



EXCELLENCE IN WATER CARE

BID DOCUMENT

CIDB 7CE OR HIGHER

DESCRIPTION:	THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS
PROJECT NO:	ERW2211/01
COMPULSORY BRIEFING SESSION:	28 MARCH 2023 @ 12H30
CLOSING DATE:	18 APRIL 2023 @ 12H00

FULL NAME OF BIDDER:

(Bidding Entity: cc, (Pty) Ltd,
JV, Sole Proprietor, etc.)

: _____

CONTACT PERSON

: _____

TEL NUMBER

: _____

EMAIL

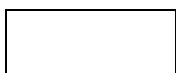
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CENTRAL SUPPLIER
DATABASE REG NO.

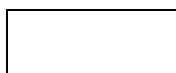
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BID AMOUNT (VAT INCLUSIVE) : ALL TENDERED RATES

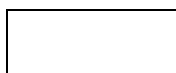
ERWAT STAMP



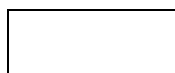
Contractor



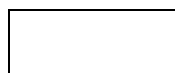
Witness 1



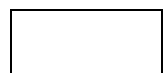
Witness 2



Employer



Witness 1



Witness 2



PROJECT NO: ERW2211/01

THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

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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
ERW2211/01	THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS	7CE OR HIGHER	MR. J. MATHUNZI 011 929 7000	28 MARCH 2023 @ 12H30 VIA VIRTUAL ZOOM MEETING NOTE Registration will be required.	18 APRIL 2023 @ 12H00	R250

Briefing Session Zoom link: <https://erwat-za.zoom.us/join/register/tJYocuCtrDktGNHNSuG-V5KmNfhteWrvoiv>

Potential bidders may download the bid document from the ERWAT tender site free of charge. Bidders must however note that it remains their responsibility to print the full document and any omissions submitted due to not printing the full tender document may result in your bid being null and void. Bidders may not alter the downloaded document in any form what so-ever.

Complete Tenders in ink and clearly marked **"CONTRACT: ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS"** must be placed in the Tender Box, ERWAT Head Office, Hartbeestfontein Office Park, R25 (Bapsfontein/ Bronkhorstspuit), Kempton Park, not later than **18 APRIL 2023 @ 12H00** 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 Brenda Matlala at brenda.matlala@erwat.co.za and All Technical Enquiries shall be addressed to Jeffrey Mathunzi at jeffrey.mathunzi@erwat.co.za

Bids will be evaluated in terms of ERWAT' Supply Chain Management Policy 200, the MFMA SCM Regulations, the Preferential Procurement Policy Framework Act and its Regulations, 2022, the General Conditions of Contract for construction (GCC) and, if applicable, any other special conditions of contract.

"The Special Conditions of Contract are supplementary to that of the General Conditions of Contract. In the event of any contradiction between the GCC or any other applicable contractual agreement, the Municipal Financial Management Act and its applicable regulations will take precedence."

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).

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) and the National Treasury's e-tender portal (www.etenders.gov.za).

17 MARCH 2023 (date of advert is available on the website and advertised)

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THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

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 which is reproduced without amendment or alteration for the convenience of Bidders 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>The Employer is:</p> <p>Ekurhuleni Water Care Company (ERWAT) Hartebeestfontein Office Park R25 (Bapsfontein/Bronkhorstspuit Road) Kempton Park</p>
F.1.2	<p>The Tender document's contents is as follows:</p> <p><u>THE TENDER</u></p> <p>Part T1: Tender Procedures (Pink)</p> <p>T1.1 Tender notice and invitation to Tender</p> <p>T1.2 Tender Data</p>

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	<p>Part T2: Returnable Documents (Pink)</p> <p>T2.1 List of returnable documents</p> <p>T2.2 Returnable schedules</p> <p><u>THE CONTRACT</u></p> <p>Part C1: Agreements and Contract Data (Yellow)</p> <p>C1.1 Form of Offer and Acceptance</p> <p>C1.2 Contract Data</p> <p>C1.3 Form of Guarantee</p> <p>C1.4 Occupational Health and Safety</p> <p>C1.5 Corporate Governance Breach Clause</p> <p>Part C2: Pricing Data (Yellow)</p> <p>C2.1 Pricing Instructions</p> <p>C2.2 Schedule of Rates</p> <p>Part C3: Scope of Work (Blue)</p> <p>C3.1 Description of Works</p> <p>C3.2 Engineering</p> <p>C3.3 Construction</p> <p>C3.4 Management of Works</p> <p>C3.5 Health and Safety</p> <p>C3.6 Environmental Management During Construction</p>
F1.3	<p>Interpretation</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>
F.1.4	<p>The Employer's Representatives are:</p> <p>SCM: Brenda Matlala - 011 929-7115</p> <p>E-mail Address: brenda.matlala@erwat.co.za</p> <p>Technical: Mr Jeffrey Mathunzi - 011 929 7000</p> <p>E-mail Address: jeffrey.mathunzi@erwat.co.za</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 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>

