	Doppler Clamp-On Flow Meter (including pedestal mounted panel with display unit for flow, temperature readings etc.)	each	4		
21	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	4		
22	Start/Stop Local Isolator mounted on a 304L stainless steel stand	each	4		



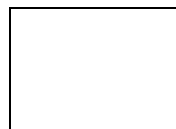
Contractor



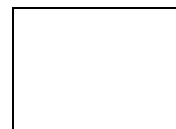
Witness 1



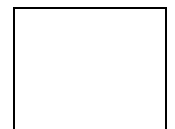
Witness 2



Employer

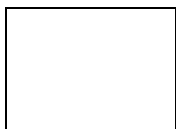


Witness 1

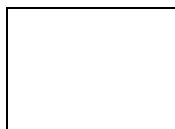


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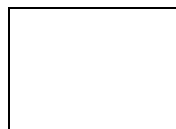
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD</b>				
	<b>ERECTION AND INSTALLATION</b> Handling, including double handling if stored, erection, installation, quality assurance, and providing competent as well as experienced personnel to carry out the work as per this contract.				
1	Complete Self-Priming Pumps, with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	4		
2	Electric Motor (3 Phase) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Pump)	each	4		
3	Double Flanged Suction Pipe (NB = 75mm, L= 5m)	each	4		
4	Double Flanged Discharge Pipe (NB = 75mm, L=15m)	each	4		
5	90° Pipe Bends (NB = 100mm)	Per Bend	48		
6	Pipe Supports	Per Support			
7	Nitrile Rubber Gaskets with Flanges Drilled according Table D.	each			
8	Non – Rising Spindle Wedge Gate Valves (Suction)	each	4		
9	Non – Rising Spindle Wedge Gate Valves (Discharge)	each	4		
10	Non – Return Ball Type Valve	each	4		



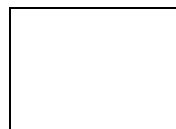
Contractor



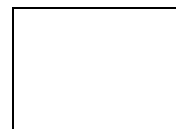
Witness 1



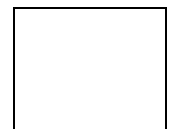
Witness 2



Employer

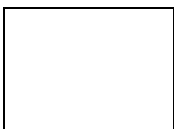


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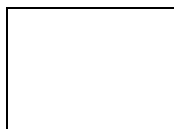


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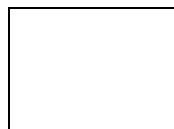
11	Base Plates	each	4		
12	Submersible Power Cables (Approx. 15 m) to suit the Proposed Electric Motors	each	4		
13	Control Cables (Approx. 15 m) to suit the Proposed Electric Motors	each	4		
14	Electrical Soft Starter	each	4		
15	Excavation Work (15m Long, 1m Deep and 500mm Wide trench)	each	4		
16	Covering the Trench with Concrete (Approx. 15m Long, 1m Deep and 500mm Wide)	each	4		
17	Concrete Access Boxes for Flow Meters and Discharge Valves	each	4		
18	Pump and Motor Concrete Plinth (150mm High)	each	4		
19	Hot-Dip Galvanized Mild Steel Cable Trays (based on the bidders proposed cable layout or route)	each	4		
20	Doppler Clamp-On Flow Meter (including pedestal mounted panel with display unit for flow, temperature readings etc.)	each	4		
21	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	4		
22	Start/Stop Local Isolator mounted on a 304L stainless steel stand	each	4		
23	Alterations and Integration of existing pipework and pipe fittings	PC Sum			<b>R 100 000.00</b>



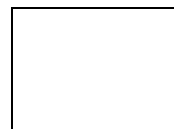
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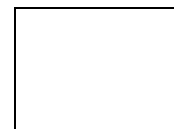
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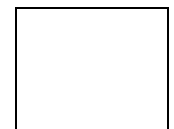
Witness 2



Employer



Witness 1



Witness 2

24	Integration with existing electrical equipment	PC Sum			<b>R 50 000.00</b>
25	Commissioning and Handover	Sum			
		<b>SECTION 2: MECHANICAL &amp; ELECTRICAL TOTAL</b>			

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**4. Heidelberg Water Care Works - Bill of Quantity**

<b>BILL OF QUANTITIES</b>					
<b>HEIDELBERG WATER CARE WORKS</b>					
<b>SECTION 1: PRELIMINARY AND GENERAL</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>TOTAL PRICE</b>
<b>Occupational Health and Safety Requirements</b>					
1	Induction of all sub-contractors	Sum			
2	Development of the Occupational Health and Safety File (Including Updating and Maintaining)	Each	1		
3	Health and Safety Officer	Each	1		
4	Information Boards and Signs including danger tapes as well as barricades (During Execution)	Sum			
<b>Planning, Execution and Quality Requirements</b>					
5	Factory Testing of all equipment covered by this contract including quality control.	Sum			
6	Bi-Weekly Progress Reports for the during of the Contract and 4x Close-Out Report with O & M Manual, SOPs (Soft and Hard Copies) including Drawings (in both .pdf and .dwg formats)	Sum			
7	Training for Pumps: Design, Operations, and Maintenance for Plant Personnel recognised within the SAQA National Qualification Framework	Hours	40		
8	Pump Specialist to confirm process unit flows and design specifications, produce report before procurement of equipment	each	1		
<b>Equipment Hire</b>					
9	Mobile Diesel Pump & Auxiliaries (Including Layflats)	Sum			
10	Combination Truck (Super Sucker)	Sum			
11	Lifting Equipment (Crane) & Accessories	Sum			
<b>SECTION 1: GENERAL TOTAL (Heidelberg WCW)</b>					



Contractor



Witness 1



Witness 2



Employer



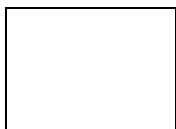
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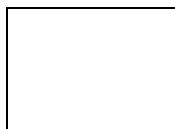
Witness 2

**SECTION 2: MECHANICAL & ELECTRICAL**

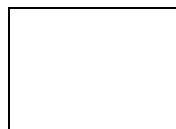
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (From Preliminary and General Total)</b>				
	<b>SUPPLY AND DELIVERY - The following equipment including the preparation and submission of drawings and documents as detailed by the specifications:</b>				
1	Complete Self-Priming Pumps (Inlet Raw Sludge Transfer), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	4		
2	75 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Sludge Transfer Pumps)	each	4		
3	Pipes for the Inlet Raw Sludge Transfer Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Supply and Delivery of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 250mm)	each	4		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 250mm)	each	4		
8	Non – Return Ball Type Valve (250mm)	each	4		
9	Base Plates	each	4		
10	Power Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	4		
11	Control Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	4		
12	75 kW Variable Speed Drive Panel	Sum			
13	Pump and Motor Base Plate Concrete Plinth (4m x 2m 200mm High, 30MPa Strength)	each	4		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	4		



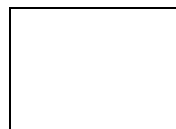
Contractor



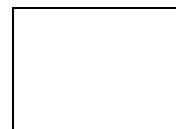
Witness 1



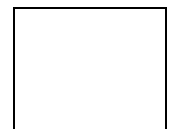
Witness 2



Employer

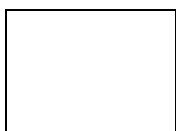


Witness 1

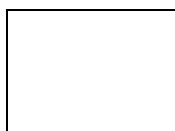


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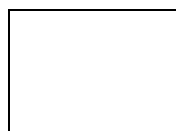
15	Pressure Gauges (including fittings)	each	8		
16	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	4		
17	Complete Self-Priming Pump (Return Activated Sludge), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	2		
18	7.5 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Wash Water Pump)	each	2		
19	100 mm Diameter Pipes for the Return Activated Sludge Pumps (Including fittings, bends, wyes, supports, flanges and couplings)	sum			
20	Provisional Sum for item No. 19 for Supply and Delivery of Pipes	Prov. Sum	15%		
21	Nitrile Rubber Gaskets	Sum			
22	Non – Rising Spindle Wedge Gate Valve (Suction - 100 mm)	each	2		
23	Non – Rising Spindle Wedge Gate Valve (Discharge - 100 mm)	each	2		
24	Non – Return Ball Type Valve (100 mm)	each	2		
25	Base Plate	each	2		
26	Power Cables (Approx. 100 m) to suit the Proposed Electric Motors	each	2		
27	Control Cables (Approx. 100 m) to suit the Proposed Electric Motors	each	2		
28	7.5 kW Electrical Soft Starter	each	2		
29	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	2		
30	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	2		



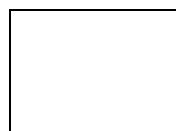
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Witness 1



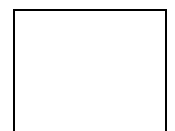
Witness 2



Employer



Witness 1



Witness 2



31	Pressure Gauges (including fittings)	each	4		
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (Supply and Delivery Total)</b>				
	<b>ERECTION AND INSTALLATION</b> Handling, including double handling if stored, erection, installation, quality assurance, and providing competent as well as experienced personnel to carry out the work as per this contract.				
1	Complete Self-Priming Pumps (Inlet Raw Sludge Transfer), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	4		
2	75 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Inlet Raw Sludge Transfer Pumps)	each	4		
3	Pipes for the Inlet Raw Sludge Transfer Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Installation of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 250mm)	each	4		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 250mm)	each	4		
8	Non – Return Ball Type Valve (250mm)	each	4		
9	Base Plates	each	4		
10	Power Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	4		
11	Control Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	4		
12	75 kW Variable Speed Drive Panel	Sum			



Contractor



Witness 1




Witness 2



Employer

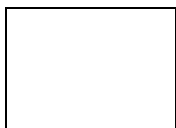


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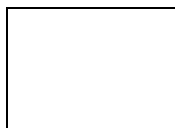


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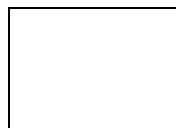
13	Pump and Motor Base Plate Concrete Plinth (4m x 2m 200mm High, 30MPa Strength)	each	4		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	4		
15	Pressure Gauges (including fittings)	each	8		
16	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	4		
17	Complete Self-Priming Pump (Return Activated Sludge), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	2		
18	7.5 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Wash Water Pump)	each	2		
19	100 mm Diameter Pipes for the Return Activated Sludge Pumps (Including fittings, bends, wyes, supports, flanges and couplings)	sum			
20	Provisional Sum for item No. 19 for Installation of Pipes	Prov. Sum	15%		
21	Nitrile Rubber Gaskets	Sum			
22	Non – Rising Spindle Wedge Gate Valve (Suction - 100 mm)	each	2		
23	Non – Rising Spindle Wedge Gate Valve (Discharge - 100 mm)	each	2		
24	Non – Return Ball Type Valve (100 mm)	each	2		
25	Base Plate	each	2		
26	Power Cables (Approx. 100 m) to suit the Proposed Electric Motors	each	2		
27	Control Cables (Approx. 100 m) to suit the Proposed Electric Motors	each	2		
28	7.5 kW Electrical Soft Starter	each	2		



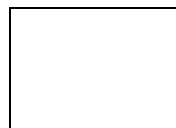
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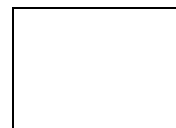
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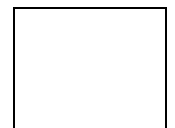
Witness 2



Employer

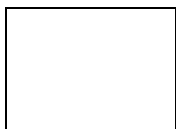


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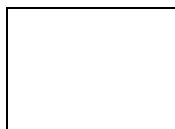


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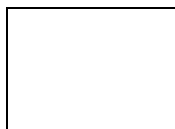
29	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	2		
30	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	2		
31	Pressure Gauges (including fittings)	each	4		
32	Commissioning and Hand Over	Sum			
33	Alterations and Integration of existing mechanical, electrical and civil work	PC Sum			<b>R 200 000.00</b>
		<b>SECTION 2: MECHANICAL &amp; ELECTRICAL ( Heidelberg WCW) TOTAL</b>			



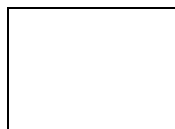
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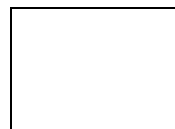
Witness 1



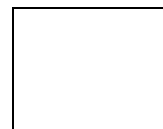
Witness 2



Employer



Witness 1



Witness 2

**5. Jan Smuts Water Care Works – Bill of Quantity**

BILL OF QUANTITIES					
JAN SMUTS WATER CARE WORKS					
SECTION 1: PRELIMINARY AND GENERAL					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
<b>Occupational Health and Safety Requirements</b>					
1	Induction of all sub-contractors	Sum			
2	Development of the Occupational Health and Safety File (Including Updating and Maintaining)	Each	1		
3	Health and Safety Officer	Each	1		
4	Information Boards and Signs including danger tapes as well as barricades (During Execution)	Sum			
<b>Planning, Execution and Quality Requirements</b>					
5	Factory Testing of all equipment covered by this contract including quality control.	Sum			
6	Bi-Weekly Progress Reports for the during of the Contract and 4x Close-Out Report with O & M Manual, SOPs (Soft and Hard Copies) including Drawings (in both .pdf and .dwg formats)	Sum			
7	Training for Pumps: Design, Operations, and Maintenance for Plant Personnel recognised within the SAQA National Qualification Framework	Hours	40		
8	Pump Specialist to confirm process unit flow rates and design specifications, produce report before procurement of equipment	each	1		
<b>Equipment Hire</b>					
9	Mobile Diesel Pump & Auxiliaries (Including Layflats)	Sum			
10	Combination Truck (Super Sucker)	Sum			
11	Lifting Equipment (Crane) & Accessories	Sum			
<b>SECTION 1: GENERAL TOTAL (Jan Smuts WCW)</b>					

Contractor

Witness 1

Witness 2

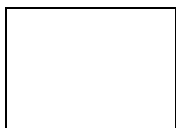
Employer

Witness 1

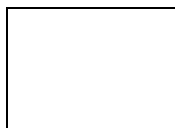
Witness 2

**SECTION 2: MECHANICAL & ELECTRICAL**

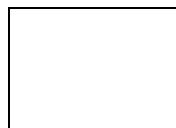
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (From Preliminary and General Total)</b>				
	<b>SUPPLY AND DELIVERY - The following equipment including the preparation and submission of drawings and documents as detailed by the specifications:</b>				
1	Complete Self-Priming Pumps (Humus), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	6		
2	30 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Humus Pumps)	each	6		
3	Pipes for the Humus Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Installation of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 250mm)	each	6		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 250mm)	each	6		
8	Non – Return Ball Type Valve (250mm)	each	6		
9	Base Plates	each	6		
10	Power Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	6		
11	Control Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	6		
12	30 kW Variable Speed Drive Panel	Sum			
13	Pump and Motor Base Plate Concrete Plinth (4m x 2m 200mm High, 30MPa Strength)	each	6		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	6		



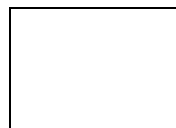
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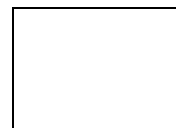
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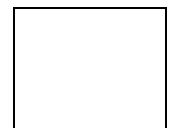
Witness 2



Employer



Witness 1




Witness 2

15	Pressure Gauges (including fittings)	each	12		
16	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	4		
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (Supply and Delivery Total)</b>				
	<b>ERECTION AND INSTALLATION Handling, including double handling if stored, erection, installation, quality assurance, and providing competent as well as experienced personnel to carry out the work as per this contract.</b>				
1	Complete Self-Priming Pumps (Humus), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	6		
2	30 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Humus Pumps)	each	6		
3	Pipes for the Humus Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Installation of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 250mm)	each	6		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 250mm)	each	6		
8	Non – Return Ball Type Valve (250mm)	each	6		
9	Base Plates	each	6		
10	Power Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	6		
11	Control Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	6		



Contractor




Witness 1



Witness 2



Employer

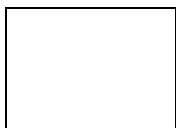


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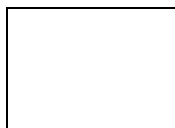


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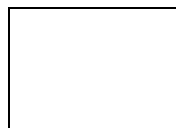
12	30 kW Variable Speed Drive Panel	Sum			
13	Pump and Motor Base Plate Concrete Plinth (4m x 2m 200mm High, 30MPa Strength)	each	6		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	6		
15	Pressure Gauges (including fittings)	each	12		
16	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	4		
17	Commissioning and Hand Over	Sum			
18	Alterations and Integration of existing mechanical, electrical and civil work	PC Sum			<b>R 200 000.00</b>
		<b>SECTION 2: MECHANICAL &amp; ELECTRICAL ( Jan Smuts WCW) TOTAL</b>			



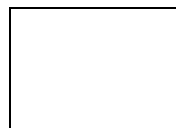
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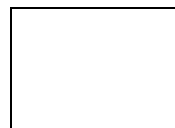
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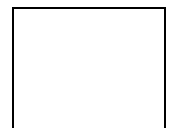
Witness 2



Employer



Witness 1



Witness 2

**6. JP Marais Water Care Works – Bill of Quantity**

BILL OF QUANTITIES					
JP MARAIS WATER CARE WORKS					
SECTION 1: PRELIMINARY AND GENERAL					
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
<b>Occupational Health and Safety Requirements</b>					
1	Induction of all sub-contractors	Sum			
2	Development of the Occupational Health and Safety File (Including Updating and Maintaining)	Each	1		
3	Health and Safety Officer	Each	1		
4	Information Boards and Signs including danger tapes as well as barricades (During Execution)	Sum			
<b>Planning, Execution and Quality Requirements</b>					
5	Factory Testing of all equipment covered by this contract including quality control.	Sum			
6	Bi-Weekly Progress Reports for the during of the Contract and 4x Close-Out Report with O & M Manual, SOPs (Soft and Hard Copies) including Drawings (in both .pdf and .dwg formats)	Sum			
7	Training for Pumps: Design, Operations, and Maintenance for Plant Personnel recognised within the SAQA National Qualification Framework	Hours	40		
8	Pump Specialist to confirm process unit flow rates and design specifications, produce report before procurement of equipment	each	1		
<b>Equipment Hire</b>					
9	Mobile Diesel Pump & Auxiliaries (Including Layflats)	Sum			
10	Combination Truck (Super Sucker)	Sum			
11	Lifting Equipment (Crane) & Accessories	Sum			
<b>SECTION 1: GENERAL TOTAL (JP Marais WCW)</b>					




Contractor



Witness 1




Witness 2



Employer



Witness 1

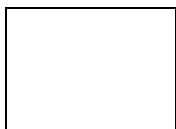


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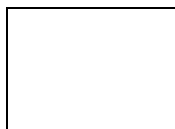


**SECTION 2: MECHANICAL & ELECTRICAL**

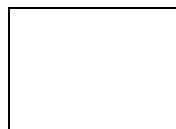
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD</b>				
	<b>SUPPLY AND DELIVERY</b> The following equipment including the preparation and submission of drawings and documents as detailed by the specifications:				
1	Complete Self-Priming Pumps (Wash Water), Couplings, Taper Locks and Matching Locking Keys	each	2		
2	Electric Motor (45 kW, 3 Phase, 4 Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Wash Water Pumps)	each	2		
3	Non – Rising Spindle Wedge Gate Valves (Suction – 100mm Diameter)	each	2		
4	Non – Rising Spindle Wedge Gate Valves (Discharge - 100mm Diameter)	each	2		
5	Non – Return Ball Type Valve (100mm Diameter)	each	2		
6	Base Plates	each	2		
7	Power Cables (Approx. 50 m) to suit the Proposed Electric Motors	each	2		
8	Control Cables (Approx. 50 m) to suit the Proposed Electric Motors	each	2		
9	Electrical Starters (45 kW Soft Starters)	each	2		



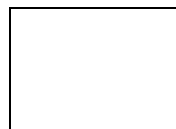
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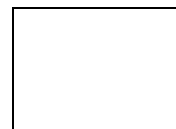
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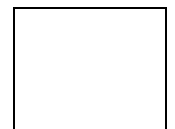
Witness 2



Employer

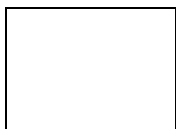


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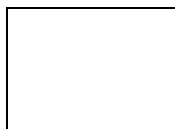


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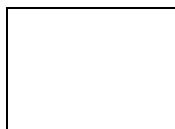
10	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	2		
11	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	2		
12	Start/Stop Local Isolator mounted on a 304L stainless steel stand	each	2		
ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD</b>				
	<b>ERECTION AND INSTALLATION</b> Handling, including double handling if stored, erection, installation, quality assurance, and providing competent as well as experienced personnel to carry out the work as per this contract.				
1	Complete Self-Priming Pumps (Wash Water), Couplings, Taper Locks and Matching Locking Keys	each	2		
2	Electric Motor (45 kW, 3 Phase, 4 Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Wash Water Pumps)	each	2		
3	Non – Rising Spindle Wedge Gate Valves (Suction – 100mm Diameter)	each	2		
4	Non – Rising Spindle Wedge Gate Valves (Discharge - 100mm Diameter)	each	2		
5	Non – Return Ball Type Valve (100mm Diameter)	each	2		
6	Base Plates	each	2		
7	Power Cables (Approx. 50 m) to suit the Proposed Electric Motors	each	2		



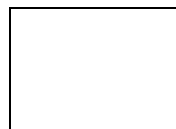
Contractor



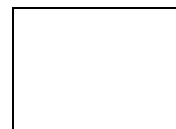
Witness 1



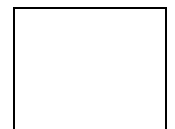
Witness 2



Employer



Witness 1



Witness 2

8	Control Cables (Approx. 50 m) to suit the Proposed Electric Motors	each	2		
9	Electrical Starters (45 kW Soft Starters)	each	2		
10	Pump and Motor Base Plate Concrete Plinth (2m x 1m 200mm High, 30MPa Strength)	each	2		
11	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	2		
12	Start/Stop Local Isolator mounted on a 304L stainless steel stand	each	2		
13	Alterations and Integration of existing systems (pipework, civil works and electrical) into the new installation.	PC Sum			<b>R 50 000.00</b>
14	Commissioning and Handover	Sum			
<b>BROUGHT FORWARD</b>		<b>SECTION 2: MECHANICAL &amp; ELECTRICAL TOTAL</b>			



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

**7. Ratanda Water Care Works – Bill of Quantities**

<b>BILL OF QUANTITIES</b>					
<b>RATANDA WATER CARE WORKS</b>					
<b>SECTION 1: PRELIMINARY AND GENERAL</b>					
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>TOTAL PRICE</b>
<b>Occupational Health and Safety Requirements</b>					
1	Induction of all sub-contractors	Sum			
2	Development of the Occupational Health and Safety File (Including Updating and Maintaining)	Each	1		
3	Health and Safety Officer	Each	1		
4	Information Boards and Signs including danger tapes as well as barricades (During Execution)	Sum			
<b>Planning, Execution and Quality Requirements</b>					
5	Factory Testing of all equipment covered by this contract including quality control.	Sum			
6	Bi-Weekly Progress Reports for the during of the Contract and 4x Close-Out Report with O & M Manual, SOPs (Soft and Hard Copies) including Drawings (in both .pdf and .dwg formats)	Sum			
7	Training for Pumps: Design, Operations, and Maintenance for Plant Personnel recognised within the SAQA National Qualification Framework	Hours	40		
8	Pump Specialist to confirm process unit flow rates and design specifications, produce report before procurement of equipment	each	1		
<b>Equipment Hire</b>					
9	Mobile Diesel Pump & Auxiliaries (Including Layflats)	Sum			
10	Combination Truck (Super Sucker)	Sum			
11	Lifting Equipment (Crane) & Accessories	Sum			
<b>SECTION 1: GENERAL TOTAL (Ratanda WCW)</b>					

Contractor

Witness 1

Witness 2


Employer

Witness 1

Witness 2

**SECTION 2: MECHANICAL & ELECTRICAL**

ITEM	DESCRIPTION	UNIT	QTY	RATE	TOTAL PRICE
	<b>BROUGHT FORWARD (From Preliminary and General Total)</b>				
	<b>SUPPLY AND DELIVERY - The following equipment including the preparation and submission of drawings and documents as detailed by the specifications:</b>				
1	Complete Self-Priming Pumps (Sub-Standard Effluent), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	2		
2	30 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Sub-Standard Effluent Pumps)	each	2		
3	Pipes for the Sub-Standard Effluent Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Supply and Delivery of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 200mm)	each	2		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 200mm)	each	2		
8	Non – Return Ball Type Valve (200mm)	each	2		
9	Base Plates	each	2		
10	Power Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	2		
11	Control Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	2		
12	30kW Soft Starter Electrical Panel	Sum			
13	Pump and Motor Base Plate Concrete Plinth (4m x 2m 200mm High, 30MPa Strength)	each	2		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	2		
15	Pressure Gauges (including fittings)	each	4		
16	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the	each	2		




Contractor



Witness 1



Witness 2



Employer

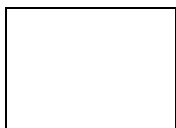


Witness 1

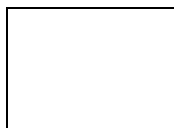


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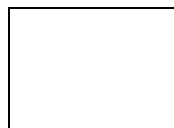
	sump, used to start the pumps automatically				
17	Sub-Standard Effluent Return Pipeline with 4x 90° Bends (200mm Diameter and 250m Length)	Sum			
<b>ITEM</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QTY</b>	<b>RATE</b>	<b>TOTAL PRICE</b>
	<b>BROUGHT FORWARD (Supply and Delivery Total)</b>				
	<b>ERECTION AND INSTALLATION Handling, including double handling if stored, erection, installation, quality assurance, and providing competent as well as experienced personnel to carry out the work as per this contract.</b>				
1	Complete Self-Priming Pumps (Sub-Standard Effluent), with V-Belts, Couplings, Taper Locks and Matching Locking Keys	each	2		
2	30 kW Electric Motor (3 Phase, 4-Pole) with Couplings, Coupling Bolts, Taper Locks and Matching Locking Keys (Compatible to those of the Sub-Standard Effluent Pumps)	each	2		
3	Pipes for the Sub-Standard Effluent Pumps (Including fittings, bends, wyes, supports, flanges, bolts, nuts and couplings)	sum			
4	Provisional Sum for item No. 3 for Installation of Pipes	Prov. Sum	15%		
5	Nitrile Rubber Gaskets	Sum			
6	Non – Rising Spindle Wedge Gate Valves (Suction - 200mm)	each	2		
7	Non – Rising Spindle Wedge Gate Valves (Discharge - 200mm)	each	2		
8	Non – Return Ball Type Valve (200mm)	each	2		
9	Base Plates	each	2		
10	Power Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	2		
11	Control Cables (Approx. 200 m) to suit the Proposed Electric Motors	each	2		



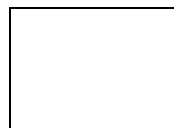
Contractor



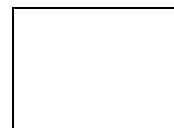
Witness 1



Witness 2



Employer

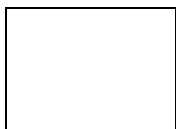


Witness 1

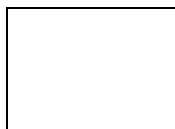


Witness 2

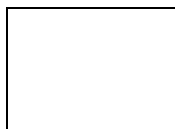
12	30kW Soft Starter Electrical Panel	Sum			
13	Pump and Motor Base Plate Concrete Plinth (4m x 2m 200mm High, 30MPa Strength)	each	2		
14	Hot-Dip Galvanized Mild Steel Cable Trays (based on cable layout or route)	each	2		
15	Pressure Gauges (including fittings)	each	4		
16	Ultrasonic Level Detector (including Auxiliaries) for Sludge, installed inside the sump, used to start the pumps automatically	each	2		
17	Sub-Standard Effluent Return Pipeline with 4x 90° Bends (200mm Diameter and 250m Length)	Sum			
18	Commissioning and Hand Over	Sum			
19	Alterations and Integration of existing mechanical, electrical and civil work	PC Sum			<b>R 200 000.00</b>
		<b>SECTION 2: MECHANICAL &amp; ELECTRICAL ( Ratanda WCW) TOTAL</b>			



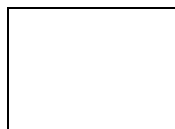
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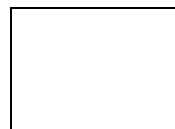
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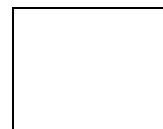
Witness 2



Employer



Witness 1




Witness 2

**Ancor Water Care Works Summary of Bill of Quantities [1];**

BILL NO.	DESCRIPTION	TOTAL (R)
1.	Section 1: Preliminary & General	R
2.	Section 2: Mechanical & Electrical	R
3.	<b>Sub-Total 1 (Bill No. 1 &amp; 2)</b>	<b>R</b>
4.	10% of Sub – Total 1 (Contingencies)	R
5.	<b>Sub-Total 2 ( Bill No. 3 &amp; 4)</b>	<b>R</b>
6.	15% VAT of Sub-Total 2 (Bill No. 5)	R
7.	<b>TOTAL (Incl. 15% VAT) (Bill 6 &amp; 7)</b>	<b>R</b>

**Carl Grundling Water Care Works Summary of Bill of Quantities [2]:**

BILL NO.	DESCRIPTION	TOTAL (R)
1.	Section 1: Preliminary & General	R
2.	Section 2: Mechanical & Electrical	R
3.	<b>Sub-Total 1 (Bill No. 1 &amp; 2)</b>	<b>R</b>
4.	10% of Sub – Total 1 (Contingencies)	R
5.	<b>Sub-Total 2 ( Bill No. 3 &amp; 4)</b>	<b>R</b>
6.	15% VAT of Sub-Total 2 (Bill No. 5)	R
7.	<b>TOTAL (Incl. 15% VAT) (Bill 6 &amp; 7)</b>	<b>R</b>



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2




**Dekema Water Care Works Summary of Bill of Quantities [3] :**

BILL NO.	DESCRIPTION	TOTAL (R)
1.	Section 1: Preliminary & General	R
2.	Section 2: Mechanical & Electrical	R
3.	<b>Sub-Total 1 (Bill No. 1 &amp; 2)</b>	<b>R</b>
4.	10% of Sub – Total 1 (Contingencies)	R
5.	<b>Sub-Total 2 ( Bill No. 3 &amp; 4)</b>	<b>R</b>
6.	15% VAT of Sub-Total 2 (Bill No. 5)	R
7.	<b>TOTAL (Incl. 15% VAT) (Bill 6 &amp; 7)</b>	<b>R</b>

**Heidelberg Water Care Works Summary of Bill of Quantities [4]:**

BILL NO.	DESCRIPTION	TOTAL (R)
1.	Section 1: Preliminary & General	R
2.	Section 2: Mechanical & Electrical	R
3.	<b>Sub-Total 1 (Bill No. 1 &amp; 2)</b>	<b>R</b>
4.	10% of Sub – Total 1 (Contingencies)	R
5.	<b>Sub-Total 2 ( Bill No. 3 &amp; 4)</b>	<b>R</b>
6.	15% VAT of Sub-Total 2 (Bill No. 5)	R
7.	<b>TOTAL (Incl. 15% VAT) (Bill 6 &amp; 7)</b>	<b>R</b>



Contractor



Witness 1



Witness 2



Employer



Witness 1



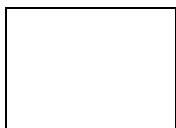
Witness 2

**Jan Smuts Water Care Works Summary of Bill of Quantities [5]:**

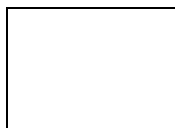
BILL NO.	DESCRIPTION	TOTAL (R)
1.	Section 1: Preliminary & General	R
2.	Section 2: Mechanical & Electrical	R
3.	<b>Sub-Total 1 (Bill No. 1 &amp; 2)</b>	<b>R</b>
4.	10% of Sub – Total 1 (Contingencies)	R
5.	<b>Sub-Total 2 ( Bill No. 3 &amp; 4)</b>	<b>R</b>
6.	15% VAT of Sub-Total 2 (Bill No. 5)	R
7.	<b>TOTAL (Incl. 15% VAT) (Bill 6 &amp; 7)</b>	<b>R</b>

**JP Marais Water Care Works Summary of Bill of Quantities [6]:**

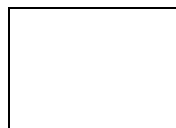
BILL NO.	DESCRIPTION	TOTAL (R)
1.	Section 1: Preliminary & General	R
2.	Section 2: Mechanical & Electrical	R
3.	<b>Sub-Total 1 (Bill No. 1 &amp; 2)</b>	<b>R</b>
4.	10% of Sub – Total 1 (Contingencies)	R
5.	<b>Sub-Total 2 ( Bill No. 3 &amp; 4)</b>	<b>R</b>
6.	15% VAT of Sub-Total 2 (Bill No. 5)	R
7.	<b>TOTAL (Incl. 15% VAT) (Bill 6 &amp; 7)</b>	<b>R</b>



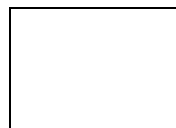
Contractor



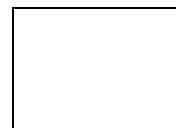
Witness 1



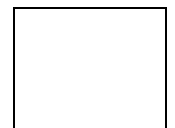
Witness 2



Employer



Witness 1



Witness 2

**Ratanda Water Care Works Summary of Bill of Quantities [7]:**

BILL NO.	DESCRIPTION	TOTAL (R)
1.	Section 1: Preliminary & General	R
2.	Section 2: Mechanical & Electrical	R
3.	<b>Sub-Total 1 (Bill No. 1 &amp; 2)</b>	<b>R</b>
4.	10% of Sub – Total 1 (Contingencies)	R
5.	<b>Sub-Total 2 ( Bill No. 3 &amp; 4)</b>	<b>R</b>
6.	15% VAT of Sub-Total 2 (Bill No. 5)	R
7.	<b>TOTAL (Incl. 15% VAT) (Bill 6 &amp; 7)</b>	<b>R</b>

**TOTAL SUMMARY OF All Bill of Quantities;**

ITEM	DESCRIPTION	AMOUNT (R – RAND)
1.	Ancor Water Care Works Total	
2.	Carl Grundling Water Care Works Total	
3.	Dekema Water Care Works Total	
4.	Heidelberg Water Care Works Total	
5.	Jan Smuts Water Care Works Total	
6.	JP Marais Water Care Works Total	
7.	Ratanda Water Care Works Total	
8.	<b>GRAND TOTAL</b>	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



**REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END**  
**SUCTION PUMPS AT VARIOUS ERWAT WATER CARE**  
**WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL**  
**AND COMMISSION**

**C3 SCOPE OF WORK**

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

## DETAILED CONTENTS (VOLUME 3)

### PART C3 SCOPE OF WORKS

#### C3.1 Description of works

- C3.1.1 Background
- C3.1.2 Mandatory Requirements
- C3.1.3 Staff Complement
- C3.1.4 Extent of the Works
- C3.1.5 Datasheet

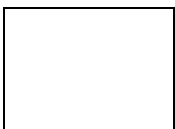
#### C3.2 Engineering

#### C3.3 Construction

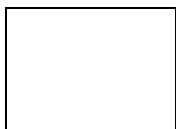
#### C3.4 Management of the works

#### C3.4 Health and Safety

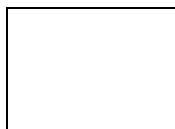
#### C3.6 Environmental Management during Construction



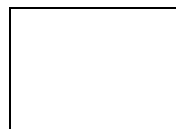
Contractor



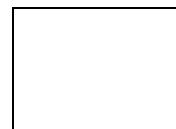
Witness 1



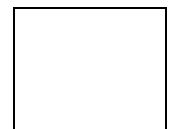
Witness 2



Employer



Witness 1



Witness 2

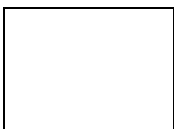
### C3.1 DESCRIPTION OF THE WORKS

#### C3.1.1 Background

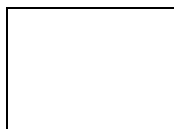
ERWAT Wastewater Care Works consists of various pump stations with self-priming and end-suction pumps installed to recirculate and transfer various flows. Each of these pump motors are connected to the motor control panel which is inside the pump stations connected by means of electrical cables and other related auxiliaries. The mentioned pumping systems were designed based on the conditions which were prevalent two decades ago, thus, these systems prove to be inefficient in today's conditions which might be due to an increases in population in the surrounding areas both residentially and industrially, state of the equipment, and other changes in operational functions. The currently installed pumps have been repaired several times to restore performance and efficiency however the desired results were not achieved as the pumps are now operating outside the expected service life, repairing these pumps has become uneconomical. Therefore, a project was initiated for the pumps to be replaced with improved new pumps to avoid future operational stoppages.

#### C3.1.2 Mandatory Requirements

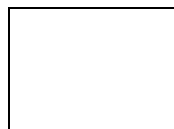
Scope related Information and Documentation required:	
Please ensure that the following supporting documents are attached to your Bid Document. Failure to submit the below mentioned documents will result in disqualification of your bid.	
Item	Description of Document/Proof Sought
1	The Contract CIDB Rating required for this Contract is 5 ME / 4 ME PE Bidders shall submit proof of Current Registration or application to register for this Grading or higher.



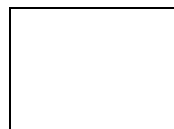
Contractor



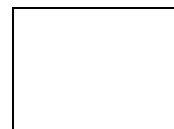
Witness 1



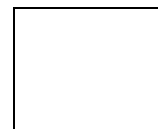
Witness 2



Employer



Witness 1



Witness 2

**C3.1.3 Staff Complement**

**Bidding companies are required to have the following staff complement available for the duration of this contract with a minimum of three years' experience per staff member.**

NO	STAFF MEMBER	QUALIFICATION	BIDDERS TO PROVIDE PROOF OF QUALIFICATION WHERE THEY COMPLY OR INDICATE EQUIVALENT
1.	Project Manager/Site Supervisor	National Diploma Mechanical Engineering	
2.	Mechanical Fitter	Trade Test (Mechanical Fitting)	
3.	Electrician	Trade Test (Electrical Heavy Current or MV/LV)	
4.	Health and Safety Officer	Safety Management Certification	

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Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

### C3.1.4 Extent of the Works

The Scope of Work for this Contract is (but not limited to): The Contractor will be required to perform all detailed electrical design, and mechanical work related, the construction of the foundations of the supports for the equipment and installation work associated with this project, including the supply of selected equipment and items as detailed within the schedule of quantities. The supply of all such equipment and or components must fully comply with the specification contained in this document and must be approved by the Engineer.

The Contractor's Proposal shall include the following components as a minimum requirement:

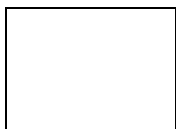
- Plans indicating the General Layout of the Works
- Description and/or sketches/drawings of Mechanical and Electrical equipment
- Quality Assurance system for all aspects of the work

The Works described include all works required for the design, manufacture, installation and commissioning of new self-priming pumps for the following:

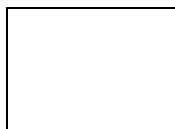
- Ancor Water Care Works. [5x Self-Priming Pumps Pumps]
- Carl Grundling Water Care Works. [2x Self-Priming Pumps]
- Dekema Water Care Works. [4x Self- Priming Pumps]
- Heidelberg Water Care Works [6x Self-Priming Pumps]
- Jan Smuts Water Care Works [6x Self-Priming Pumps]
- JP Marais Water Care Works [2x Self-Priming Pumps]
- Ratanda Water Care Works [2x Self-Priming Pump]

The new installation(s) shall include the following:

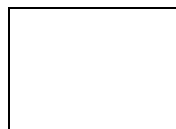
- 27x Self-Priming Pumps (with Couplings, Pulleys, Belts, Mounting Stands and Electric Motors)
- 54x Non – Rising Spindle Wedge Gate Valves
- 54x Ball Type Non-Return Valves
- Pipework
- Ultrasonic Meters and Level Controls
- Electrical Panels
- Electrical Starters
- Electrical Cables
- Concrete Plinths



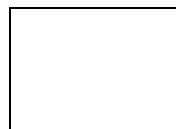
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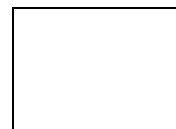
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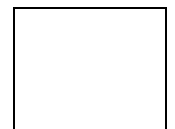
Witness 2



Employer



Witness 1

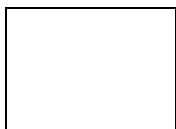


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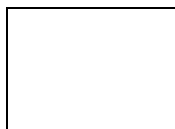


This scope of work includes the furnishing of all labour, material and services for the Design, Supply, Manufacture, Testing, Works Inspection, Delivery to Site, Offloading, Placing into Position, Site Assembly, Pre-commissioning, Commissioning Assistance and Rectification of Defects within the Warranty period of twelve (12 No.) months;

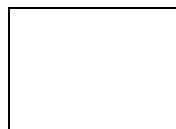
- a. Isolate and remove the old pumps including all old electrical cables, electrical starters, valves, pipes and other related auxiliaries. Store as per instruction of the ERWAT Representative(s). NB: All disassembled equipment to be transport to Waterval Water Care Works storage facility.
- b. Measurements and sizing of the equipment. Upon appointment Contractor to confirm flow, pressure head, power requirements for both electrical cable and electric motor to be installed.
- c. Procuring new equipment for the project as per the BOQ.
- d. Design, manufacture, supply and install the new pumping system (self-priming pumps, pipework, valves, electrical cables, and electrical starters and other related auxiliaries.
- e. Production of the system design drawings which includes (PFDs, P&IDs, 3D isometric drawings, 2D third angle drawings etc.).
- f. All the relevant electrical and instrumentation drawings as per the design.
- g. Draft an operating philosophy of the new pumping system.
- h. Draft a maintenance philosophy for the new pumping system.



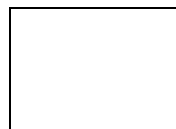
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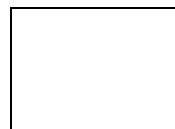
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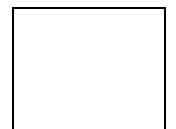
Witness 2



Employer



Witness 1



Witness 2

### C3.1.4.1 Interpretations

#### A. Abbreviations

In this Specification, the following abbreviations will apply:

ASTM A304 - 16	Standard Specification for Carbon and Alloy Steel Bars Subject to End-Quench Hardenability Requirements
HRC	Rockwell Hardness measured on the C scale.
EN 1.4057 or AISI 431	Grades for stainless steel
SANS 1091: 2004	National colour standards for paint
SANS 1186-1: 2008	Symbolic Safety Signs Part I: Standards signs and general requirements
SANS 1123:2015	South African pipe flanges standard.
SANS 10103: 2003	The measurement and rating of environmental noise with respect to annoyance and speech communication.
SANS 10140 – 1 : 2008	Identification colour marking
SABS 763	General coating thickness
SANS 62	Standard for Medium Duty for mild steel process pipe
SANS 1062: 1985	Pressure gauges
SANS 664/SANS 665	Standards for resilient seal gate valves
SANS 10142 – 1 – 2003	The wiring of premises Part1: Low-voltage
SANS 455: 2004	Covered electrodes for the manual arc welding of carbon and carbon manganese steels.
SANS 10044 – 1: 2004	Welding Part I to IV
SANS 10238: 2005	Welding and thermal cutting processes – Health and Safety
SANS 32 1997/EN 10240: 1997	Internal and/ or external protective coatings for steel tubes – specification for hot-dip galvanized coatings applied in automatic plants
SANS 121: 2000/ISO 1461: 1999	Hot-dip galvanized coatings on fabricated iron and steel articles – Specification and test methods.
SANS 3575: 2008/ISO 3575: 2005	Continuous hot-dip zinc-coated carbon steel sheet of commercial, lock forming and drawings.
SABS 0214	The design, fabrication and inspection of articles for hot-dip galvanising
ISO 9906:2012	Standards for hydraulic performance tests for customers' acceptance of rotodynamic pumps (centrifugal, mixed flow and axial pumps)
EN GJL-250 or ASTM-No35B	Grades for Grey Cast Iron
ISO 3506-1:2009	Mechanical properties of corrosion-resistant stainless steel fasteners - Part 1: bolts, screws and studs
SANS 1973-8 & SANS 60439-1	Standards low-voltage switchgear and control gear assemblies



Contractor



Witness 1



Witness 2



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Witness 1



Witness 2

### C3.1.4.2 Technical Specification

#### A. Pump and Auxiliaries Specifications

I. Pump Casing:

Self-Priming pump casing shall be cast iron Class 30 with integral volute scroll. Mounting feet sized to prevent tipping or binding when pump is completely disassembled for maintenance. Fill port coverplate, 3 1/2" diameter, shall be opened after loosening a hand nut/clamp bar assembly. In consideration for safety, hand nut threads must provide slow release of pressure, and the clamp bar shall be retained by detente lugs. A Teflon gasket shall prevent adhesion of the fill port cover to the casing. Casing drain plug shall be at least 1 1/4" NPT to insure complete and rapid draining.