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F.1.5	<p>Reject or Accept</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>
F.2.1	<p>CIDB Requirements</p> <p>Only those Bidders who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for an 7CE OR HIGHER class 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"> 1. Every member of the joint venture is registered with the CIDB: 2. 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 7CE OR HIGHER of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations. 3. The lead partner must be registered in a contractor grading designation not lower than one level below the required grading designation in the class of construction works under consideration. Please consult the CIDB website for the provisions for joint venture submission. 4. In accordance to the SIPDM (Civiltion 2016) document from National Treasury, CIDB Practice Notes 15, National Treasury Standard For Infrastructure Procurement Delivery and Management, states the following concerning satisfying requirements for CIDB contractor grading designation for framework contracts method 2 will be applicable to this contract; <ul style="list-style-type: none"> • Method 1: Issue a call for expressions of interest and specify a CIDB contractor grading designation based on the estimated annual value of the contract in accordance with the Regulations. • Method 2: Invite tenders based on a price list that is representative of the annual value of work which is likely to be executed and use the total of prices for the price list to determine the required contractor grading designation. • Method 3: State the maximum value of the contract in any one year in the Form of Offer and Acceptance and use this value to determine the contractor grading designations.
F.2.2	<p>Cost of Bidding</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>
F.2.3	<p>Check documents</p> <p>The Bidder 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 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 Bidder shall immediately notify the Employer</p>

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	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.
F.2.4	<p>Confidentiality and copyright of documents</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>
F2.5	<p>Reference Documents</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>
F2.6	<p>Acknowledge Addenda</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>
F.2.7	<p>Clarification Meeting</p> <p>Not Applicable</p>
F.2.8	<p>Seek clarification</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>
F.2.10	<p>Pricing the Tender</p> <p>State the rates and prices in South African Rand (ZAR).</p> <ul style="list-style-type: none"> Prices shall be FIXED and FIRM for the first 12 months of the Contract. Price increments will be based on CPI annually on the anniversary of this tender.
F.2.11	<p>Alterations to documents</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>
F.2.11	<p>Alternative tender offers</p> <p>If a bidder wishes to submit an alternative bid offer, the only criteria permitted for such alternative bid offer is that it demonstrably satisfies the Employer's standards and requirements, the details of which may be obtained from the Employer's engineer or Agent.</p> <p>Calculations, drawings and all other pertinent technical information and characteristics as well as modified or proposed Pricing Data must be submitted with the alternative bid offer to enable the Employer to evaluate the efficacy of the alternative and its principal elements, to take a view on the degree to which the alternative satisfies the Employer's standards and requirements and to evaluate the acceptability of the pricing proposals. Calculations must be set out in a clear and logical</p>

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	<p>sequence and must clearly reflect all design assumptions. Pricing Data must reflect all assumptions in the development of the pricing proposal.</p> <p>Acceptance of an alternative bid offer will mean acceptance in principle of the offer. It will be an obligation of the contract for the bidder, in the event that the alternative is accepted, to accept full responsibility and liability that the alternative offer complies in all respects with the Employer's standards and requirements.</p> <p>The modified Bid Data must include an amount equal to 5% of the amount bided for the alternative offer to cover the Employer's costs of confirming the acceptability of the detailed design before it is constructed.</p>
F.2.13	<p>Submitting a Tender offer</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><u>"CONTRACT NO ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS"</u></p> <p>The Employer's address for delivery of bid offers and identification details to be shown on each bid offer package are:</p> <p>Location of bid box Tender Box Physical address: 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. No substitute tender offers will be considered.</p> <p>All Tenders received by ERWAT will remain in the Company's possession.</p>
F.2.14	<p>Information and data to be completed in all respects</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"> Coversheet: 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. Executive Summary: 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. Relevant Experience and Reference Projects: Information of similar sized projects completed by the Bidder (in South Africa and worldwide) using the specific technologies requested must be provided. The referenced projects must be comparable in size (7ME/7EP or Higher), complexity and performance achieved to the tendered project. Operation and maintenance experience must also be included here. Project Team: 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.

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	<p>5. Project Schedule: 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.</p> <p>6. Technical Specification & Datasheets: All information asked for regarding the technical equipment shall be included here.</p> <p>Accept that Tender offers, which do not provide all the data or information requested completely and, in the form, required, will 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 "FORM C Authority of Signatory".</p> <p>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.</p>
F.2.15	<p>Closing time</p> <p>Closing Date: 18 APRIL 2023 Closing Time: 12h00</p> <p>Telephonic, telegraphic, telex, facsimile or e-mailed bid offers will not be accepted.</p>
F.2.16	<p>Tender offer validity</p> <p>The Tender offer validity period is 120 Days.</p>
F2.18	<p>Provide other information</p> <p>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:</p> <ol style="list-style-type: none"> (1) Proof of SARS Tax status (pin issued by the South African Revenue Services); (2) Completion of MBD 2, 4, 5, 6.1, 6.2, 7.1, 8 and 9 forms (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. (4) In case of Joint Venture – the Joint Venture Agreement (5) Letter of intent to submit Third Party Liability Insurance and All risk contractor's insurance to cover this contract <p>NB: - Please note that non-compliance to specification will be deemed as an automatic disqualification. Service Providers must quote for all aspects as per the specification.</p>
F2.19	<p>Inspections, tests and analysis</p> <p>Access must be provided for the following inspections, tests and analysis: None.</p>
F2.23	<p>Certificates</p> <p>The bidder is required to submit with his bid.</p> <ol style="list-style-type: none"> 1) The Bidder 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.