II. Impeller:

Impeller shall be ductile iron, two-vane, semi-open, non-clog, with integral pump out vanes on the back shroud. Impeller shall thread onto the pump shaft and be secured with a lock screw and conical washer.

The solid management system should be designed for the management of sanitary wipes, plastic bags, feathers, hair, sludge, and all other types of stringy solids. This is shall be in form of a cutting ring with sharp edges fixed in the impeller chamber opposite the impeller.

III. Mechanical Seal:

Shaft seal shall be cartridge oil lubricated mechanical type. The stationary and rotating seal faces shall be tungsten titanium carbide alloy. The stationary seal seat shall be double floating by virtue of a dual O-ring design; an external O-ring secures the stationary seat to the seal plate, and an internal O-ring holds the faces in alignment during periods of mechanical or hydraulic shock. Elastomers shall be a synthetic rubber and fluoropolymer; cage and spring to be stainless steel. Seal shall be oil lubricated from a dedicated reservoir.

IV. Shaft:

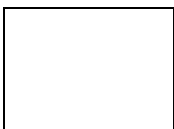
The Self-Priming pump shafts shall be manufactured from AISI 4140 alloy steel or its equivalent due to its properties like strength, toughness, corrosion resistance and fatigue strength.

V. Electric Motor:

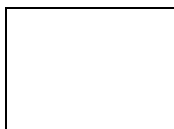
The electric motor shall be housed in an air filled and watertight chamber. The stator winding and leads shall be insulated with moisture resistant Class H (180 °C) insulation. The stator shall be trickle impregnated with class H varnish and shall be forced fitted into the stator housing. Thermal switches shall be embedded in the stator lead coils to monitor the temperature of each phase winding. These thermal switches shall be used in conjunction with and supplemental to external motor overload protection and shall be connected to a control panel. The power cable shall include conductors for the monitoring of thermal switches and optional protecting sensors. The use of bolts, pins or other fastening devices requiring penetration of the stator housing is not acceptable. The motor shall be specifically designed for submersible pump usage and designed for continuous duty pumping media of up to 40°C. A performance chart shall be provided showing curves for torque, current, power factor, input/output kW and efficiency. This chart shall also include data on starting and no load characteristics.

VI. Cable Junction Box:

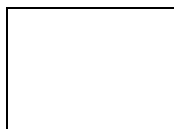
The cable entry junction chamber and motor shall be separated by a feed through type terminal board of non-hygroscopic material, which shall isolate the stator housing from foreign material gaining access through the pump top.



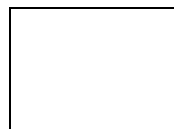
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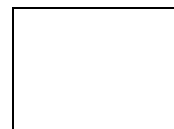
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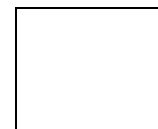
Witness 2



Employer



Witness 1



Witness 2

VII. Pump Rotating Assembly:

Rotating assembly, which includes impeller, shaft, mechanical shaft seal, lip seals, bearings, seal plate and bearing housing, must be removable as a single unit without disturbing the pump casing or piping. Seal plate and bearing housing shall be cast iron Class 30. Separate oil filled cavities, vented to atmosphere, shall be provided for shaft seal and bearings. Cavities must be cooled by the liquid pumped. Three lip seals will prevent leakage of oil. Seal plate and bearing housing shall be cast iron Class 30. Separate oil filled cavities, vented to atmosphere, shall be provided for shaft seal and bearings. Cavities must be cooled by the liquid pumped. Three lip seals will prevent leakage of oil. The bearing cavity shall have an oil level sight gauge and fill plug check valve. The clear sight gauge shall provide easy monitoring of the bearing cavity oil level and condition of oil without removal of the fill plug check valve. The check valve shall vent the cavity but prevent introduction of moist air to the bearings. The seal cavity shall have an oil level sight gauge and fill/vent plug. The clear sight gauge shall provide easy monitoring of the seal cavity oil level and condition of oil without removal of the fill/vent plug. Double lip seal shall provide an atmospheric path providing positive protection of bearings, with capability for external drainage monitoring.

VIII. Base Plate:

The base plate shall be manufactured from stainless 304L and its dimensions must suit the currently platform where the new propeller pump will be mounted.

IX. Bearing:

The Bearings shall be anti-friction ball type of proper size and design to withstand all radial and thrust loads expected during normal operation. Bearings shall be oil lubricated from a dedicated reservoir. Pump designs which use the same oil to lubricate the bearings and shaft seal shall not be acceptable.

X. Non – Return Valves:

The Non-Returned Valves shall be of the ball type to avoid clogging, with the valve's body and cover manufactured from cast iron, the ball and the cover ring made from hard or reinforced rubber material (Nitrile Rubber etc.). The valve preferable should be installed in a horizontal position on the discharge side. The valves should be drilled according to SANS/SABS standards for Flanges.

XI. Suction/Discharge Valves:

The suction/discharge valves shall be non-rising spindle wedge gate valves type with cast iron body and gate, which is hand wheel operated and closing in the clock wise direction. The spindle and nut should be manufactured from stainless steel. The valves should be drilled according to SANS/SABS 1123 standard for Flanges. The valves shall also comply with SANS 664/665.

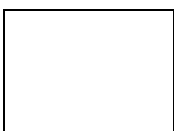
XII. Pipework:

The pipes (including pipe elbows, wyes and T-pieces) shall be manufactured from Mild Steel SANS 62 medium duty and shall be corrosion protected with twin pack Epoxy to 250 µm (microns meter) DFT (Dry Film Thickness) which is anti-corrosive, anti-fouling and self-cleaning. The flanges drilled according to SANS/SABS 1123 standard. The pipe supports shall be constructed from hot deep galvanised Mild Steel.

XIII. Gaskets:

The gaskets to be utilized between the joined flanges of the valves, pumps, and pipework shall be manufactured from Nitrile Rubber (NBR –Acrylonitrile Butadiene).

XIV. Fasteners:



Contractor



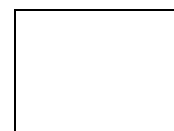
Witness 1



Witness 2



Employer



Witness 1



Witness 2

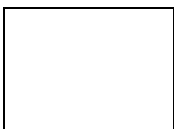
Bolt and nuts to join the flanges of pipes, pumps and valves together shall be manufactured from stainless steel (316L).

XV. Power and Monitoring (Control) Cable;

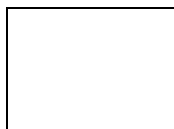
- Cable used should be of good conductance and resistivity. Conductors shall be of plain or tinned annealed copper as required and they shall comply with the requirements set in SANS 1411-1.
- Contractor to perform their calculations to determine and verify the size and type of cables to be used for motor sizes. All calculations to be based on the items currently existing at the plants.
- The insulation shall be extruded PVC complying with the requirements for insulation grade PVC set in SANS 1411-2.
- The cable shall be suitable for continuous operation (at 400V alternating voltage) under exposure of site conditions mentioned herein.
- The length of the cable to be verified, determined and measured by contractor.
- The cables shall be rated to withstand the 3 phase bolted fault current without breakdown/deterioration of insulation. (confirm from site the motor ratings for determination of this, necessary calculations to be done to determine this use data from site)
- The cables shall be rated to withstand the motor start up current which is approximately 8 times the nominal current without breakdown/deterioration of insulation. (confirm from site the motor ratings for determination of this, necessary calculations to be done to determine this use data from site).
- Cables shall have a method of identification in accordance with the drawings (clearly marked/numbered dually with engraved stainless steel tags) for asset management purposes.
- ERWAT will not accept short cable offcuts where multiple cable joints will be required.
- Grapho or equivalent markers for to be used for wires.
- Stainless steel engraved markers and steel clips to secure marker in place.
- The supplier will be responsible for the security of all cables and related equipment (to be installed) during installation period up to final handover.
- Test certificates (comprising of all applicable tests), COC, test reports, cable schedules and schematics (including all termination points of new cable), cable layout diagram and all other supporting documents shall be supplied by successful bidder and during/after commissioning;
  - General arrangement;
  - Wiring diagrams and terminal strip wiring diagrams;
  - Panel layout drawings;
  - Auxilliary wiring diagrams;
  - Installation details;
  - Operating Manual

XVI. Cable Entry Seal

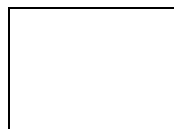
The cable entry seal design shall not require specific torque requirements to ensure a watertight and submersible seal. The cable entry shall consist of dual cylindrical elastomer sleeves, flanked by washers, all having a close tolerance fit against the cable and the cable entry. The sleeves shall be compressed by the cable entry unit, thus providing a strain relief function. The assembly shall permit easy changing of the cable. Epoxies, silicones, or other secondary sealing systems shall not be considered acceptable.



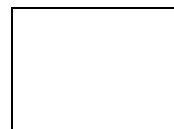
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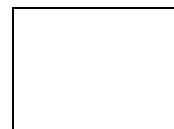
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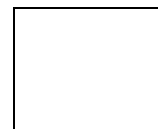
Witness 2



Employer



Witness 1



Witness 2

**B. Ultrasonic Level Sensor;**

- Scope

Level measurement shall be done by a low-maintenance submersible pressure sensor suitable for sewage water applications and for installation in the pump sump. The pressure sensor has to be connected to the RTU and should meet the following demands:

- Technical data

Output signal proportional to the level:	4 – 20mA
Power supply:	10 – 30VDC
Pre-programmed measurement range:	0-3m, 0-5m or 0-10m
Provided cable length:	12m
Operational temperature range:	-10 – 60°
Long term instability:	< 0,1% FS per year
Calibration accuracy:	< 0,5% FS
Diaphragm:	SS 1.4404 AISI 316L
Heavy weight for little effect of turbulence:	Yes
Soft cable for straight cable installation:	Yes
Suitable for salt water installations:	Yes
Part information printed on sensor body:	Yes
Large diaphragm protection holes to prevent clogging:	Yes

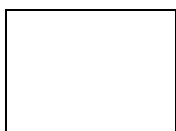
- Standards

In accordance with EN 61000-6-1:1999, EN 61000-6-2:1999, EN 61000-6-3:2001, EN 61000-6-4:2001

**C. Electrical Panels**

All the panels are installed in accordance with SANS 1973-8 & SANS 60439-1 and are accordance to TYPE 2 coordination. Each panel will be equipped with the following electrical starter:

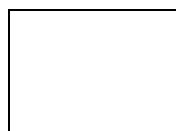
- OT50F3 Isolator c/w handle and isolator.
- 1 x 50A 6kA Triple pole circuit breaker.
- 525/400VAC-220VAC 200VA Control Transformer
- 230VAC-24VDC Transformer
- 2 x 6A 6kA Double Pole Control circuit breaker.



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

1 x Electronic Overload complete with the following protection functions;

- Over current
- Under current
- Phase failure
- Phase unbalance
- Phase reversal
- Earth Leakage
- Stall
- Locked rotor

1 x 100mA Core Balance Transformer

1 x Soft starter for max 600V main voltage and 100-240V 50/60Hz control supply voltage.

1 x Mini CAS II relays c/w base

1 x 24VDC 11 Pin relay c/w base

1 x 50:1 CT

0-400VAC Voltmeter

4 Position voltmeter selector switch

0-50A Ammeter

1 x Auto/off/man selector switch

1 x Yellow Push button

#### Control Circuit

Automatic stopping & starting of the pumps by the control panel via level regulators or 4-20mA sensor.

#### Alarms

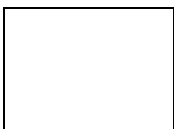
The system will provide the following on-panel alarm indications for each pump:

- Run
- Stop
- Trip
- Leakage trip
- Temp trip

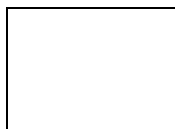
#### General Items

All wiring is to terminals in the panel. Cables will therefore not be connected directly to breakers and starters.

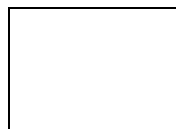
#### Enclosure



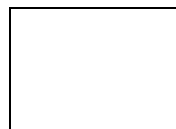
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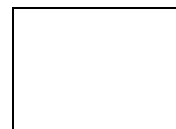
Witness 1



Witness 2



Employer



Witness 1



Witness 2

Enclosure dimensions are 2000x1000x600. It is double door and will be manufactured from mild steel. The enclosure will be outdoor-weather-proof rated IP65. All equipment will be mounted on a removable inner chassis plate. The units will be powder coated electric orange.

#### Lightning and Surge Protection

In order to protect against the above, the panel is fitted with 40kA Surge Arrestors c/w 32A fuses.

#### Panel Plug with Earth Leakage

The industrial type plug shall be utilized, to limit access to the power point to authorized personnel only.

#### Instrumentation

Full touch screen HMIs, Volt, ampere and hour meters available.

#### Indication Lights

Run, stop and fault indication lights can be fitted to the panel.

#### Controller

Heidelberg WCW Inlet Raw Sludge Transfer Pumps and Jan Smuts WCW Humus Pumps shall be controlled by variable speed drives. It should be possible to alternate the pumps. The number of pumps allowed to parallel operation shall be user configurable. It must be possible to start any of the pumps manually without interference from the control system. The controller should be programmable and shall include all control logics and telemetry functionalities for complete plant operation. The controller should consist of a touchscreen HMI and a DIN-rail mounted I/O device, which is modular expandable. The unit should be equipped with necessary I/O expansion modules, according to the actual demand, should be simple to handle and all relevant information should be available for the operator on the HMI in English. It should be possible to make all settings and adjustments of the controller locally, without any need of additional facilities, like laptops or other programming units.

#### Environment and standards

Power supply: 11-30VDC

Operational temperature: -20 - +50°C

Approvals CE, cUL, UL

#### HMI

Interface: 7" TFT

Resolution: 800 x 480 pixels/16,7M colours

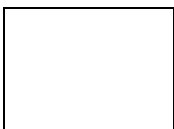
Mounting: front panel

Enclosure: IP66 front panel/NEMA4

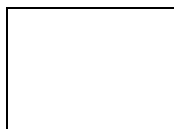
#### I/O unit

Mounting: Din-rail mounting

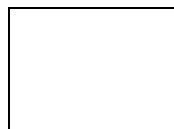
Enclosure: IP 20



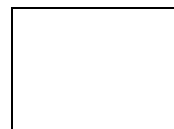
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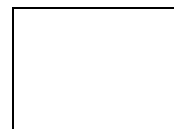
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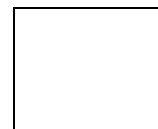
Witness 2



Employer



Witness 1



Witness 2



Field-Bus interface: RS485

Local interface: Wi-Fi

Protocols: Modbus TCP-mode,

System shall include manufacturers recommended busrail system to accommodate the main Controller/RTU and all I/O modules.

Data collection

20.000 date and time stamp event logs can be stored by the controller RTU and be accessed via SCADA systems.

Collected Data should be displayable direct on the HMI in the form of trends and graphs (daily/weekly).

Application software

According to the station demands software has to be programmed, which downloaded to the controller, enables the unit to control the entire station independent from any connection to a remote SCADA system.

An alarm should be generated if the motor current is outside an adjustable range and should block the respective pump.

The controller should constantly monitor the pumps in supervising all sensor information provided from the pumps and/or pump supervision relays (e.g. leakage, excessive temperature in the motor windings etc.). If a pump gets in abnormal conditions, the controller should stop the faulty pump, exclude it from the control sequence and should continue with the remaining pump.

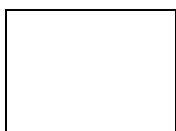
The supplier shall offer an APP free of charge for Android or IOS system.

**D. Concrete Plinth;**

The concrete plinth for the pumps and motor shall be reinforced by using 10mm thick mesh wires with a concrete that withstand a pressure of 30 MPa, the height of the plinth shall be 150mm. The Contractor shall be responsible to determine the length and width of the concrete plinth based on the proposed pumps and motors to be installed.

**E. Excavations, Cable Trenching, and Enclosures;**

- Existing trenching to be extended to accommodate the volume of cable work.
- Size of trenching to accommodate the volume of cables to be contained therein.
- The digging and compacting of the cable trench the sole responsibility of the contractor.
- Depth of trench to accommodate the volume of cables to be contained therein.
- Removable concrete enclosures to be used to cover cables running in trenches.
- Trench to be covered with removable enclosures.
- Enclosures to prevent moisture ingress in trench.
- Strength and material of enclosures to be suitable for use, preferably light concrete enclosures.
- Sleeves to be used where cable routes/trenches cross the road.



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

**F. Doppler Clamp-On Flow Meter:**

- The instrument must have Sensor clamp-on, single head ultrasonic for minimum of 12.7 mm to a maximum 4.5 m ID pipes
- Sensor cable must be min of 6 m shielded coaxial pair
- The instrument flow rate range of  $\pm 0.03$  to 12.2 m<sup>3</sup>/sec
- Installation - Silicone sensor compound kit
- PC4 Sensor mounting clamp for 15 - 800 mm OD pipes
- Instrument Enclosure must be watertight, NEMA4X (IP66)
- Display - White, backlit matrix
- Totalizer - 12 digit
- Instrument must have built-in -key programmer for Calibrations
- Instrument Sensitivity must be keypad adjustable
- Output - isolated 4-20mA (1000 ohm)
- 2 control relays - 5 amp, SPDT - programmable for flow proportional pulse output, and/or flow alarm
- Power input - 100-240VAC 50/60Hz, 3 Watts maximum
- Electrical surge protection and RFI filters - AC, sensor, 4-20mA1 Manual - Installation and Operation
- The unit must be able to work in temperatures between minus ten (10 °C) and seventy-five (75°C) degrees Celsius.
- All the panels should face South and all the outside panels must have Stainless Steel Canopy
- Cable glands should be IP55.

**Doppler Clamp-On Flow Meter Enclosure and Auxiliaries:**

- Supply, install and Commissioning of the Doppler Flow meters in a Poly Carbonate enclosures
- Panels should be pillar mounted with a base plate (minimum 200x200mm)
- Pedestal Unit 304 stainless steel 50x50mm, height 635mm and width 430x250mm.
- The Poly Carbonate wall mounted enclosure has to be from a reputable manufacturer with data sheet.
- Standard temperature (-5° to 140°F/-20° to 60C)
- The cable entry to the Enclosure must be from the bottom using a suitable SABS approved glands.
- Cable has to be terminated in this enclosure using suitable terminal connectors that clips onto a din rail.
- All installed equipment in the wall mounted enclosures has to be from a reputable manufacturer with data sheet, the equipment must be interchangeable with the existing one.
- 4-20mA surge arrester min class for life and neutral
- Earth leakage and three double pole 6 amp CB
- 400 VA ONE to ONE ratio transformer
- Earth terminals
- 24V Power supply min of 3 amps
- All cables must be marked.
- All cable ends will be lugged or ferruled.
- Min cable size in panel must be 2,5 mm<sup>2</sup> panel wire and all ends must be ferruled
- All external wires must run through terminals
- Must be fitted on the wall that will be indicated to you during the site meeting
- Supply cables must be a min of 2.5 mm<sup>2</sup> armoured (SWA) cable 3 core.

**G. Installation:**

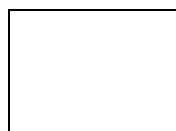
The Bidder must include for the complete installation and with the auxiliaries of the plant in running order, including the connection of existing cables from the electric motor to the existing MCC panel. This will also include ensuring the concrete plinth and baseplates are compatible and in a very good condition for mounting. Detailed drawings of the complete installations have to be submitted for approval to the engineer.



Contractor



Witness 1



Witness 2



Employer



Witness 1

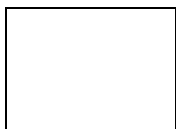


Witness 2

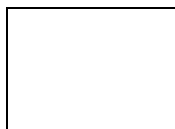
**H. Testing:**

The following tests are to be carried out:

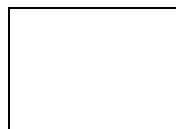
- i. At the supplier's premises, before the complete set of the Pump, and Electric Motor can be delivered to site, ERWAT Representatives must be present during the test to satisfy them that the complete set of the Pump comply with the specification and delivers the specified output. ERWAT must be timeously advised of the date for the test.
- ii. The test shall include a simulated test run at the supplier's premises to establish the mechanical integrity of the assembled equipment, site performance tests to demonstrate efficiency, electric motor insulation test, pressure tests and rotation direction check.
- iii. The Contractor shall provide all instruments and equipment required for testing and any water, power and fuel required for the commissioning and testing.
- iv. Test report/certificate of the tests as specified under (ii) is to be submitted to ERWAT.
- v. Visual inspections shall also form part of this contract; ERWAT Representatives must also be part of this process to witness and signed off the activity pre-assembly and/or post assembly to verify the quality of material used and the required dimensions.
- vi. The Bidder upon being awarded the contract must submit Product Quality Plan or Quality Control Plan which outlines the stages that requires intervention from ERWAT's Representative I.e. Visual Inspection, Simulation Test Run, Installation and Commissioning Stages.
- vii. Duty points shall be guaranteed either by ISO 9906 or Hydraulic institute.



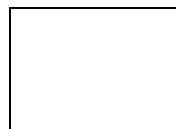
Contractor



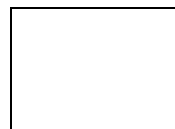
Witness 1



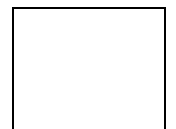
Witness 2



Employer



Witness 1



Witness 2

### C3.1.4.3 Design Data

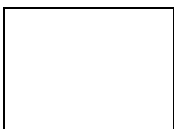
#### A. Ancor Water Care Works;

##### 4x Sludge Transfer Pumps:

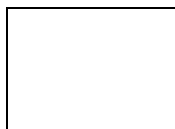
- Pump Type: Self-Priming
- Flow: 21 l/s
- Head: 16 m
- Electric Motor: 11 kW, 400 V, 50 Hz, 3 Phase
- Electrical Starter: Soft Starter
- Suction Valve: 75 mm (Non-Rising Spindle Wedge Gate)
- Discharge Valve: 75 mm (Non-Rising Spindle Wedge Gate)
- Non Return Valve: 75 mm (Ball Type)
- Level Sensor: Ultrasonic
- Suction Pipe Diameter: 75 mm
- Discharge Pipe Diameter: 75 mm
- Concrete Plinth: 200mm High (30 MPa)
- Pumped Medium: Raw Sludge

##### 1x Wash Water Pump:

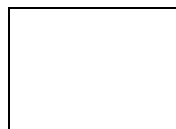
- Pump Type: Self-Priming
- Flow: 30 l/s
- Head: 14 m
- Electric Motor: 11 kW, 400 V, 50 Hz, 3 Phase
- Electrical Starter: Soft Starter
- Suction Valve: 100 mm (Non-Rising Spindle Wedge Gate)
- Discharge Valve: 100 mm (Non-Rising Spindle Wedge Gate)
- Non Return Valve: 100 mm (Ball Type)
- Suction Pipe Diameter: 100 mm
- Discharge Pipe Diameter: 100 mm
- Concrete Plinth: 200 mm High (30 MPa)
- Pumped Medium: Supernatant



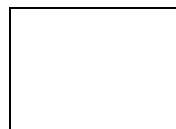
Contractor



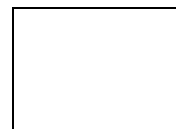
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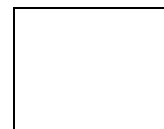
Witness 2



Employer



Witness 1



Witness 2

**B. Carl Grundling Water Care Works**

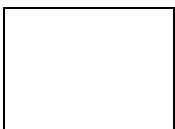
2x Irrigation Pumps:

- Pump Type: Self-Priming
- Flow: 24 l/s
- Head: 27 m
- Electric Motor: 15 kW, 400 V, 50 Hz, 3 Phase
- Electrical Starter: Soft Starter
- Suction Valve: 75 mm (Non-Rising Spindle Wedge Gate Type)
- Discharge Valve: 75 mm (Non-Rising Spindle Wedge Gate Type)
- Non Return Valve: 75 mm (Ball Type)
- Doppler Flow Meter: Ultrasonic (Online)
- Suction Pipe Diameter: 75 mm
- Discharge Pipe Diameter: 75 mm
- Concrete Plinth: 200mm High
- Pumped Medium: Treated Sludge

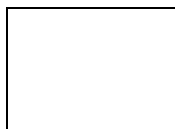
**C. Dekema Water Care Works**

4x Sludge Sump Transfer Pumps:

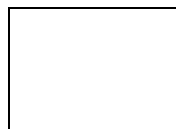
- Pump Type: Self-Priming
- Flow: 20 l/s
- Head: 14 m
- Electric Motor: 7.5 kW, 400 V, 50 Hz, 3 Phase
- Electrical Starter: Soft Starter
- Suction Valve: 75 mm (Non-Rising Spindle Wedge Gate)
- Discharge Valve: 75 mm (Non-Rising Spindle Wedge Gate)
- Non Return Valve: 75 mm (Ball Type)
- Doppler Flow Meter: Ultrasonic (Online)
- Level Sensor: Ultrasonic
- Suction Pipe Diameter: 75 mm
- Discharge Pipe Diameter: 75 mm



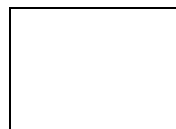
Contractor



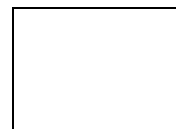
Witness 1



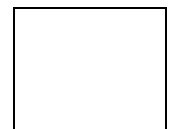
Witness 2



Employer



Witness 1



Witness 2

- Concrete Plinth: 200mm High (30 MPa)
- Pumped Medium: Raw Sludge

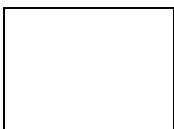
**D. Heidelberg Water Care Works**

4x Inlet Raw Transfer Pumps:

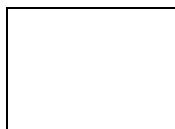
- Pump Type: Self-Priming
- Flow: 140 l/s
- Head: 22 m
- Electric Motor: 75 kW, 400 V, 50 Hz, 3 Phase
- Electrical Starter: Variable Speed Drives
- Suction Valve: 250 mm (Non-Rising Spindle Wedge Gate Type)
- Discharge Valve: 250 mm (Non-Rising Spindle Wedge Gate Type)
- Non Return Valve: 250 mm (Ball Type)
- Doppler Flow Meter: Ultrasonic (Online)
- Level Sensor: Ultrasonic
- Suction Pipe Diameter: 250 mm
- Discharge Pipe Diameter: 300 mm
- Concrete Plinth: 200mm High
- Pumped Medium: Raw Sewerage

2x Module 1 RAS Pumps:

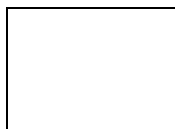
- Pump Type: Self-Priming
- Flow: 20 l/s
- Head: 6.5m
- Electric Motor: 7.5 kW, 400 V, 50 Hz, 3 Phase
- Electrical Starter: Soft Starter
- Suction Valve: 100 mm (Non-Rising Spindle Wedge Gate Type)
- Discharge Valve: 100 mm (Non-Rising Spindle Wedge Gate Type)
- Non Return Valve: 100mm (Ball Type)



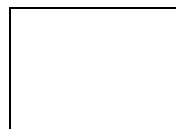
Contractor



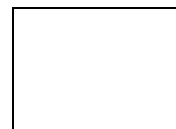
Witness 1



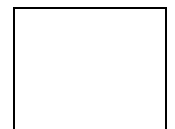
Witness 2



Employer



Witness 1



Witness 2

- Doppler Flow Meter: Ultrasonic (Online)
- Suction Pipe Diameter: 100 mm
- Discharge Pipe Diameter: 100 mm
- Concrete Plinth: 200mm High
- Pumped Medium: Activated Sludge

**E. Jan Smuts Water Care Works**

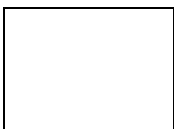
6x Humus Pumps:

- Pump Type: Self-Priming
- Flow: 150 l/s
- Head: 12 m
- Electric Motor: 30 kW, 400 V, 50 Hz, 3 Phase
- Electrical Panel: Variable Speed Drive
- Suction Valve: 250mm (Non-Rising Spindle Wedge Gate Type)
- Discharge Valve: 250mm (Non-Rising Spindle Wedge Gate Type)
- Non-Return Valve Type: 250mm (Ball Type)
- Concrete Plinth: 200 mm High (30 MPa)
- Pumped Medium: Sludge

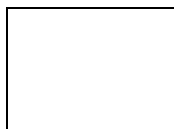
**F. JP Marais Water Care Works**

2x Wash Water Pumps:

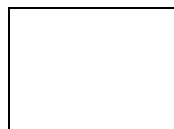
- Pump Type: Self-Priming
- Flow: 39 l/s
- Head: 53 m
- Electric Motor: 45 kW, 400 V, 50 Hz, 3 Phase
- Electrical Starter: Soft Starter
- Suction Valve: 150mm (Non-Rising Spindle Wedge Gate)
- Discharge Valve: 100mm (Non-Rising Spindle Wedge Gate)
- Non-Return Valve Type: 100mm (Ball Type)
- Concrete Plinth: Refurbish Existing
- Pumped Medium: Sludge



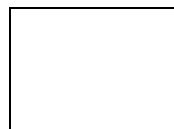
Contractor



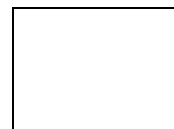
Witness 1



Witness 2



Employer



Witness 1

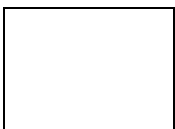


Witness 2

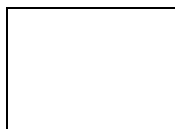
### G. Ratanda Water Care Works

#### 2x Sub-Standard Effluent Pumps:

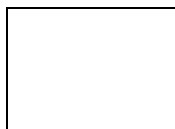
- Pump Type: Self-Priming
- Flow: 86 l/s
- Head: 19.5 m
- Electric Motor: 30 kW, 400 V, 50 Hz, 3 Phase
- Electrical Starter: Soft Starter
- Suction Valve: 200 mm (Non-Rising Spindle Wedge Gate Type)
- Discharge Valve: 200 mm (Non-Rising Spindle Wedge Gate Type)
- Non-Return Valve Type: 200 mm (Ball Type)
- Concrete Plinth: 200 mm High (30 MPa)
- Pumped Medium: Supernatant



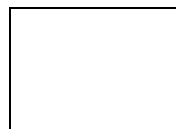
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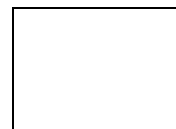
Witness 1



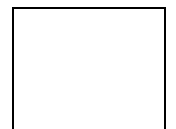
Witness 2



Employer



Witness 1



Witness 2



### C3.1.4.4 Location of the Works

#### A. Ancor Water Care Works

- **Physical Address:** Ermelo Road, Strubenvale, Springs
- **GPS Co-ordinates:** 26°16'08.45" S, 28°29'00.15" E

#### B. Carl Grundlingh Wastewater Care Works

- **Physical Address:** Vorsterkroon, Nigel
- **GPS Co-ordinates:** 26°23'17.69" S, 28°28'28.00"E

#### C. Dekema Water Care Works

- **Physical address:** 536 Sontonga Street, Motsamai Section, Katlehong
- **GPS Co-ordinates:** 26°20'39.40" S, 28°10'01.31" E

#### D. Heidelberg Water Care Works

- **Physical Address:** Farm Bosch Hoek 385, Vaaldam Road, Heidelberg
- **GPS Co-ordinates:** 26°32'22.59" S, 28°19'48.93" E

#### E. Jan Smuts Water Care Works

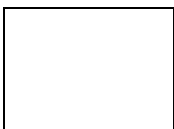
- **Physical Address:** Corner Escombe and Wanderers Street, Brakpan
- **GPS Co-ordinates:** 26°13'24.45"S, 28 22'33.01"E

#### F. JP Marais Water Care Works

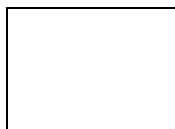
- **Physical Address:** Corner of N12/Kingsway Road, Benoni
- **GPS Co-ordinates:** 26°10'13.46" S, 28°23'49.21" E

#### G. Ratanda Water Care Works

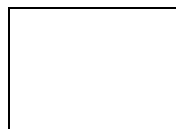
- **Physical Address:** Farm Klipstapel, Vaaldam Road, Ratanda
- **GPS Co-ordinates:** 26°34'57.80" S, 28°18'11.27" E



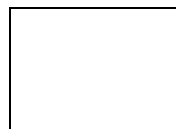
Contractor



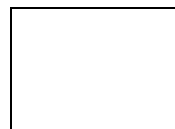
Witness 1



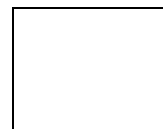
Witness 2



Employer



Witness 1



Witness 2

**C3.1.5 Datasheet:** This is the minimum specifications ERWAT will consider: Bidders are required to submit datasheets and manufactures brochures that are linked to the completed datasheet. (ERWAT reserves the right to request information for clarity purposes)

<b>ANCOR WATER CARE WORKS: 4x Sludge Transfer Pumps</b>			
<b>Item No.</b>	<b>Item Description</b>	<b>Specified: Engineer</b>	<b>Offered: Contractor</b>
1	Pump Type	Self-Priming	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	4	
<b>PUMP</b>			
6	Flow Rate – (l/s)	21	
7	Head – (m)	16	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	75	
10	Discharge diameter – (mm)	75	
11	Type of seal	(Mechanical Seal) Tungsten Titanium Carbide or equivalent	
12	Impeller	Hard Iron	
13	Casing	Cast Iron	
14	Shaft	Steel Alloy AISI/SAE 4150 or Equivalent	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130 or Equivalent	



Contractor



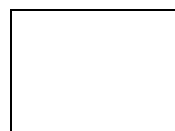
Witness 1



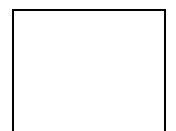
Witness 2



Employer

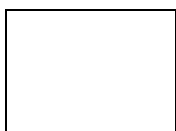


Witness 1

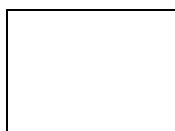


Witness 2

16	Impeller Type	Semi-Open Type, Two Vanes	
<b>ELECTRICAL MOTOR (3 PHASE, 4 POLE)</b>			
17	Manufacturer	.....	
18	Supplier	.....	
19	Type	High or Premium Efficiency	
20	Motor speed	.....	
21	Motor size	11 kW	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	75	
30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>PIPEWORK</b>			
33	Manufacturer	.....	



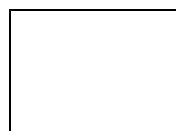
Contractor



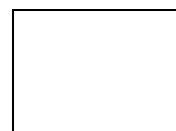
Witness 1



Witness 2



Employer



Witness 1



Witness 2

34	Supplier	.....	
35	Pipes (including Pipe Elbows, Wyes and T-Pieces)	Mild Steel, 250 Microns Epoxy Coated DFT	
36	Nominal Bore – (mm)	75 – Discharge 75 – Suction	
37	Pipe Support	Hot Galvanized Mild Steel Support	
<b>NON-RETURN VALVE (Pressure Nominal = PN16)</b>			
38	Manufacturer	.....	
39	Supplier	.....	
40	Non-Return Valves (Ball Type) – (mm)	100	
41	Ball	Nitrile Rubber	
42	Cover Ring	Nitrile Rubber	
43	Body and Cover	Cast Iron	
<b>DELIVERY AND RETENTION PERIOD</b>			
44	Delivery Period (Weeks)		
45	Defects Warranty period for 12 Calendar Months (1 Year)		

Contractor

Witness 1

Witness 2

Employer

Witness 1

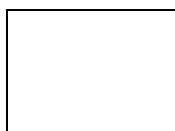
Witness 2

**ANCOR WATER CARE WORKS: 1x Wash Water Pump**

Item No.	Item Description	Specified: Engineer	Offered: Contractor
1	Pump Type	Self-Priming	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	1	
<b>PUMP</b>			
6	Flow Rate – (l/s)	30	
7	Head – (m)	14	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	100	
10	Discharge diameter – (mm)	100	
11	Type of seal	(Mechanical Seal) Tungsten Titanium Carbide or Equivalent	
12	Impeller	Hard Iron	
13	Casing	Cast Iron	
14	Shaft	Steel Alloy AISI/SAE 4150 or Equivalent	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130 or Equivalent	
16	Impeller Type	Semi-Open Type, Two Vanes	
<b>ELECTRICAL MOTOR (3 PHASE, 4 POLE)</b>			



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

17	Manufacturer	.....	
18	Supplier	.....	
19	Type	High or Premium Efficiency	
20	Motor speed	.....	
21	Motor size	11 kW	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	100	
30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>PIPEWORK</b>			
33	Manufacturer	.....	
34	Supplier	.....	
35	Pipes (including Pipe Elbows, Wyes and T-Pieces)	Mild Steel, 250 Microns Epoxy Coated DFT	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

36	Nominal Bore – (mm)	100 – Discharge 100 – Suction	
37	Pipe Support	Hot Galvanized Mild Steel Support	
<b>NON-RETURN VALVE (Pressure Nominal = PN16)</b>			
38	Manufacturer	.....	
39	Supplier	.....	
40	Non-Return Valves (Ball Type) – (mm)	100	
41	Ball	Nitrile Rubber	
42	Cover Ring	Nitrile Rubber	
43	Body and Cover	Cast Iron	
<b>DELIVERY AND RETENTION PERIOD</b>			
44	Delivery Period (Weeks)		
45	Defects Warranty period for 12 Calendar Months (1 Year)		

Contractor

Witness 1

Witness 2

Employer

Witness 1

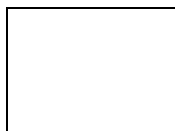
Witness 2

**CARL GRUNDLING WATER CARE WORKS: 2x Irrigation Pumps**

Item No.	Item Description	Specified: Engineer	Offered: Contractor
1	Pump Type	Self-Priming	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	2	
<b>PUMP</b>			
6	Flow Rate – (l/s)	24	
7	Head – (m)	27	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	75	
10	Discharge diameter – (mm)	75	
11	Type of seal	(Mechanical Seal) Tungsten Titanium Carbide or Equivalent	
12	Impeller	Hard Iron	
13	Casing	Cast Iron	
14	Shaft	Steel Alloy AISI/SAE 4150 or Equivalent	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130 or Equivalent	
16	Impeller Type	Semi-Open Type, Two Vanes	
<b>ELECTRICAL MOTOR (3 PHASE, 4 POLE)</b>			



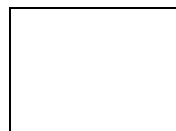
Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2



17	Manufacturer	.....	
18	Supplier	.....	
19	Type	High or Premium Efficiency	
20	Motor speed	.....	
21	Motor size	15 kW	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	75	
30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>NON-RETURN VALVE (Pressure Nominal = PN16)</b>			
33	Manufacturer	.....	
34	Supplier	.....	
35	Non-Return Valves (Ball Type) – (mm)	100	



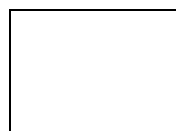
Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

36	Ball	Nitrile Rubber	
37	Cover Ring	Nitrile Rubber	
38	Body and Cover	Cast Iron	
<b>DELIVERY AND RETENTION PERIOD</b>			
39	Delivery Period (Weeks)		
40	Defects Warranty period for 12 Calendar Months (1 Year)		



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

**DEKEMA WATER CARE WORKS: 4x Sludge Sump Transfer Pumps**

Item No.	Item Description	Specified: Engineer	Offered: Contractor
1	Pump Type	Self-Priming, Horizontal Centrifugal Pump	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	4	
<b>PUMP</b>			
6	Flow Rate – (l/s)	20	
7	Head – (m)	14	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	75	
10	Discharge diameter – (mm)	75	
11	Type of Seal	(Mechanical Seal) Tungsten Titanium Carbide or Equivalent	
12	Impeller	Hard Iron	
13	Casing	Cast Iron	
14	Shaft	Steel Alloy AISI/SAE 4150	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130	
16	Impeller Type	Semi-Open Type, Two Vanes	
<b>FOUR POLE MOTOR</b>			
17	Manufacturer	.....	



Contractor



Witness 1



Witness 2



Employer



Witness 1

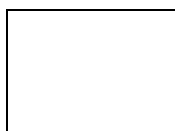


Witness 2

18	Supplier	.....	
19	Type	High Efficiency	
20	Motor speed	.....	
21	Motor size	.....	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	75	
30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>PIPEWORK</b>			
33	Manufacturer	.....	
34	Supplier	.....	
35	Pipes (including Pipe Elbows, Wyes and T-Pieces)	Mild Steel, 250 Microns Epoxy Coated DFT	
36	Nominal Bore – (mm)	75 – Discharge 175 – Suction	



Contractor



Witness 1



Witness 2



Employer



Witness 1

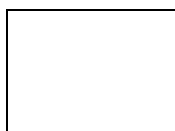


Witness 2

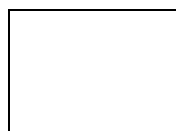
37	Pipe Support	Hot Galvanized Mild Steel Support	
<b>NON-RETURN VALVES (Pressure Nominal = PN16)</b>			
38	Non-Return Valves (Ball Type) – (mm)	75	
39	Ball	Nitrile Rubber	
40	Cover Ring	Nitrile Rubber	
41	Body and Cover	Cast Iron	
<b>CLAMP ON DOPPLER FLOW METERS</b>			
42	Flow Meter Type	.....	
43	Manufacturer	.....	
44	Supplier	.....	
45	Model No.	.....	
46	Number of Units - No.	4	
47	Sensor	Clamp-on, single head ultrasonic, min of 12.7 mm to 4.5 m ID pipes	
48	Sensor cable	Min of 6 m shielded coaxial pair	
49	Flow Rate range	Min ± 0.03 to 12.2 m/sec	
50	Installation	Silicone sensor compound kit	
51	PC4 Sensor mounting clamp	Min 15 - 800 mm OD pipes	
52	Display	White, backlit matrix	
53	Totalizer	12 digit	
54	Calibration	Built-in -key programmer	
55	Sensitivity	Keypad adjustable	



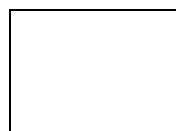
Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

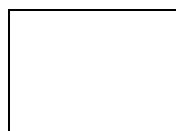
56	Output	Isolated 4-20mA (1000 ohm)	
57	2 Control relays	5 amp, SPDT - programmable for flow proportional pulse output, and/or flow alarm	
58	Data Logger	2 million point Data Logger (with USB output, PC software)	
59	Power Input	9-32VDC	
<b>FLOW METER ENCLOSURE</b>			
60	Enclosure Type	Explosion Proof IP 65,	
61	Minimum dimensions	Height 500mm, Width 500mm and depth 200mm Cast Iron	
62	Standard temperature	-20° to 60C	
63	Heater and thermostat	230 VAC, 15 Watts	
64	Electronic Protection	Standard - no circuit board coating/ Conformal Coating	
65	Main Power Input	100-240VAC 50/60Hz, 3 Watts maximum	
66	Intrinsic safety barrier	(built into electronics enclosure) Standard, General Purpose locations, not rated Intrinsically Safe, 2ISB Intrinsic Safety Barriers for Sensor installation in Class I, II, III, and Div. I,II, Groups C,D,E,F,G	
<b>FLOW METER CABLES AND AUXILIARIES</b>			
67	Min cable size in panel	2,5 mm <sup>2</sup> panel wire and all ends must be ferruled	
68	Supply cables	2,5 mm <sup>2</sup> armoured (SWA) cable 3 core	
69	Surge arrestors	min class 2 for life and neutral	
70	Circuit Breakers	Double pole, 6 amps	
71	Earth leakage	To be included	
72	Earth terminals	To be included	



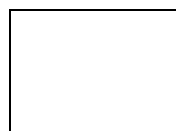
Contractor



Witness 1



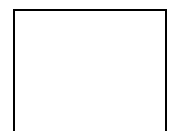
Witness 2



Employer



Witness 1

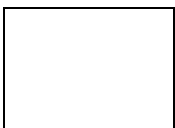


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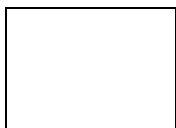
**DELIVERY AND RETENTION PERIOD**

73	Delivery Period (Weeks)	
74	Defects Warranty for 12 Calendar Months (1 Year)	

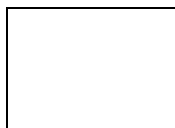
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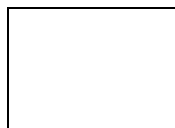
*Contractor*



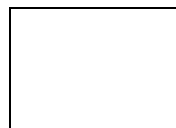
*Witness 1*



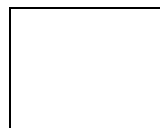
*Witness 2*



*Employer*



*Witness 1*



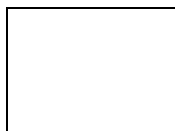
*Witness 2*

**HEIDELBERG WATER CARE WORKS: 4x Inlet Raw Transfer Pumps**

Item No.	Item Description	Specified: Engineer	Offered: Contractor
1	Pump Type	Self-Priming	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	4	
<b>PUMP</b>			
6	Flow Rate – (l/s)	140	
7	Head – (m)	22	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	250	
10	Discharge diameter – (mm)	250	
11	Type of seal	(Mechanical Seal) Tungsten Titanium Carbide or Equivalent	
12	Impeller	Hard Iron	
13	Casing	Cast Iron	
14	Shaft	Steel Alloy AISI/SAE 4150 or Equivalent	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130 or Equivalent	
16	Impeller Type	Semi-Open Type, Two Vanes	
<b>ELECTRICAL MOTOR (3 PHASE, 4 POLE)</b>			



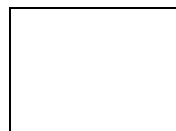
Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2



17	Manufacturer	.....	
18	Supplier	.....	
19	Type	High or Premium Efficiency	
20	Motor speed	.....	
21	Motor size	75 kW	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	250	
30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>PIPEWORK</b>			
33	Manufacturer	.....	
34	Supplier	.....	
35	Pipes (including Pipe Elbows, Wyes and T-Pieces)	Mild Steel, 250 Microns Epoxy Coated DFT	



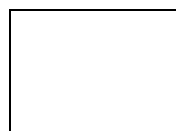
Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

36	Nominal Bore – (mm)	300 – Discharge 250 – Suction	
37	Pipe Support	Hot Galvanized Mild Steel Support	
<b>NON-RETURN VALVE (Pressure Nominal = PN16)</b>			
38	Manufacturer	.....	
39	Supplier	.....	
40	Non-Return Valves (Ball Type) – (mm)	250	
41	Ball	Nitrile Rubber	
42	Cover Ring	Nitrile Rubber	
43	Body and Cover	Cast Iron	
<b>VARIABLE SPEED DRIVES (VSD)</b>			
44	VSD size	75 kW	
45	Manufacturer	-	
46	Supplier	-	
47	Model No.	-	
48	Number of units	4	
49	Door mounted external display units.	4	
50	Communication protocol required	Modbus – TCP	
<b>DELIVERY AND RETENTION PERIOD</b>			
51	Delivery Period (Weeks)		
52	Defects Warranty period for 12 Calendar Months (1 Year)		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**HEIDELBERG WATER CARE WORKS: 2x Return Activated Sludge Pumps**

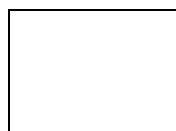
Item No.	Item Description	Specified: Engineer	Offered: Contractor
1	Pump Type	Self-Priming	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	2	
<b>PUMP</b>			
6	Flow Rate – (l/s)	20	
7	Head – (m)	14	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	100	
10	Discharge diameter – (mm)	100	
11	Type of seal	(Mechanical Seal) Tungsten Titanium Carbide or Equivalent	
12	Impeller	Hard Iron	
13	Casing	Cast Iron	
14	Shaft	Steel Alloy AISI/SAE 4150 or Equivalent	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130 or Equivalent	
16	Impeller Type	Semi-Open Type, Two Vanes	
<b>ELECTRICAL MOTOR (3 PHASE, 4 POLE)</b>			



Contractor



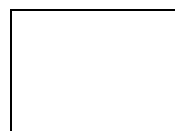
Witness 1



Witness 2



Employer



Witness 1

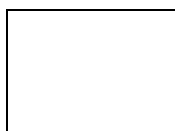


Witness 2

17	Manufacturer	.....	
18	Supplier	.....	
19	Type	High or Premium Efficiency	
20	Motor speed	.....	
21	Motor size	4 kW	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	100	
30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>PIPEWORK</b>			
33	Manufacturer	.....	
34	Supplier	.....	
35	Pipes (including Pipe Elbows, Wyes and T-Pieces)	Mild Steel, 250 Microns Epoxy Coated DFT	



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

36	Nominal Bore – (mm)	100 – Discharge 100 – Suction	
37	Pipe Support	Hot Galvanized Mild Steel Support	
<b>NON-RETURN VALVE (Pressure Nominal = PN16)</b>			
38	Manufacturer	.....	
39	Supplier	.....	
40	Non-Return Valves (Ball Type) – (mm)	100	
41	Ball	Nitrile Rubber	
42	Cover Ring	Nitrile Rubber	
43	Body and Cover	Cast Iron	
<b>DELIVERY AND RETENTION PERIOD</b>			
44	Delivery Period (Weeks)		
45	Defects Warranty period for 12 Calendar Months (1 Year)		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**JAN SMUTS WATER CARE WORKS: 6x PST and Clarifier Tanks Pumps**

Item No.	Item Description	Specified: Engineer	Offered: Contractor
1	Pump Type	Self-Priming	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	6	
<b>PUMP</b>			
6	Flow Rate – (l/s)	150	
7	Head – (m)	12	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	250	
10	Discharge diameter – (mm)	250	
11	Type of seal	(Mechanical Seal) Tungsten Titanium Carbide or Equivalent	
12	Impeller	Hard Iron	
13	Casing	Cast Iron	
14	Shaft	Steel Alloy AISI/SAE 4150 or Equivalent	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130 or Equivalent	
16	Impeller Type	Semi-Open Type, Two Vanes	
<b>ELECTRICAL MOTOR (3 PHASE, 4 POLE)</b>			



Contractor



Witness 1



Witness 2



Employer



Witness 1

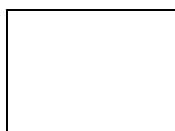


Witness 2

17	Manufacturer	.....	
18	Supplier	.....	
19	Type	High or Premium Efficiency	
20	Motor speed	.....	
21	Motor size	30 kW	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	250	
30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>PIPEWORK</b>			
33	Manufacturer	.....	
34	Supplier	.....	
35	Pipes (including Pipe Elbows, Wyes and T-Pieces)	Mild Steel, 250 Microns Epoxy Coated DFT	



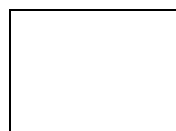
Contractor



Witness 1



Witness 2



Employer

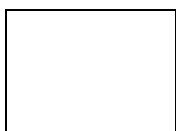


Witness 1

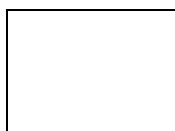


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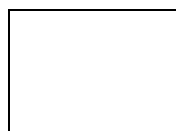
36	Nominal Bore – (mm)	300 – Discharge 250 – Suction	
37	Pipe Support	Hot Galvanized Mild Steel Support	
<b>NON-RETURN VALVE (Pressure Nominal = PN16)</b>			
38	Manufacturer	.....	
39	Supplier	.....	
40	Non-Return Valves (Ball Type) – (mm)	250	
41	Ball	Nitrile Rubber	
42	Cover Ring	Nitrile Rubber	
43	Body and Cover	Cast Iron	
<b>VARIABLE SPEED DRIVES (VSD)</b>			
44	VSD size	30 kW	
45	Manufacturer	-	
46	Supplier	-	
47	Model No.	-	
48	Number of units	6	
49	Door mounted external display units.	6	
50	Communication protocol required	Modbus – TCP	
<b>DELIVERY AND RETENTION PERIOD</b>			
51	Delivery Period (Weeks)		
52	Defects Warranty period for 12 Calendar Months (1 Year)		



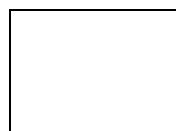
Contractor



Witness 1



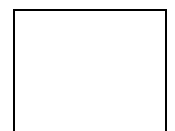
Witness 2



Employer



Witness 1



Witness 2



**JP MARAIS WASTEWATER CARE WORKS: 2X Wash Pumps**

Item No.	Item Description	Specified: Engineer	Offered: Contractor
1	Pump Type	Self-Priming	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	2	
<b>PUMP</b>			
6	Flow Rate – (l/s)	39	
7	Head – (m)	53	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	100	
10	Discharge diameter – (mm)	100	
11	Type of seal	(Mechanical Seal) Tungsten Titanium Carbide or Equivalent	
12	Impeller	Ductile Iron	
13	Casing	Cast Iron 30	
14	Shaft	Steel Alloy AISI/SAE 4140 or Equivalent	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130 or Equivalent	
16	Impeller Type	Semi-Open Type, Two Vanes	
<b>ELECTRICAL MOTOR (3 PHASE, 4 POLE)</b>			



Contractor



Witness 1



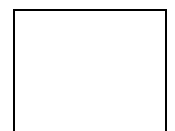
Witness 2



Employer



Witness 1



Witness 2

17	Manufacturer	.....	
18	Supplier	.....	
19	Type	High Efficiency	
20	Motor speed	.....	
21	Motor size	45 kW	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	100	
30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>NON-RETURN VALVE (Pressure Nominal = PN16)</b>			
33	Manufacturer		
34	Supplier		
35	Non-Return Valves (Ball Type) – (mm)	100	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

36	Ball	Nitrile Rubber	
37	Cover Ring	Nitrile Rubber	
38	Body and Cover	Cast Iron	
<b>DELIVERY AND RETENTION PERIOD</b>			
39	Delivery Period (Weeks)		
40	Defects Warranty period for 12 Calendar Months (1 Year)		

**RATANDA WATER CARE WORKS: 2x Sub-Standard Effluent Pumps**

Item No.	Item Description	Specified: Engineer	Offered: Contractor
1	Pump Type	Self-Priming	
2	Manufacturer	.....	
3	Supplier	.....	
4	Model No.	.....	
5	Number of units	2	
<b>PUMP</b>			
6	Flow Rate – (l/s)	86	
7	Head – (m)	19.5	
8	Efficiency (%)	.....	
9	Suction diameter – (mm)	200	
10	Discharge diameter – (mm)	200	

Contractor

Witness 1

Witness 2

Employer

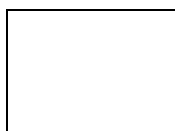
Witness 1

Witness 2

11	Type of seal	(Mechanical Seal) Tungsten Titanium Carbide or Equivalent	
12	Impeller	Hard Iron	
13	Casing	Cast Iron	
14	Shaft	Steel Alloy AISI/SAE 4150 or Equivalent	
15	Shaft Sleeve	Steel Alloy AISI/SAE 4130 or Equivalent	
16	Impeller Type	Semi-Open Type, Two Vanes	
<b>ELECTRICAL MOTOR (3 PHASE, 4 POLE)</b>			
17	Manufacturer	.....	
18	Supplier	.....	
19	Type	High or Premium Efficiency	
20	Motor speed	.....	
21	Motor size	30 kW	
22	Efficiency	.....	
23	Ingress Protection Rating	IP66 – IP68	
<b>SUCTION AND DISCHARGE VALVES (Pressure Nominal = PN16)</b>			
24	Gate Type	Non-Rising Spindle Wedge	
25	Manufacturer	.....	
26	Supplier	.....	
27	Body and Gate	Cast Iron	
28	Spindle and Nut	Stainless Steel	
29	Nominal Bore – (mm)	200	



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

30	Face to Face Length – (mm)	.....	
31	Hand Wheel Diameter – (mm)	.....	
32	Direction of Closing	Clockwise	
<b>PIPEWORK</b>			
33	Manufacturer	.....	
34	Supplier	.....	
35	Pipes (including Pipe Elbows, Wyes and T-Pieces)	Mild Steel, 250 Microns Epoxy Coated DFT	
36	Nominal Bore – (mm)	200 – Discharge 200 – Suction	
37	Pipe Support	Hot Galvanized Mild Steel Support	
<b>NON-RETURN VALVE (Pressure Nominal = PN16)</b>			
38	Manufacturer	.....	
39	Supplier	.....	
40	Non-Return Valves (Ball Type) – (mm)	200	
41	Ball	Nitrile Rubber	
42	Cover Ring	Nitrile Rubber	
43	Body and Cover	Cast Iron	
<b>DELIVERY AND RETENTION PERIOD</b>			
44	Delivery Period (Weeks)		
45	Defects Warranty period for 12 Calendar Months (1 Year)		

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**C3.2 ENGINEERING**

**C3.2.1 Contractor's Design, Drawings and Information to be provided**

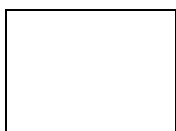
The following must be provided by the Contractor

<b>VENDOR INFORMATION AND DOCUMENT REQUIREMENT LIST</b>	
<b>DESCRIPTION</b>	<b>WHEN REQUIRED</b>
Project Programme	Order + 1 Week
Design calculations calculation of the cable conductor size	Tender document and data book
Equipment brochures	Tender document and data book
Design calculations for the equipment	Order + 3 weeks and data book
GA drawings	Order + 3 weeks and data book
Schematic diagrams	Order + 3 weeks and data book
Foundation/Concrete Plinth details	Order + 3 weeks and data book
Manufacturing program	Order + 3 weeks
Manufacturing quality control plan	Order + 3 weeks and data book
Installation quality control plan	Order + 6 weeks and data book
Installation risk assessment and method statement including safe work procedure.	Order + 6 weeks and data book
Performance test certificate	data book
Electrical test certificate (including COC)	data book
Vendors cert. of conformance if any	data book
Operating / maintenance manual	data book
Progress Reports	Bi-Weekly

**Note 1:**

The Programme shall identify all major activities, principal items of plant and equipment and their components. The following activities and their duration shall, in addition to the requirements of the Conditions of Contract, form the minimum basis for the preparation of the Programme:-

- Insurance Bond and general obligations
- Design
- Plant equipment and arrangement drawings



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

- Project Quality Plan
- Schedules
- HAZOPS
- Procurement
- Inspection and works testing
- Delivery
- Installation
- Adjustment
- Testing
- Commissioning
- Defects Notification Period

**Note 2:**

The Contractor shall provide a monthly progress report to the Engineer. The report shall cover at least the following aspects:

- progress of various activities in comparison to original program
- attainment of key milestones
- list of purchase orders placed
- names and positions of key personnel working on the project
- staffing levels on site (when site work commences)
- identification of any aspects needing to be addressed by the Employer or the Engineer

**C3.2.2 Drawings**

**C3.2.2.1 Contractors Drawings**

The contractor appointed to carry out the work shall produce a comprehensive set of detailed design drawings suitable for issue for construction as well as detailed shop drawings, prior to manufacture of equipment. They shall also be responsible for As-Built drawings and operating and maintenance manuals on completion.

The following electrical drawings shall be provided:

- Generator GA Drawing
- Detailed cable layout routes
- Wiring and Termination schedules as required for construction
- Equipment schedules
- Equipment Data Sheets



Contractor



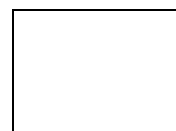
Witness 1



Witness 2



Employer



Witness 1



Witness 2

### C3.3 CONSTRUCTION

#### C3.3.1 Standards

It shall be the responsibility of the Contractor to obtain, at his own expense, the most recent copies of the relevant editions of the documents referred to.

The Contractor shall keep copies of the Standard Specifications, copies which are available from the South African Bureau of Standards.

For the purpose of this Contract the following Standard Specifications shall apply:

##### C3.3.1.1 *Electrical Standards and specifications*

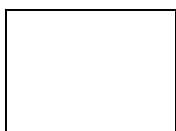
All material and equipment shall comply with recognized national and international standard specifications.

Typically the following standards shall apply:

- |  |                         |
|--|-------------------------|
| • Transformers                           | SANS 780                |
| • Mini Subs                              | SANS 1029 and SANS 1030 |
| • Low voltage MCCs                       | SANS 60439              |
| • Low voltage cable                      | SANS 1507               |
| • Luminaires                             | SANS 1279 & SANS 60598  |
| • Earthing and lightning protection      | SANS 10313 & 61024      |
| • Regulations for the wiring of premises | SANS 10142 -1 (2003)    |

In addition there shall be compliance with:

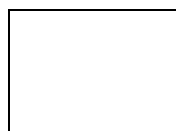
- The Occupational Health and Safety Act
- Regulations of the Supply Authority
- Local Authority by-laws
- Regulations of the Fire office
- Telecommunications legislation



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2



### C3.3.2 Site establishment

#### C3.3.2.1 *Services and Facilities provided by the Employer.*

##### 1. Electricity Supply

The Site is provided with ESKOM/Municipality power. One or more 380 V 50 Hz power supply points can be made available to the Contractor. The contractor shall be responsible for providing an installation which complies in all respects with the standing regulations of the supply authority. Failure on the part of the Contractor to observe these requirements or maintain his installations in terms therefore will result in the termination of electrical power supplies until such time as any shortcomings in this regard are rectified.

No warranty is offered or given by the Employer that the existing available electricity supply will be adequate for the Contractor's purposes nor that such supply is in any way guaranteed.

##### 2. Telephone Services

To be provided by Contractor

##### 3. Area for Contractor's Site Establishment

The proposed site of the Contractor's offices, workshops, stores and plant yard will be indicated on site if requested where applicable.

#### C3.3.2.2 *Facilities provided by the Contractor*

The Contractor is required to provide a construction camp including offices, workshop, materials, store, sanitary facilities, offices and equipment for his own use as required.

#### C3.3.3 Site Usage

The Contractor; his personnel; and his subcontractors; and suppliers; shall confine their activities to the demarcated site of the Works and the direct access roads thereto. Temporary routes shall be subject to the written approval of the Engineer and be subject to the applicable Standardized Specifications.

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Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

### C3.4 MANAGEMENT OF THE WORKS

#### C3.4.1 Planning and Programming

The programme referred to in the General Conditions of Contract shall be a network- based programme in accordance with the precedence method; a detailed cash flow graph indicating projected monthly invoice amounts shall also be provided. The critical path of the programme of work shall be clearly indicated and the programme monitored continually and updated monthly by the Contractor in accordance with his progress.

(1) In compiling the programme of work, the Contractor shall incorporate the following important specific requirements and constraints:

- (a) The identification and marking of affected services prior to commencing construction works.
- (b) The requirements of the Environmental Management Plan (EMP) as specified in the relevant sections of the Particular Specifications and the requirements in respect of inspections and community liaison.
- (c) The requirements of the Occupational Health Safety (OHS) Act of 1993 and the Construction Regulations, 2003.
- (d) The relocation of services.
- (e) An allowance to accommodate “normal” rain days.

(2) The programme submitted shall include at least the following details:

- (a) A work breakdown structure identifying the major activity groups.
- (b) The critical path shall be indicated and floats on non-critical activities shall be shown.
- (c) The working hours per day, week and month allowed for in the programme with details of resource allocations per activity.
- (d) Production rates for key activities, e.g. engineering, fabrication, delivery, installation, commissioning, etc.

(3) In addition the Contractor shall submit to the Engineer at monthly intervals a progress report indicating the following details:

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Contractor

Witness 1

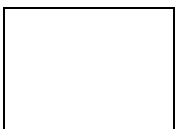
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Employer

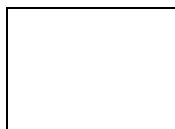
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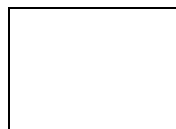
- (a) Work completed in previous month and total progress to date, per activity.
- (b) Activities behind programme, for which the Contractor shall detail all reasons for such delays as well as the measures to be implemented to make up delays.
- (c) A GANTT chart showing the original programme, the latest approved version of the programme, actual progress achieved and revised completion sates, if and when applicable.
  - Failure to comply with all of the foregoing requirements shall entitle the Engineer to use a programme based on his own assumptions to evaluate claims for extension of time for completion of the works, or for additional compensation.



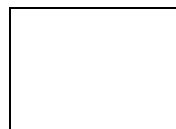
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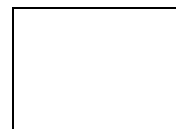
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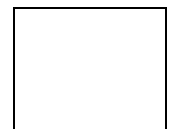
*Witness 2*



*Employer*



*Witness 1*



*Witness 2*

## REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION

### 3.5 HEALTH AND SAFETY SPECIFICATIONS

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##### C3.5.1 INTRODUCTION AND BACKGROUND

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C3.5.2.3.10.2 Awareness

C3.5.2.3.10.3 Competency

C3.5.2.3.11 General Record Keeping

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C3.5.2.3.18 Occupational Health and Safety Signage

C3.5.2.3.19 Contractors

C3.5.2.3.20 Incentives and Penalties

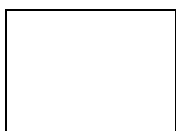
C3.5.2.3.21 Health & Safety Officer (Part-time)

C3.5.2.4 Physical Requirements

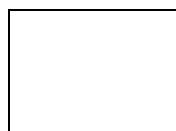
C3.5.2.4.1 Civil Work

C3.5.2.4.2 Excavations / Trenching

C3.5.2.4.3 Confined Spaces



Contractor



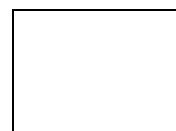
Witness 1



Witness 2



Employer



Witness 1



Witness 2

- C3.5.2.4.4 Existing Structures
- C3.5.2.4.5 Edge Protection and Penetrations
- C3.5.2.4.6 Hazardous Chemical Substances (HCS)
- C3.5.2.4.7 Stacking of Materials
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- C3.5.2.5.2 Vessels under Pressure (Gas bottles including Operations)
- C3.5.2.5.3 Fire Extinguishers and Fire Fighting Equipment
- C3.5.2.5.4 Hired Plant and Machinery
- C3.5.2.5.5 Formwork for Structures
- C3.5.2.5.6 General Machinery
- C3.5.2.5.7 High Voltage Electrical Equipment
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- C3.5.2.5.9 Welding Equipment
- C3.5.2.5.10 Public Health and Safety
- C3.5.2.5.11 Night Work
- C3.5.2.6 Occupational Health**
- C3.5.2.6.1 Occupational Hygiene
- C3.5.2.6.2 Welfare Facilities
- C3.5.2.6.3 Alcohol and Other Drugs
- C3.5.3 ANNEXURE A TASK COMPLETION FORM**
- C3.5.4 ANNEXURE B PC RESPONSIBLE PERSON(S)**
- C3.5.5 ANNEXURE C OTHER REQUIREMENTS**
- C3.5.6 ANNEXURE D ACKNOWLEDGEMENT OF H & S SPECS**

**C3.5. INTRODUCTION AND BACKGROUND**

**C3.5.1.1 BACKGROUND TO THE HEALTH AND SAFETY SPECIFICATION**

The Construction Regulations (July 2003) place the onus on the Client to prepare a preconstruction Health and Safety specification, highlighting all risks not successfully eliminated during design setting standards for Health and Safety during construction phase.

**C3.5.1.2 PURPOSE OF THE HEALTH AND SAFETY SPECIFICATION**

To assist in achieving compliance with the Occupational Health and Safety Act 85/1993 and the promulgated Construction Regulations (July 2003) in order to reduce incidents and injuries. These specifications shall act as the basis for the drafting of the construction phase Health and Safety plan by the Contractor.

The specification sets out the requirements to be followed by the Principal Contractor and their Contractors so that the Health and Safety of all persons potentially at risk may receive the same priority as other facets of the project e.g. Cost, programmed, environment, quality etc.



Contractor



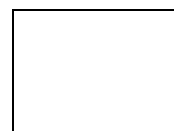
Witness 1



Witness 2



Employer



Witness 1



Witness 2

### **C3.5.2 HEALTH AND SAFETY SPECIFICATION**

#### **C3.5.2.1 SCOPE**

This specification covers the requirements for eliminating and mitigating incidents and injuries on the **REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION Project.**

The scope also addresses legal compliance, hazard identification and risk assessment, risk control and promoting a Health and Safety culture amongst those working on the project. The specification also makes provision for the protection of those persons other than employees.

##### **C3.5.2.1.2 Provision for Health & Safety Cost**

The Principal Contractor must make provision for the cost of Health & Safety Measures during the construction process as required by the Construction Regulation 4(h).

#### **C3.5.2.2 INTERPRETATIONS**

##### **C3.5.2.2.1 APPLICATION**

This specification is a compliance document drawn up in terms of the South African legislation and is therefore binding. It must be read in conjunction with relevant legislation as noted previously.

##### **C3.5.2.2.2 DEFINITIONS**

The definitions as listed in the Occupational Health and Safety Act 85/1993 and Construction Regulations (July 2003) shall apply.

#### **C3.5.2.3 MINIMUM ADMINISTRATIVE REQUIREMENTS**

##### **C3.5.2.3.1 NOTIFICATION OF INTENTION TO COMMENCE CONSTRUCTION WORK**

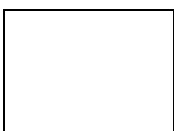
The Principal Contractor shall notify the provincial Director of the Department of Labour in writing that construction work commences.

##### **C3.5.2.3.2 ASSIGNMENT OF CONTRACTOR'S RESPONSIBLE PERSONS TO SUPERVISE HEALTH AND SAFETY ON SITE**

The Principal Contractor shall submit supervisory appointments as well as any relevant Appointments in writing (as stipulated by the OHS Act and Construction Regulations), prior to commencement of work. Proof of competency must be included. See annexure B.

##### **C3.5.2.3.3 COMPETENCY FOR CONTRACTOR'S APPOINTED COMPETENT PERSON**

The Principal Contractors' competent persons for the various risk management portfolios shall fulfil the criteria as stipulated under the definition of Competent in accordance with the Construction Regulations (July 2003). Proof of competence for the various appointments must



Contractor



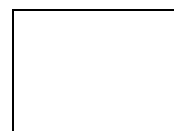
Witness 1



Witness 2



Employer



Witness 1



Witness 2

be included.

**C3.4.5.3.4 COMPENSATION OF OCCUPATIONAL INJURIES AND DISEASES ACT 130 OF 1993 (COIDA)**

The Principal Contractor shall submit a letter of good standing from their Compensation Insurer-FEM or Compensation Commissioner to the Client’s Representative as proof of registration. Contractors shall submit proof of registration to their Contractor before they commence work on site.

**C3.5.2.3.5 OCCUPATIONAL HEALTH AND SAFETY POLICY**

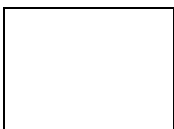
The Contractor and their Contractors shall submit a Health and Safety policy signed by their Chief Executive Officer. The Policy must outline objectives and how they will be achieved and implemented by the Company / Contractor.

**C3.5.2.3.6 HEALTH AND SAFETY ORGANOGRAM**

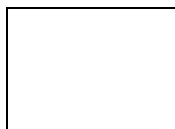
The Principal Contractor and their Contractors shall submit an organogram, outlining the Health and Safety site Management Structure including the relevant appointments / competent persons. In cases where appointments have not been made, the organogram shall reflect the intended positions. The organogram shall be updated when there are any changes in the site Management Structure.

**C3.5.2.3.7 PRELIMINARY HAZARD IDENTIFICATION AND RISK ASSESSMENT AND PROGRESS HAZARD IDENTIFICATION AND RISK ASSESSMENT**

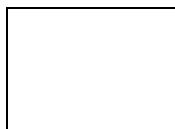
- Roof Work
- Mobile Cranes Management System
- Mechanical
- Working at heights, as per CR8 – Fall Protection Plan, Scaffolding Management
  - Person falling
  - Material falling
  - Protection of decking edges, finished floor slab edges, stairways, floor penetrations, lift shafts, any other openings and areas from where persons may fall.
- Excavations
  - Collapse of Walls
  - People/Equipment falling in Excavations
  - Shoring
  - Underground services
  - Drainage
  - Pipe-Jacking operations
- Confined Space entry
- Formwork and Support Work
  - Casting of Concrete
- Manual and Mechanical Handling
  - Lifting and placement of pipes
  - Overhead works



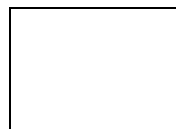
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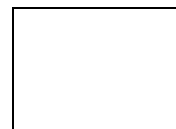
Witness 1



Witness 2



Employer



Witness 1



Witness 2

- Noise Control
- Dust Control

Principal Contractor to ensure that these risk assessments as well as other risks identified by them are updated monthly or as the risk change and communicated to all relevant parties. CR 7(4)

### C3.5.2.3.8 HEALTH AND SAFETY REPRESENTATIVE(S)

The Principal Contractor and their Contractors shall ensure that Health and Safety Representative(s) are appointed under consultation and trained to carry out their functions. The appointment must be in writing.

The Health and Safety Representative shall carry out regular inspections, keep records and report all findings to the Responsible Person forthwith and at Health and Safety meetings

### C3.5.2.3.9 HEALTH AND SAFETY COMMITTEES

Principal Contractor shall organize monthly Health & Safety meetings. Minutes and records shall be kept. Principal Contractors Health & Safety representative and responsible person shall attend this meeting.

### C3.5.2.3.10 HEALTH AND SAFETY TRAINING

#### C3.5.2.3.10.1 Induction

Principal Contractor shall ensure that all undergo site-specific induction presented by a competent person and proof of it too.

#### C3.5.2.3.10.2 Awareness

The Principal Contractor shall ensure that, on site, periodic toolbox talks take place at **least once per week**. These talks should deal with risks relevant to the construction work at hand. A record of attendance shall be kept in the Health and Safety file. All Principal Contractor have to comply with this minimum requirement.

#### C3.5.2.3.10.3 Competency


All competent persons shall have the knowledge, experience, training and qualifications specific to the work they have been appointed to supervise, control, and carry out. This will have to be assessed on a regular basis e.g.

Periodic audits by the Client's Health & Safety Agent, progress meetings, etc. The Contractor is responsible to ensure that competent Contractors are appointed to carry out construction work.


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### C3.5.2.3.11 GENERAL RECORD KEEPING

The Principal Contractor and their Contractors shall keep and maintain Health and Safety records to demonstrate compliance with this Specification, with the OHS Act 85/1993, and with the Construction Regulations (July 2003). The Principal Contractor shall ensure that all records of incidents / accidents, emergency procedures training, inspections, audits, etc. are kept in a Health and Safety file held in the site office. The Principal Contractor must ensure that every sub-Contractor keeps its own Health and Safety file, maintains the file and make it available on request (The file must include the Sub-Contractor's health and safety plan). These records are crucial for inclusion in the Principal Contractors' consolidated health and safety file for handover to the Client on completion of construction work.

### C3.5.2.3.12 HEALTH AND SAFETY AUDITS, MONITORING AND REPORTING

*The Client's Health & Safety Agent shall conduct monthly Health and Safety audits of the work. Operations including a full audit of physical site activities as well as an audit of the administration Health and Safety. The Principal Contractor is obligated to conduct similar audits on their Contractors.*

Detailed reports of the audit findings and results shall be reported on at all levels of project management meetings / forums. Copies of the Client audit reports shall be kept in the Primary Project Health and Safety file while the Principal Contractor audit reports shall be kept in their file, a copy being forwarded to the Client. Principal Contractor has to audit their Contractors and keep records of these audits in their Health and Safety files, available on request.

### C3.5.2.3.13 EMERGENCY PROCEDURES

The Principal Contractor shall compile a comprehensive Evacuation Plan with assemble point and contact details in the case of any emergency supplied by the Client's Health & Safety Agent.


### C3.5.2.3.14 FIRST AID BOXES AND FIRST AID EQUIPMENT

The Principal Contractor and their Contractors shall appoint in writing First Aider(s). The appointed First Aider(s) are to be sent for accredited first aid training. Valid certificates are to be kept on site. All Principal Contractor with more than 5 employees shall supply their own first aid box. Principal Contractor with more than 10 employees shall have trained, certified first aider on site at all times & First aid Box adequately stocked at all times.

### C3.5.2.3.15 ACCIDENT / INCIDENT REPORTING AND INVESTIGATION

Injuries are to be categorized into first aid, medical, disabling and fatal. The Principal Contractor must stipulate in its construction phase Health and Safety plan how it will handle each of these categories. When reporting injuries to the Client, these categories shall be used. All contractors must investigate and report on the 4 categories of injuries to the Principal Contractor at least monthly. Contractors must investigate injuries and accidents involving their employees within seven days of the incident in the form on Annexure1 (General Administrative Regulations) and forward a copy on the investigation report to the principal contractor forthwith. **All incidents reportable in terms of the provision of Section 24 of the OHS Act 1993 must be reported to the local Dept. of Labour in the prescribed manner.**

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Contractor



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Employer



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The Principal Contractor must report all injuries to the Client in the form of a spreadsheet, which includes all contractor injuries/incidents and man-hours worked for the month as well as the cumulative total. This report must be done on a monthly basis and must form part of the Principal Contractor's progress report.

### **C3.5.2.3.16 HAZARDS AND POTENTIAL SITUATIONS**

The Principal Contractor shall immediately notify the Client's Health & Safety Agent of any hazardous or potentially hazardous situations that may arise during the performance of construction activities.

### **C3.5.2.3.17 PERSONAL PROTECTIVE EQUIPMENT (PPE) AND CLOTHING**

The Principal Contractor shall ensure that all workers are issued and wear hard hats, protective footwear and overalls. The Principal Contractor and their Contractors shall make provision and keep adequate quantities of SABS or SANS approved PPE on site at all times.

### **C3.5.2.3.18 OCCUPATIONAL HEALTH AND SAFETY SIGNAGE**

The Principal Contractor shall provide adequate on-site OHS signage. Including but not limited to: "no unauthorized entry", "report to site office", "site office", and "hardhat area". Signage shall be posted up at all entrances to site as well as on site in strategic locations e.g. Access routes, entrances to structures and buildings, scaffolding and other potential risk areas / operations. All Contractors to adhere to it.

### **C3.5.2.3.19 CONTRACTORS**

The Principal Contractor shall ensure that all Contractors appointed by them comply with this Specification, the OHS Act 85/1993, and Construction Regulation (July 2003).

The Principal Contractor may only appoint a sub-contractor after approving the sub-contractor's health & safety plan. The Principal Contractor must audit each of its Contractors on a monthly basis, with audit reports filed in the health & safety file on site. The audit must include an administrative assessment as well as a physical inspection of the contractor's health & safety system.

The Principal Contractor must stop any Contractor from carrying out construction work that is not in accordance with the Principal Contractor's or Contractor's health & safety plan or if there is an immediate threat to the health and safety of persons.

The Principal contractor shall take all reasonable steps necessary to ensure co- operation between all Contractors to enable each of those Contractors to comply with the provisions of these regulations;

The Principal Contractor must ensure that their Contractor is registered and in good standing with a recognized compensation fund or with a licensed compensation insurer prior to work commencing on site;

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Employer

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The Principal Contractor must ensure that potential Contractors submitting tenders have made provision for the cost of health and safety measures during the construction process; The Principal Contractor shall discuss and negotiate with their Contractor the contents of the health and safety Plan and shall finally approve that plan for implementation;

### C3.5.2.3.20 PENALTIES

Penalties may be imposed for ongoing non-compliance to the provisions of the Client's Health and Safety specification and Principal Contractors' health & safety plans. The penalty procedure shall consist of a written warning with a compliance time frame. **Failure to comply within the time frame stipulated would result in a R1000 penalty per non-compliance item per day that the non-compliance persists.**

### C3.5.2.3.21 A HEALTH AND SAFETY OFFICER CR 6.6

**The Principal Contractor shall provide a full-time safety officer on site and proof of their competency to be attached to their appointment.**

### C3.5.2.4 PHYSICAL REQUIREMENTS

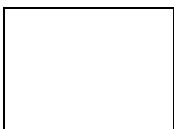
#### C3.5.2.4.1 CIVIL WORK

Principal Contractor to ensure that the Contractor complies with Construction regulation 21 and that the following is undertaken during civil work:

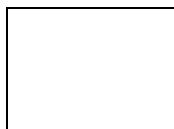
- A competent site supervisor to be on site at all times.
- Plant and equipment inspected daily and registers kept.
- All operators of plant and vehicles: trained, competent and physically and psychologically fit. Certificates to be put in their Health & Safety File.
- Workers that are working close to the traffic to be visible and are to wear reflective vests.
- Adequate safety signage to be posted ahead of any work area in the road.
- All signage, including delineators to be maintained and kept clean at all times.
- The required PPE must be worn at all times (Hard hats, safety shoes, overalls, etc.)
- Risk assessments to be conducted on all high-risk activities.
- Speed reduction road signs to be posted.
- Dust control practices used to limit dust generation.

#### Laying of pipes / Backfilling

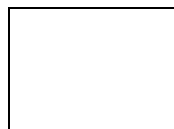
- A competent site person to supervise lifting operations at all times.
- No employee to stand under any suspended loads.
- Loads must not be slewed over personnel, plant, site huts or property.
- All lifting equipment and accessories must be marked with the Safe Working Load.
- Slings must not be placed on sharp edges.
- Workers to wear proper PPE at all times.
- Work to be stopped when weather conditions prevent safe operations during trenching work or laying of pipes.



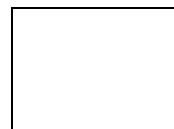
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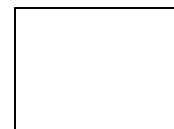
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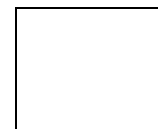
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- Everyone to stand clear of any area being backfilled by mobile plant.

**C3.5.2.4.2 EXCAVATIONS, SHORING, DEWATERING OR DRAINAGE**

The Principal Contractor and any relevant Contractors shall make provision at tendering stage for shoring, dewatering or drainage of any excavations as per this specification.

The Principal Contractor shall make sure that:

- The excavations are inspected before every shift, after any blasting, after an unexpected fall of ground, after any substantial damage to the shoring and after rain, records kept thereof.
- Safe work procedures have been communicated to the workers,
- The safe work procedures are enforced and maintained by the Contractor’s Responsible Persons at all times,
- The requirements as per section 11 of the Construction Regulations are adhered to.
- Where pipe-jacking activities are taking place safe work procedures/method statements to be submitted to Client’s Health & Safety Agent prior to these activities.

Method statement to be developed where shoring will be done, especially near public roads and also where explosives will be / are used.

**C3.5.2.4.3 CONFINED SPACE ENTRY**

The Principal Contractor to prepare a confined space procedure in line with General Safety Regulation (5) OHSA Act

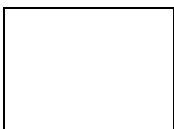
**C3.5.2.4.4 EXISTING STRUCTURES**

Any adjacent structures that may be affected by work must be considered in the planning process. Precautionary measures must be detailed and applied to prevent damage, uncontrolled collapse of existing structures and/or loss to property and persons during the entire construction phase.

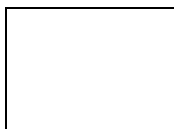
**C3.5.2.4.5 EDGE PROTECTION AND PENETRATIONS**

The Principal Contractor must ensure that all exposed edges and openings are guarded and demarcated at all times until permanent protection has been erected. The Principal Contractors’ risk assessment must include these items finished floor slab edges, floor penetrations, and all other openings and areas where a person may fall.

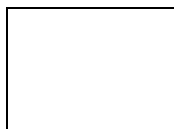
**C3.5.2.4.6 HAZARDOUS CHEMICAL SUBSTANCES (HCS)**



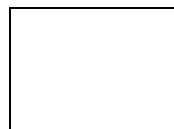
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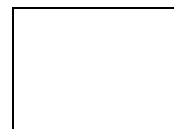
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Witness 2

The Principal Contractor working with Hazardous chemical substances to obtain copies of all the (MSDS) Material Safety Data Sheets and this is to be kept on site and a copy to be forwarded to Client's Health & Safety Agent.

### **C3.5.2.4.7 STACKING OF MATERIALS**

The Principal Contractor shall ensure that there are sufficient appointed stacking supervisors and that all materials and equipment is stacked and stored safely. Double handling of material should be avoided and for this purpose, pallets and other stacking options should be used.

### **C3.5.2.5 PLANT AND MACHINERY**

#### **C3.5.2.5.1 CONSTRUCTION PLANT**

The Principal Contractor shall ensure that all such plant complies with the Requirements of the OHS Act 85/1993 and Construction Regulations (July 2003). The Principal Contractor shall inspect and keep records of inspections of construction plants used on site. Only authorized / competent persons are to use machinery under proper supervision. Appropriate PPE must be provided and maintained at all times.

#### **C3.5.2.5.2 VESSELS UNDER PRESSURE (VUP) AND GAS BOTTLES**

The Principal Contractor shall comply with the Vessels under Pressure Regulations, including:

Providing competency and awareness training to the operators, Providing PPE, Inspect Equipment regularly and keep record of inspections, Provide appropriate firefighting equipment (Fire Extinguishers) on hand.

#### **C3.5.2.5.3 FIRE EXTINGUISHERS AND FIRE FIGHTING EQUIPMENT**

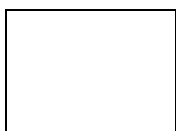
The Principal Contractor shall provide adequate, regularly serviced firefighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted as required.

#### **C3.5.2.5.4 HIRED PLANT AND MACHINERY**

The Principal Contractor shall ensure that any hired plant and machinery used on site is safe for use. The necessary requirements as stipulated by the OHS Act 85/1993 and Construction Regulations (July 2003) shall apply. The Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the Health and Safety file. All relevant Contractors must ensure the same.

#### **C3.5.2.5.5 FORMWORK AND SUPPORT WORK FOR STRUCTURES**

The Principal Contractor shall ensure that the provisions of section 10 of Construction Regulations (July 2003) are adhered to. These provisions must include but not be limited to ensuring that all equipment used is examined for suitability before use, that all formwork and support work is inspected by a competent person immediately before, during and after placement of concrete or any other imposed load and thereafter on a daily basis until the formwork and support work has been removed. Records of all inspections must be kept in a



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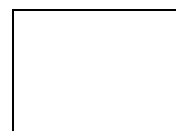
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register on site.

### C3.5.2.5.6 GENERAL MACHINERY

The Principal Contractor shall ensure compliance with the Driven Machinery Regulations, which include inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE, and training those who operate the machinery.

### C3.5.2.5.7 HIGH VOLTAGE & ELECTRICAL INSTALLATIONS

If high voltage electrical lines are present on the site perimeter, the Contractor must be aware of the location of them and are to demarcate its positions.

These demarcations must be maintained throughout the duration of the construction work. The minimum safety clearances as per Electrical Machinery Regulation 15 must be adhered to. **All installation must comply with SANS 10142 & the regulations of the OHS Act 85/1993 and Construction Regulation 22.**

All temporary electrical installations must be inspected at least weekly.

### C3.5.2.5.8 PORTABLE ELECTRICAL TOOLS AND EXPLOSIVE POWERED TOOLS

The Principal Contractor shall ensure that use and storage of all explosive powered tools and portable electrical tools are in compliance with relevant legislation.

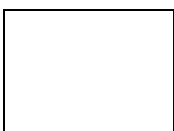
The Contractor shall ensure that all electrical tools, electrical distribution boards, extension leads, and plugs are kept in safe working order. Regular inspections and toolbox talks must be conducted to make workers aware of the dangers and the control measures that are to be implemented e.g. Personal protection equipment, guards, etc.

A competent person to undertake routine inspections and records are to be kept on file. Only authorized trained persons are to use the tools, the safe work procedures to apply. Awareness training to be carried out, compliance enforced at all times, and PPE are provided and maintained,

### C3.5.2.5.9 WELDING EQUIPMENT

- Only authorised / trained persons to use the equipment.
- The operators are to wear correct PPE - eye/ face/foot/body/respirator.
- Flashback arrestors are to be fitted on cylinders and gauges when using gas welding equipment. Fire prevention methods to be applied.
- Where electric arc welders are used, equipment only to be used in a dry area, protected from wetness.

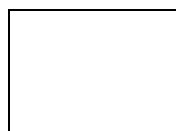
### C3.5.2.5.10 PUBLIC AND SITE VISITOR HEALTH AND SAFETY



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Witness 2

Both the Client and the Principal Contractor have a duty in terms of the OHS Act 85/1993 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities. Site visitors must be briefed on the hazards and risks they may be exposed to and what measures are in place or should be taken to control these hazards and risks. A record of these inductions must be kept on site in accordance with the Construction Regulations. Principal Contractor to ensure that no unauthorized personal enter the construction area.

Method statements are to be drafted on traffic management on site, including work near the public.

### **C3.5.2.5.11 NIGHT WORK**

Adequate lighting to be provided where required. Personnel should not work alone at night.

### **C3.5.2.6 OCCUPATIONAL HEALTH**

#### **C3.5.2.6.1 OCCUPATIONAL HYGIENE**

Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem and Principal Contractor must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards.

The Risk to be looked at includes:

#### Ventilation

Adequate ventilation / extraction / exhausting in hazardous areas e.g. chemicals / adhesives / welding / petrol or diesel/ motors running and in confined spaces / basements.

#### Noise

Tasks identified where noise exceeds 85 dBa. All reasonable steps are to be taken to reduce noise levels. Hearing protection is to be used where noise levels cannot be reduced to below 85 dBa.

#### Dust

Principal Contractor to ensure that employees working with grinders, saws & jackhammers, etc. are issued with dust masks and dust exposure to be minimized at all times.

#### **C3.5.2.6.2 WELFARE FACILITIES**

The Principal Contractor will provide ablution facilities for all on site, including changing facilities & hand washing facilities. Safe and adequate facilities will be provided. Waste bins must be strategically placed and emptied regularly. Safe and clean storage areas must be provided for workers to store personal belongings and personal protective equipment.

#### **C3.5.2.6.3 ALCOHOL AND OTHER DRUGS**

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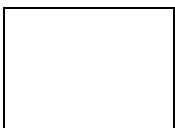
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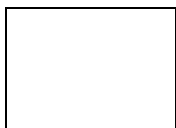
The Principal Contractor is to ensure that no alcohol and other drugs are allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on prescription drugs must inform his/her superior, who shall in turn report this to the Contractor forthwith. Any person suffering from any illness / condition that may have a negative effect on his/her safety performance must report this to his/her superior, who shall in turn report this to the Principal Contractor forthwith.

Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately, to report back the next day for a preliminary inquiry. The Contractor concerned must follow a full disciplinary procedure and a copy of the disciplinary action must be forwarded to the Principal Contractor for his records.

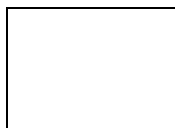
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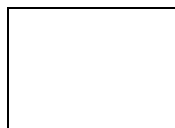
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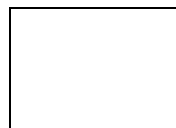
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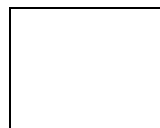
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**HEALTH AND SAFETY SPECIFICATIONS (HSS)**

**PROJECT: REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

Annexure A

The Principal Contractor must submit compliance with Annexure A within **one week** of receiving this Specification.

<b>HSS Item no.</b>	<b>REQUIREMENT</b>	<b>OHSA REQUIREMENT</b>	<b>SUBMISSION DATE</b>
<b>2.3.1</b>	Assignment of Responsible Persons to supervise Construction work	OHS Act (section 16.2) & Construction Regulation 6	Before commencement on site
<b>2.3.2</b>	Competence of Responsible Persons	OHS Act (section 16.2) & Construction Regulation 6	Together with H & S plan
<b>2.3.3</b>	Compensation of Occupational Injuries and Diseases - Proof of Registration- FEM or CC	COIDA	Together with H & S plan
<b>2.3.4</b>	Occupational Health and Safety Policy	OHS Act	Together with H & S plan
<b>2.3.5</b>	Health and Safety Organogram	Client Requirement	Together with H & S plan
<b>2.3.6</b>	Initial Hazard Identification and Risk Assessment based on the Client/s assessment	Construction Regulations.	Together with H & S plan
<b>2.3.7</b>	Health and Safety Representative	OHS Act	Submit as soon as There are more than 20 employees on site

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**HEALTH AND SAFETY SPECIFICATIONS (HSS)**

**PROJECT: REPLACEMENT OF SELF-PRIMING AND  
HORIZONTAL END SUCTION PUMPS AT VARIOUS  
ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY,  
DELIVERY, INSTALL AND COMMISSION**

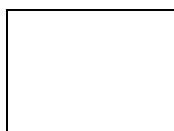
Annexure B

The Principal Contractor shall make the following appointments according to the initial risk assessment: (further appointments could become necessary as the project progresses). Contractors shall make the relevant appointments as per their operations. The Client reserves the right to insist on any appointment as determined by its risk assessment of the Contractor concerned.

<b>APPOINTMENT</b>	<b>OHSA REFERENCE</b>	<b>REQUIREMENT</b>
CEO Assignee	Section 16(2)	A competent person to assume the overall H & S responsibility - Contractor's Responsible Person
Construction Work Supervisor	CR 6.1	A competent person to supervise and be responsible for Health and Safety related issues on site
Subordinate Construction Work Supervisors	CR 6.2	A competent person to assist with the daily supervision of construction / building work. The person(s) assist the Construction Work Supervisor
Health and Safety Representative(s)	Section 17	A competent person(s) to assist with identifying risks, attend H & S meetings, conduct inspections, assist with investigations, etc.
Incident Investigator	GAR 8	A competent person to investigate incidents / accidents on site, this could either be: * The 6.1 or 6.2 Person * H & S Representative * Member of the H & S Committee * H & S officer
Risk Assessment Co-ordinator	CR 7	A competent person to co-ordinate all assessments on behalf of the Principle Contractor. The same applies to Contractors.
Fall protection plan co-ordinator	CR 8	A competent person to prepare and amend the fall protection plan
First Aiders	GSR 3	A qualified person to address all on site first aid cases
Lifting machine and equipment Inspector	DMR 18	A competent person to inspect lifting machines and equipment
Lifting tackle Inspector	DMR 18	A competent person to inspect lifting tackles
Scaffolding Inspector	SANS 10085-1:2004	A competent person to inspect scaffolding before use and every time after bad weather, etc.
Scaffolding Erector	SANS 10085-1:2004	A competent person to erect scaffolding
Scaffolding Supervisor	SANS 10085-	A competent person to supervise scaffolding



Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

APPOINTMENT	OHSА REFERENCE	REQUIREMENT
	1:2004	
Stacking Supervisor	CR 26	A competent person to supervise all stacking and storage operations
Explosive powered tools Inspector / Supervisor	CR 19	A competent person to inspect and clean the tools daily and controlling all operations thereof
Temporary electrical installations Supervisor	CR 22	A competent person to control all temporary electrical installations
Fire-fighting equipment Inspector	CR 27	A competent person to inspect fire-fighting equipment

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

**OTHER REQUIREMENTS**

**PROJECT REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION**

**Annexure C**

The Principal Contractor shall comply but not be limited to the following requirements: Reports on these to the addressed to the Client at progress meetings or at least monthly whichever is sooner. A report with supporting documents shall be tabled at the Contractor/s monthly Health and Safety meeting.

WHAT	WHEN	OUTPUT	ACCEPTED BY CLIENT WITH DATE
Construction-phase Health and Safety plan	Within one weeks of receipt of the Spec.	Principal Contractor to report on status of Principal Contractors' Health and Safety plans	
Health and Safety file	Open file when construction begins and maintain throughout	Have file on hand at meetings	
Awareness Training (Tool Box Talks)	At least weekly	Attendance registers	
Health and Safety Reports	Monthly	Report covering: * Incidents/Accidents and Investigations * Non conformances by employees & contractor * Internal & External H & S audit reports	
Risk assessment	Updated and signed off at least monthly	Documented risk assessment	
Method statements (safe work procedures)	Drawn up before workers are exposed to new risks	Documented set of safe work procedures (method statements) updated and signed off	
General Inspections	Weekly and Daily	OHS Act compliance Registers: * Scaffolding * Excavations * Formwork & support work * Explosive tools * Temporary electrical Installations	
General Inspections	Monthly	* Fire-fighting equipment * Portable electrical equipment * Ladders	
General Inspections	3 - Monthly	* Lifting tackle * Oxy-acetylene cutting and welding sets * Fall prevention and arrest equipment	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

General Inspections	6 - Monthly	* Lifting machines	
Workman's Compensation	Updated Weekly	Table list of Principal Contractors' workman's compensation proof of good standing	
Construction site rules & Section 37.2 Mandatory Agreement	Update Weekly	Table a report of all signed up Mandatory's	

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*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*

**PROJECT: REPLACEMENT OF SELF-PRIMING AND HORIZONTAL END SUCTION PUMPS AT VARIOUS ERWAT WATER CARE WORKS: MANUFACTURE, SUPPLY, DELIVERY, INSTALL AND COMMISSION P**

**Annexure D**

**Acknowledgement of Receipt of the Health and Safety Specifications:**

I, \_\_\_\_\_ representing

\_\_\_\_\_ Contractor

Have satisfied myself with the content of the construction Health and Safety Specification and shall ensure that the Contractor and its personnel comply with all obligations / requirements in respect thereof.

**COMMENTS:**

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Contractor



Witness 1



Witness 2



Employer



Witness 1



Witness 2

**C3.6 ENVIRONMENTAL MANAGEMENT DURING CONSTRUCTION**

**C3.6.1 INTRODUCTION**

A comprehensive Environmental Scoping Report was prepared as part of the environmental and social assessment of the preceded project. Included in the report is an Environmental Management Plan (EMP) and the purpose of this Particular Specification is to make the Contractor aware of his obligations in terms of the EMP during construction and to afford him the opportunity to insert rates and prices in the Schedule of Quantities to cover these obligations.

Sub-Contractors and their employees must comply with all the requirements of this specification. Absence of specific reference to any sub-contractor in any specification does not imply that the sub-contractor is not bound by this specification.

The Contractor must arrange for all his employees and those of his sub- contractors to be informed of this specification before the commencement of construction to ensure:

- a.) basic understanding of the key environmental features of the work site and environments, and
- b.) familiarity with the requirements of this document.

**C3.6.2 MONITORING AND ASSESSMENT OF COMPLIANCE**

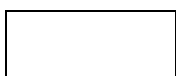
The environmental management performance of the Contractor (including his subcontractors and staff) will be reviewed on a regular basis by the Employer’s ECO. The Contractor will be deemed not to have complied with the EMP if:

- a.) There is evidence of negligence or recklessness resulting in the contravention of any of the clauses, both within and outside the boundaries of the construction site;
- b.) The Contractor fails to comply with corrective or other instructions within a time specified by the Engineer;
- c.) The Contractor fails to respond adequately in terms of the contract, to complaints from the public.

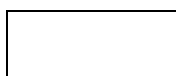
The Contractor will be given a period of 2 weeks after the commencement date of the contract, before compliance is enforced.

Via these environmental specifications the Contractor has been made aware of what actions are required of him and/or his subcontractors. Certain do's and don'ts have been given and onus for these controls rests with the Contractor as he is the only person capable of controlling these aspects and a fine/reward system will be implemented to encourage compliance.

Compliance to the EMP will be reported by the ECO in the form of a monthly Environmental Compliance Report which will include all transgressions of the EMP and the environmental



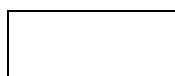
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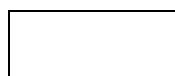
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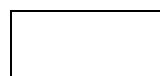
*Witness 2*



*Employer*



*Witness 1*



*Witness 2*

specification and rate them in order of significance. The Environmental Compliance Report will be forwarded to the Engineer, the Employer and GDACE on a monthly basis.

A percentage point will be given based on a questionnaire which is attached to the Report. Any percentage compliance above 80% will be considered to be within acceptable limits. If the Contractor has not complied with any of the clauses of the EMP, or the score in the monthly environmental audit drops to below 80% compliance, the ECO will advise the Engineer who shall order the Contractor in terms of the contract to remedy the deficiencies. Failure on the part of the Contractor to carry out such order shall be dealt with in terms of the contract.

Should compliance drop below 60% the ECO shall immediately advise the Engineer who shall have the right in terms of the contract to order in writing the suspension of the Works.

**C3.6.3 COMPLIANCE WITH SANS 1200**

All environmental clauses stated in the SANS 1200 "Standard Specification for Civil Engineering Construction" as amended in this document shall be adhered to by the Contractor. Where the EMP is in conflict with the Standard Specification, the EMP shall take precedence.

**C3.6.4 SITE MANAGEMENT**

**C3.6.4.1 General**

The Contractor shall draw up a plan of all parts of the construction site, showing the layout of site establishment, stockpiles, planned access and circulation routes, etc. to depict the scope of his planned operations. The plan shall be submitted to the ECO for comment and approval by the Engineer.

The Works area will be indicated on the layout plan and shall never exceed the boundaries of the site at any given location during the construction period.

Every precaution shall be taken, in accordance with this specification, to prevent pollution of air, soil, ground, and surface water as a result of construction or associated activities.

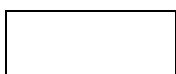
All equipment must be inspected regularly for oil or fuel leaks before it is operated. Leakages must be repaired on mobile equipment or containment trays placed underneath immobile equipment until such leakage has been repaired.

**C3.6.4.2 Housekeeping**

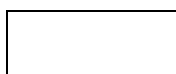
The Contractor shall ensure that his working areas are kept clean and tidy at all times. The ECO shall inspect these areas on a regular basis.

**C3.6.4.3 Works area**

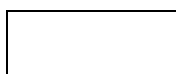
Routes for temporary access and haul roads shall be located within the approved Works area and vehicle movement shall be confined to these roads. Movement of vehicles outside the Works area shall not be permitted without authorisation from the Engineer, after



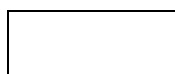
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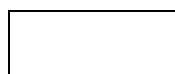
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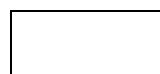
Witness 2



Employer



Witness 1



Witness 2



consultation with the ECO.

All construction activities shall be restricted to working areas designated on the drawings and/or demarcated and approved by the Engineer. Materials, including spoil, shall only be stockpiled in the Works area.

**C3.6.4.4 Fire risk and burning**

Burning of vegetation including tree trunks and stumps cut during site clearing and establishment shall not be permitted.

The Contractor shall ensure that the risk of fire at any location on the site is kept to a minimum.

The Contractor shall supply fire-fighting equipment in proportion to the fire risk presented by the type of construction and other on-site activities and materials used on site. This equipment shall be kept in good operating order.

Open fires for heating and cooking shall only be permitted in protected areas designated by the ECO for this purpose.

No fires will be allowed adjacent to the boundary fence, either inside or outside the construction site.

Any welding or other sources of heating of materials must be done in a controlled environment, wherever possible and under appropriate supervision, in such a manner as to minimise the risk of veld fires and/or injury to staff.

**C3.6.4.5 Storage of fuel and other materials**

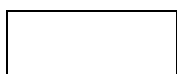
Fuel, lubricants, transmission, and hydraulic fluids shall only be stored in the Works area.

All fuel tanks must be installed above ground, depending on the volume of stored fuel, for easy detection of fuel leaks. All fuel tanks must be placed on a thick plastic sheet so as to prevent soil pollution, be set in a bund with earthen walls, and maintained throughout the contract.

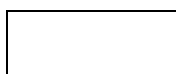
Areas made available for fuelling or greasing of equipment and vehicles must be clearly demarcated on the layout plan. In order to prevent soil pollution, these areas must be covered with a protective material (e.g. a thick plastic sheet). No fuelling, greasing, or filling of oils may take place outside these demarcated areas.

The Contractor must provide adequate and approved facilities for the storage and recycling of used oil and contaminated hydrocarbons. Such facilities must be designed and sited with the intention of preventing pollution of the surrounding area and environment.

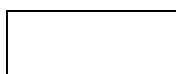
Cement must be stored and mixed on an impermeable substratum.



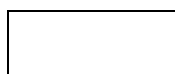
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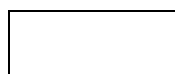
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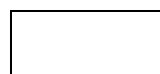
Witness 2



Employer



Witness 1



Witness 2

**C3.6.4.6 Concrete batching plants**

Concrete must be mixed only in an area demarcated for this purpose. All concrete spilled outside this area, must be promptly removed by the Contractor and taken to a permitted waste disposal site. After all concrete mixing is complete all waste concrete must be removed from the batching area and disposed of at an approved dumpsite.

The batching plant shall be enclosed by a bund wall with divisions and dedicated compartments for the various types of materials. Air filters shall be monitored and cleaned and replaced as per the supplier’s guidelines.

Storm water must not be allowed to flow through the batching area.

Water laden with cement must be collected in a retention area for evaporation and not allowed to escape the batching area. This pond will be cleaned monthly.

Operators must wear suitable safety clothing.

**C3.6.4.7 Safety**

Equipment and stores should be locked up and not left unattended.

The Contractor must ensure that no unemployed labour seekers are permitted to gather at the site and no camp followers/shebeen operators shall be allowed to operate on or adjacent to the site.

Measures must be taken to prevent any interference that could result in flashover of power lines due to breaching of clearances or the collapse of power lines due to collisions by vehicles and equipment.

Measures must be taken during thunderstorms to protect workers and equipment from lightning strikes.

All tall structures must be properly earthed and protected against lightning strikes.

The Contractor must have a first aid box available on site and on all vehicles working on site.

The Contractor must submit a copy of the minutes of weekly health and safety meetings to the ECO.

**C3.6.4.8 Blasting and drilling**

A written warning of 2 days indicating the date and approximate time period of blasting activities shall be given to affected residents for the temporary removal of sensitive domestic animals such as horses, dogs, cats, birds, and cattle, before blasting and/or drilling activities commence during that period.

During blasting the stipulations of the Minerals Act, Act 50 of 1991 shall apply.

[Signature box]

*Contractor*

[Signature box]

*Witness 1*

[Signature box]

*Witness 2*

[Signature box]

*Employer*

[Signature box]

*Witness 1*

[Signature box]

*Witness 2*

Should any warning not be given within the period specified above, the Contractor will be held liable for injuries to or deaths of the affected animals.

In order to minimise the potential impact on animals, it is proposed that soft explosives and/or noise mufflers be used.

When blasting, the Contractor shall take measures to limit flying rock. This may be achieved by matching the charge to the rock type, by using milli-second delay detonators or by using rubber blasting mats placed over the area to be blasted. Flying rock 150mm and larger which falls beyond the cleared working area shall be collected and removed together with the rock spoil.

When blasting under power lines the Contractor shall arrange for power to be temporarily switched off or have the lines moved.

**C3.6.4.9 Fencing**

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.

In places where temporary fencing is required, the Contractor shall erect such fencing and, when and where required by the Engineer, 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 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.

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.

The clearing for permanent fencing shall be limited to the removal of trees and shrubs within 1m of the fence line. Where possible, the fence line must be aligned to retain trees or tree groups. There shall be no removal of the grass cover or topsoil within this width.

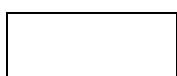
**C3.6.5 CONTROL OF DAMAGE TO VEGETATION AND ANIMALS**

The Contractor shall ensure that all works are undertaken in a manner which minimises the impact on vegetation and animals inside or outside of the Works area.

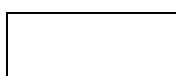
**C3.6.5.1 Vegetation**

As much of the existing vegetation as possible shall be retained. The removal of existing vegetation shall only occur at the sites designated for construction activities. Only woody vegetation may be cleared. 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.

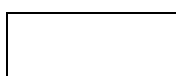
Bush and grass veld must only be cleared to provide essential access for construction purposes.



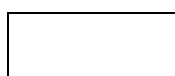
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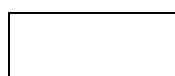
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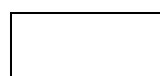
*Witness 2*



*Employer*



*Witness 1*



*Witness 2*

No indigenous shrubs and/or trees shall be cut down by the Contractor. Removal, damage or disturbance of any vegetation outside the Works area is not permitted. Special care shall be taken not to disturb or destroy riverine vegetation.

Trees which have been selected for preservation by the ECO 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. The area shall also not be used for materials storage or as allocation for temporary buildings. If such trees are located within the 15m working width of the pipeline, the pipeline shall be aligned to avoid these trees wherever possible.

Gathering of firewood shall not be permitted.

The Contractor shall take care that seeds are collected during the removal of alien vegetation in order to counter the spread of this vegetation type. Failure to do so may result in prosecution in terms of the Conservation of Agricultural Resources Act (Act 43 of 1983). A fine not exceeding R5000 and/or 2 years imprisonment can be imposed.

No vehicular access will be allowed on the grassy parts of the construction site.

### **C3.6.5.2 Disturbance of animals**

Under no circumstances shall any animals be handled, removed, killed or interfered with by the Contractor, his employees, his sub-contractors or his sub-contractors employees. Snakes and other reptiles that may be encountered on the construction site must not be killed unless the animal endangers the life of an employee. Disturbances to nesting sites of birds must be minimized. Anthills and/or termite nests that occur in the Works area must not be disturbed unless it is unavoidable for construction purposes.

The Contractor and his employees shall not bring any domestic animals onto the site.

The Contractor shall ensure that the work site is kept clean and tidy and free from rubbish which would attract animal pest species. There shall be no feeding of native animals.

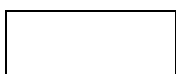
The Contractor shall ensure that domestic and native animals are safe from injury that may arise from unprotected Works.

The Contractor shall advise his workers and subcontractors of the penalties associated with the needless destruction of wildlife, as set out in the Animals Protection Act (Act 71 of 1962) sec. 2 (fine R2 000 and/or 12 months imprisonment).

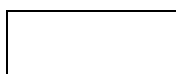
### **C3.6.6 CONTROL OF DAMAGE TO SOIL AND WATER**

#### **C3.6.6.1 Stripping of topsoil**

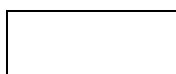
Topsoil shall be deemed to be the top 300mm layer of soil. This layer contains organic material, nutrients and plant and grass seed. For this reason it is an extremely valuable resource for the rehabilitation and re-vegetation of disturbed areas.



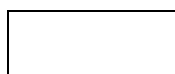
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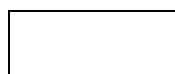
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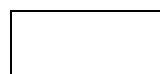
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*Employer*



*Witness 1*



*Witness 2*

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 the area comprising the permanent works, pipeline trenches, stockpiles, temporary and permanent access roads, construction camps, lay down areas, and any other area as indicated on the Works area drawings. Topsoil shall be stripped after clearing of woody vegetation and before excavation or construction commences.

Soil shall be stripped to a minimum depth of 150mm and maximum depth of 300mm or to the depth of bedrock where soil is shallower than 300mm. Herbaceous vegetation, overlying grass and other fine organic matter shall not be removed from the stripped soil.

No topsoil which has been stripped shall be buried or in any other way be rendered unsuitable for further use by mixing with spoil or by compaction by machinery.

Topsoil shall be stripped when it is in a dry condition in order to prevent compaction.

Stripping of topsoil shall be undertaken in such a way as to minimise erosion by wind or runoff.

**C3.6.6.2 Stockpiling of topsoil**

Topsoil should be temporarily stockpiled, separately from (clay) subsoil and rocky material, when areas are cleared. The Contractor shall ensure that subsoil and topsoil are not mixed during stripping, excavation, reinstatement, and rehabilitation. If mixed with clay sub-soil the usefulness of the topsoil for rehabilitation of the site will be lost. Temporary soil stockpiles shall not be higher than 2,5m, and the slopes of soil stockpiles shall not be steeper than 1 vertical to 1,5 horizontal.

Areas from which topsoil is to be removed shall be cleared of any foreign material which may come to form part of the topsoil during removal including bricks, rubble, any waste material, litter any other material which could reduce the quality of the topsoil.

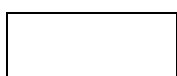
Soil must not be stockpiled on drainage lines or near watercourses.

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 for later identification when required.

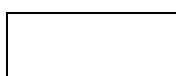
After topsoil stockpiling has been completed, the Contractor shall apply soil conservation measures to the stockpiles where and as directed by the Engineer / Environmental Officer. This may include the use of erosion control fabric and/or grass seeding.

**C3.6.6.3 Placement of topsoil**

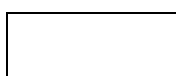
Topsoil shall be placed to a minimum depth of 150mm over all areas where it has been stripped, after construction in those areas has ceased. Topsoil placement shall follow as soon as construction in an area has ceased.



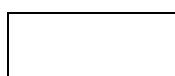
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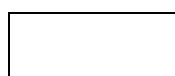
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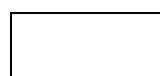
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All areas onto which topsoil is to be spread shall be graded to the approximate original landform with maximum slopes of 1:2,5 and shall be ripped prior to topsoil placement. The entire area to be covered with top soil shall be ripped parallel to the contours to a minimum depth of 300mm.

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 may be brought from other soil zones on approval by the Engineer after consultation with the ECO.

Where topsoil that has been stripped by the Contractor is insufficient 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.

No vehicles shall be allowed access onto or through topsoil after it has been placed.

After topsoil placement is complete, cleared and stockpiled vegetative matter shall be spread randomly by hand over the area covered with topsoil.

**C3.6.6.4 Klip river and Rietspruit**

The Klip River is situated approximately 250 m to the west of the construction site at its closest point, and the Rietspruit approximately 300 m to the east.

Site staff shall not be permitted to use the Klip River or the Rietspruit for the purpose of bathing, washing of clothing or vehicles nor disposal of any type of waste.

The Contractor shall not in any way modify nor damage the banks or bed of the Klip River or the Rietspruit and its drainage lines, unless required as part of the construction project specification and in consultation with the Project Manager and the ECO. Abstraction of water from the Klip River is allowed provided that no damage to the banks of the Klip River shall occur. Should damage occur the Contractor will be held liable for any reparation and/or rehabilitation to the banks of the Klip River and for prosecution in terms of the National Water Act (Act No. 36 of 1998).

All fuel, chemical, oil, etc spills must be confined to areas where the drainage of water can be controlled. Appropriate structures and methods to confine spillages such as the construction of berm shall be provided.

**C3.6.7 Control of pollution**

As a minimum requirement all waste emissions (hazardous, airborne, liquid and solid) from the site shall be kept within the limits of standards set in terms of relevant national and local pollution legislation and regulations.

**C3.6.7.1 General**

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No waste of a solid, liquid or gaseous nature shall be emitted from the site without approval by the Engineer.

Precautionary measures must be taken to prevent any form of pollution.

Accidental pollution incidents shall be reported to the Engineer and the ECO immediately after they occur and shall be cleaned-up by the Contractor or a nominated clean-up organisation at the expense of the Contractor.

**C3.6.7.2 Soil**

Vehicle and plant maintenance shall be confined to the areas demarcated for this purpose. Should any amount of fuel, oil transmission or hydraulic fluids be spilled onto the soils the Engineer and the ECO shall be informed immediately. If ordered by the Engineer, tests must be conducted to determine the extent of soil contamination. The polluted soil shall be rehabilitated or remediated to the satisfaction of the Engineer, after consultation with the ECO. Proof of disposal of contaminated soil must be submitted by the Contractor to GDACE within 14 days of the disposal thereof.

**C3.6.7.3 Water**

Water containing waste shall be prevented from entering the Klip River or the Rietspruit either by seepage or natural flow. Oil absorbent fibres must be used to contain oil spilled in water.

Cost effective measures must be taken to minimise the flow of surface water to trench excavations.

On-site storm water management over the construction site shall be to the satisfaction of the Engineer.

**C3.6.7.4 Air**

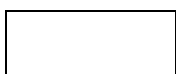
All reasonable measures should be taken to minimise air emissions in the form of smoke, dust, and gases.

All machinery and vehicles used for the Works shall be in good working order. Any vehicle or piece of machinery that visibly emits excess pollutant shall be removed from site.

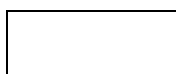
Waste must not be allowed to stand on site to decay, resulting in malodours. No fires shall be allowed if smoke from such fires will cause a nuisance to neighboring residents.

**C3.6.7.5 Sewage**

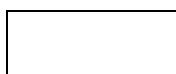
Any spillage of sewage caused by the Contractor or any of his employees or subcontractors during the construction activities shall be cleaned up at the expense of the Contractor.



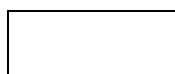
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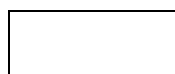
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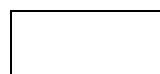
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**C3.6.8 MANAGEMENT OF WASTE**

In practice all wastes arising from construction activities are to be handled, transported and disposed of in accordance with the relevant regulations. All efforts should be made to minimise, reclaim or recycle waste, and failing that, dispose of it in a manner licensed by the government for that purpose.

**C3.6.8.1 Sanitation**

The Contractor shall provide adequate sanitation facilities in accordance with Clause PSA 1.2 hereof. The use of the surrounding veld for toilet purposes shall not be permitted under any circumstance.

**C3.6.8.2 Wastewater**

*Definition: Wastewater is water that is contaminated by humans through their actions.*

All run-off from fuel depots, workshops, truck washing areas, and washwater from concreting vehicles and other equipment shall be collected and directed through pollution traps to the operational sewers. If connection to the sewers is not possible, the wastewater shall be collected in settlement ponds, which shall be suitably lined at the Contractor's expense.

Wastewater may not be disposed of directly or indirectly into the Klip River or the Rietspruit. The Contractor shall provide suitable retention and filtration structures (which shall be properly maintained) for the collection of wastewater.

The Contractor shall provide washing and changing facilities. All run-offs from these washing and/or changing facilities shall be contained in the retention structures to the satisfaction of the Engineer.

**C3.6.8.3 Solid waste**

*Definition: "Solid Waste" refers to all construction waste (such as rubble, cement bags, waste cement, timber, cans, other containers, wires and nails), household and office waste.*

Solid waste shall be collected and stored in demarcated, fenced areas in skips and/or bins. The fenced areas or containers should be designed to prevent solid waste from being blown out by wind and should be strategically and conspicuously placed throughout the site.

Wherever possible solid waste that can be recovered shall be recycled.

Solid waste shall be disposed of at a registered solid waste disposal site. The prices submitted by the Contractor shall include all transportation and disposal costs of waste. Solid waste shall not be buried nor burned on site.

The entire works area and all construction sites must be swept of all pieces of wire, metal, wood or other material foreign to the natural environment.

**C3.6.8.4 Hazardous wastes**

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*Definition: Hazardous wastes are those which are proven to be toxic, corrosive, explosive, flammable, carcinogenic, radioactive, poisonous or as determined by the Hazardous Substance Act as amended.*

Discharges of hazardous chemicals (such as paint, turpentine, oil and cement), as declared under the Hazardous Substances Act as amended, on the site or to the storm water system are prohibited.

Potentially hazardous raw and waste materials shall be handled and stored on-site in containers with tight lids that must be sealed and must be disposed of at an appropriately permitted hazardous waste disposal site. Such containers must not be used for purposes other than those originally designed for.

The following hazardous waste products shall be disposed of at a registered hazardous waste disposal site:

- a) cement;
- b) diesel, petroleum, oil and lubricants;
- c) explosives;
- d) drilling fluids;
- e) pesticides;
- f) paints and turpentine;
- g) concrete additives; and
- h) any other material which is listed in terms of the Hazardous Substances Act.

The Contractor must maintain a hazardous materials register.

### **C3.6.9 MANAGEMENT OF STORMWATER AND SOIL EROSION**

The aim is to minimise soil loss from the site due both to wind and water.

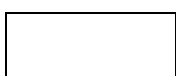
#### **C3.6.9.1 Storm water**

At all stages of the contract, storm water control measures shall be applied to keep soil on-site by minimising

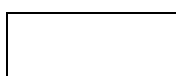
- a) Erosion or leaching of water from temporary stockpiles of topsoil and permanent spoil dumps
- b) Erosion from construction roads, excavations and borrow pits, where applicable
- c) Silt-laden run-off from all areas stripped of vegetation, including excavation surfaces and stockpiles of spoil and topsoil (the correct placement of rocks together with straw bales can be used to prevent silt-laden run-off); and
- d) Contaminated run-off from storage areas;

Thereby preventing it from entering waterways or the storm water drainage system.

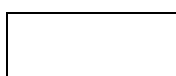
Natural storm water run-off that is not polluted by site operations shall be diverted around spoil dumps and topsoil stockpiles. Effective measures shall be taken to minimise the flow of storm water to excavations.



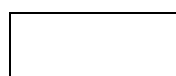
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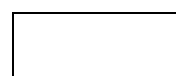
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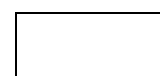
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Where uncontaminated storm water has accumulated in excavations and needs to be pumped out, it must be disposed of in such a way that erosion does not occur along the course of its passage. Contaminated storm water shall not be disposed of into the waterways, unless it has been treated to the satisfaction of the Engineer, after consultation with the ECO.

**C3.6.9.2 Control of erosion**

At all stages of the contract, erosion of bare soil, other excavation surfaces and stockpiles of topsoil and spoil shall be prevented by the application of erosion control measures.

Should erosion occur due to negligence on the part of the Contractor to apply adequate measures, the Contractor will be responsible for reinstatement of the eroded area to its former state at his own expense. Any surface water pollution occurring, as a result of this negligence, shall be cleaned up by the Contractor or a nominated clean-up organization at the expense of the Contractor.

Cross and side storm water drainage measures shall be constructed on access and haul roads to the site and on roads within the site.

The Contractor shall ensure that run-off from access and haul roads, and that diverted into cross and side drains, does not cause erosion

**C3.6.10 CONTROL OF DISTURBANCE TO NEIGHBOURS AND/OR AFFECTED RESIDENTS**

All issues and items agreed to in the negotiations and discussions between the Owner and affected residents must be implemented.

**C3.6.10.1 Scenic quality**

The Contractor shall position all temporary structures as well as temporary plant on site in locations and at elevations which limit visual intrusion on neighbours. The type and colour of roofing and cladding materials shall be selected to reduce reflection.

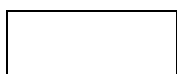
The Contractor shall not establish or undertake any activities which, in the opinion of the Engineer, are likely to adversely affect the scenic quality of the area. The Engineer may direct the Contractor to refrain from such activities or to take ameliorative actions to reduce the adverse effect of such activities on the scenic quality of the environment.

No painting or marking of natural features shall be done. Marking for surveying and other purposes shall only be done with pegs and beacons.

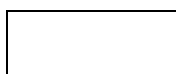
All cut and fill forms shall be rounded at the edges to blend them with the surrounding landforms.

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.

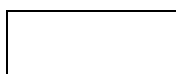
The colours of all permanent structures shall be chosen so as to blend in with the dominant



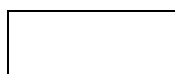
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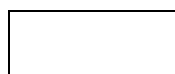
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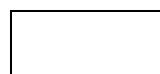
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colours of the surrounding landscape. Painted surfaces shall be painted with non-reflective (matt) colours.

**C3.6.10.2 Noise**

All noise levels must be controlled at the source. All employees must be given the necessary ear protection gear. Neighboring residents must be informed of excessive noise factors.

Noise emanating from construction activities must not be "disturbing noise", that is, the sound level from the site measured at the nearest dwelling must not exceed the ambient noise level by 7dBA or more.

Appropriate directional and intensity settings should be maintained on hooters and sirens, if applicable.

Silencer units on plant and vehicles shall be maintained in good working order. Any vehicle/machine emitting excess noise shall immediately be removed from site or effectively repaired.

Where required by the ECO after consultation with the Engineer, the Contractor shall provide noise reduction measures in the form of cladding and earth berm between sources of on-site noise and neighbours and/or affected property owners.

A speed restriction of 40 km/h shall be imposed on all construction vehicles in order to limit additional noise generated by these vehicles. This restriction shall apply to the site and any road within 2 kilometers of the site.

No loud music shall be allowed on site and in construction camps.

**C3.6.10.3 Dust**

The Contractor shall ensure that a minimum of dust is generated by construction and related activities. Roads and working areas should be maintained regularly and this may include the sprinkling of water. Water for this purpose shall be used sparingly to not generate run-off and resulting soil erosion.

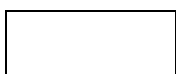
The Contractor shall control dust from spoil dumps as specified above.

Soil and aggregate loads in transit must be kept covered, to prevent wind borne pollution (dust).

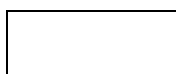
Stockpiles of soil must be kept covered or have a suitable dust palliative applied, such as water or commercial dust suppressants, to prevent windborne pollution.

**C3.6.10.4 Social interaction and disruption**

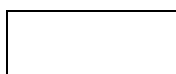
The Contractor shall maintain normal working hours (i.e. from 07:00 until 17:00) from Mondays to Fridays for the duration of the construction period. The Contractor must inform all adjacent landowners of any after-hour construction activities and any other activity that



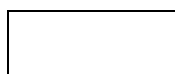
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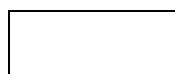
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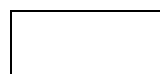
Witness 2



Employer



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could cause a nuisance e.g. the application of chemicals to the work surface.

The Contractor's activities and movement of staff shall be restricted to designated construction areas only. The Contractor and site staff may not interact directly with adjacent landowners but only through the Engineer, who will contact property owners to obtain permission.

The Contractor's staff shall wear special identity cards (with the employees photograph displayed on the card), which shall make identification possible, at all times. Any temporary staff employed by the Contractor or any sub- contractor appointed by the Contractor shall also comply with this clause.

Rapid migration of job seekers could lead to squatting and social conflict with resident communities and increase in social pathologies if not properly addressed. The Contractor must ensure that signs indicating the availability of jobs are installed.

Criteria for selection and appointment, by the Contractor, of construction labour must be established to allow for preferential employment of local communities.

**C3.6.10.5 Disruption of services and access**

Care must be taken by the Contractor to avoid damaging major and minor pipelines and other services. The relevant authorities must be notified of any interruptions of services, especially the Mid Vaal Local Municipality, the National Roads Agency, SpoorNet, TELKOM and ESKOM.

Disruption of access for local residents during construction, and haulage or any other construction activity shall only take place with the prior consent of the Engineer.

The Contractor shall liaise with the Engineer on a regular basis with regard to specific activities that could cause inconvenience to property owners, especially increased vehicular traffic through residential areas adjacent to the site. The Contractor shall prior to commencement inform property owners of his planned activities within a reasonable period of time.

The movement of construction vehicles through the affected areas shall be restricted to off-peak hours to minimise adverse impacts on private vehicular traffic. Temporary access roads must not be opened until required and must be restored to its former state as soon as the road is no longer needed.

**C3.6.10.6 Traffic control**

The Contractor shall ensure that all construction traffic including that of subcontractors, vendors, suppliers of materials and services are notified that a special speed limit of 40 kph shall apply along any road within the adjacent Klipwater Township; and special attention shall be given to road signs. Vehicles not complying with this ruling shall on the instruction of the Engineer, be denied access to the Site.

**C3.6.11 Archaeology and cultural sites**

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*Employer*

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All finds of human remains must be reported to the nearest police station.

Human remains from the graves of victims of conflict, or any burial ground or part thereof which contains such graves and any other graves that are deemed to be of cultural significance may not be destroyed, damaged, altered, exhumed or removed from their original positions without a permit from the South African Heritage and Resource Agency (SAHRA).

Work in areas where artefacts are found must cease immediately.

Under no circumstances must the Contractor, his/her employees, his/her sub- contractors or his/her sub-contractors' employees remove, destroy or interfere with archaeological artefacts. Any person who causes intentional damage to archaeological or historical sites and/or artefacts could be penalised or legally prosecuted in terms of the National Heritage Resources Act, 25 of 1999.

A fence at least 2m outside the extremities of the site must be erected to protect archaeological sites.

All known and identified archaeological and historical sites must be left untouched.

Work in the area can only be resumed once the site has been completely investigated. The Engineer will inform the Contractor when work can resume.

**C3.6.12 REHABILITATION**

It is important that rehabilitation will commence as soon as feasible and to run in parallel with the construction and not to be left until completion of the works. This will increase the chances of successful rehabilitation as it can be monitored throughout the construction period.

The construction site shall be cleaned and rehabilitated as close as is reasonably possible to its original state.

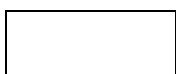
All drainage deficiencies must be corrected.

Cut and fill areas must be restored and re-shaped.

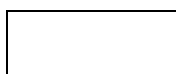
Areas compacted by vehicles during construction must be scarified to allow penetration of plant roots and the re-growth of natural vegetation.

Rehabilitation of all the disturbed and compacted areas shall mean that these areas are ripped and covered with topsoil.

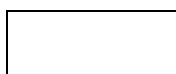
- Ripped shall mean - ploughed with a ripper to a depth of not less than 300mm in two directions at right angles.
- Top soiled shall mean - the spreading of a minimum of 150mm of stockpiled topsoil either before or after ripping over the surface to be rehabilitated.



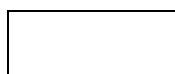
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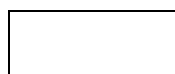
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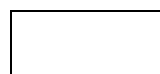
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*Witness 1*



*Witness 2*

The areas immediately adjacent to the Works which are not designated for paving shall be grassed in accordance with the relevant engineering specification.

All alien vegetation removed during construction shall not be replaced.

The rehabilitated areas will be weeded by the nominated rehabilitation contractor for a period of 1 year.

**C3.6.13 RESPONSE TO PUBLIC COMPLAINTS**

The Contractor shall assist the Engineer with responding to queries and complaints from the public regarding construction activities by:

- a.) Documenting the details of such communications and submitting the information to the Engineer for inclusion in the complaints register;
- b.) bringing any such matters to the attention of the Engineer immediately as they arise;
- c.) taking any remedial action as per the Engineer; and d.) discuss such matters at the site meetings.

The Contractor shall assist the Engineer and consult with affected parties for the purpose of explaining the construction process and answering questions raised by affected parties at reasonable times.

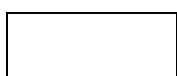
Should the owner of any property, contact the Contractor during the construction period regarding specific requests, the Contractor shall include all pertinent details in his report (Section 2.3 hereof).

**C3.6.14 CLEARANCE OF SITE ON COMPLETION**

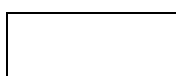
On completion of the Works, the Contractor shall clear away and remove from the site all construction plant, surplus materials, foundations, plumbing and other fixtures, rubbish and temporary works of every kind. Areas thus cleared shall be graded and scarified to restore the ground to its original profile as near as practicable before topsoil placement.

**C3.6.15 COMPLIANCE WITH ENVIRONMENTAL MANAGEMENT SPECIFICATIONS**

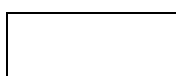
- a.) All persons employed by the Contractor or his subcontractors shall abide by the requirements of these Environmental Management Specifications.
- b.) Any employees of the Contractor or his subcontractors found to be in breach of any of the Environmental Management Specifications may be ordered by 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.
- c.) 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 Management Specifications.



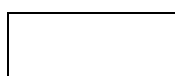
Contractor



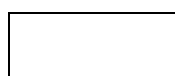
Witness 1



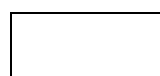
Witness 2



Employer



Witness 1



Witness 2

- d.) Via these specifications the Contractor has been made aware of what actions are required of him and/or his subcontractors. Certain do's and don'ts have been given and onus for compliance rests with the Contractor as he is the only person capable of controlling these aspects. A fine/reward system will be implemented to encourage compliance. For every week that the Contractor successfully complies with the Environmental Management Plan and Specifications a bonus sum of R500 will be generated. However, for each and every time that the Environmental Management Plan and Specification is not met, a fine of R500 will be imposed.

**C3.6.16 MEASUREMENT AND PAYMENT**

Unit:

Under Schedule No. 1 in Bill: Environmental Management ..... Sum.

The lump sum tendered shall include full compensation for initiating and maintaining the environmental awareness campaign as required in the Environmental Management Plan and Specifications.

*Contractor*

*Witness 1*

*Witness 2*

*Employer*

*Witness 1*

*Witness 2*