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	<p>2) A TCS pin number thereof, issued by the South African Revenue Services;</p> <p>3) If a bidder is a registered company required by law to have its annual financial statements audited or independently reviewed in compliance with the requirements of the Companies Act ,Act No.71 of 2008, or any other law, audited or independently reviewed annual financial statements, as the case may be, prepared within six (6) months of the end of the bidders most recent financial year together with the audited or independently reviewed annual financial statements for the two immediately preceding financial years, unless the bidder was only established within the past three (3) years in which case all of its annual financial statements must be submitted.</p> <p>4) If a bidder is a registered close corporation, annual financial statements in compliance with the provisions of the Close Corporations Act, Act No. 69 of 1984, prepared within nine (9) months of the end of the bidders most recent financial year together with the annual financial statements for the two immediately preceding financial years, unless the bidder was only established within the past three (3) years in which case all of its annual financial statements must be submitted.</p> <p>5) A complete set of Annual financial statements submitted must comply with the Entity's requirements.</p> <p>A complete set of financial statements comprises:</p> <p>(a) a statement of financial position as at the end of the period;</p> <p>(b) a statement of profit or loss and other comprehensive income for the period;</p> <p>(c) a statement of changes in equity for the period;</p> <p>(d) a statement of cash flows for the period.</p>
F3.4	<p>Opening of tender</p> <p>Tenders will be opened in public at the ERWAT Head Office, Hartbeestfontein Office Park, R25 (Bapsfontein / Bronkhorstspuit), Kempton Park.</p>
F3.5	<p>Two-envelope System</p> <p>A two-envelope procedure will NOT be followed.</p>
F3.6	<p>Non-disclosure</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>

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<p>F3.9</p>	<p>Arithmetical errors, omissions and discrepancies</p> <p>ERWAT is to check BID offers for arithmetical errors in the following manner:</p> <ul style="list-style-type: none"> a) Where there is a discrepancy between the amounts in words and amounts in figures, the amount in words shall govern. 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. 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 Bidder's addition of prices, the total of the prices shall govern and the Bidder will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices. <p>Consider the rejection of a tender offer if the Bidder does not correct or accept the correction of the arithmetical error in the manner described above.</p>
<p>F3.11</p>	<p>1. Evaluation of tender offers</p> <p>The Bidder's 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 2022.</p> <p>If the submitted Tender does not comply with the Tender conditions, the Tender will be rejected. If specifications are not met, the Tender will also be rejected. With regard to the above, certain actions or errors are unacceptable, and warrant REJECTION OF THE TENDER, for example:</p> <ul style="list-style-type: none"> ▪ Proof of SARS Tax status (pin issued by the South African Revenue Services); ▪ Non submission of company registration certificates. ▪ Pages that were to be completed being removed from the Tender document and have therefore not been submitted. ▪ Failure to fully complete form of offer. ▪ Scratching out without initialing next to the amended rates or information. ▪ Writing over / painting out rates / the use of Tippex/correction fluid or any erasable ink. ▪ Failure to attend compulsory briefing meetings ▪ The Tender has not been properly signed by a party having the authority to do so, according to the Form C– “Authority for Signatory”. ▪ No authority for signatory submitted. ▪ Particulars required in respect of the proposal have not been provided: non- compliance of Tender requirements and/or specifications. ▪ The Bidder's attempts to influence, or has in fact influenced the evaluation and/or awarding of the contract. ▪ The Proposal has been submitted after the relevant closing date and time. ▪ 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). ▪ If any Bidder who during the last five years has failed to perform satisfactorily on a previous contract with the company or any other organ of state after written notice was given to that Bidder that performance was unsatisfactory.

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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 will 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.

Functionality criteria maximum points in respect of each criterion shall be as set out at the bottom of this table.

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Witness 1

Witness 2

	<p>All Tender submission will be evaluated by at least three evaluators against the Table below. Bidders 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>Tender evaluation points</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, 2022 including the following:</p> <p>The points allocation for this Tender is:</p> <ul style="list-style-type: none"> a) Price: 90 b) Specific Goals Points: 10 <p>Regulations of disputes, objections, complaints and queries will be handled in accordance with the Supply Chain Management Policy of ERWAT.</p>
F3.17	<p>Provide copies of the contracts</p> <p>The number of paper copies of the signed contract to be provided by the Employer is one.</p>
<p>Additional Conditions</p> <p>Applicable to this Bid</p>	<p>The additional conditions of bid are:</p> <ol style="list-style-type: none"> 1. ERWAT may also request that the Bidder provide written evidence that his financial, labour and resources are adequate for carrying out the project. 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. 3. ERWAT intend to appoint more than ONE (01) BIDDER to a maximum of EIGHT (8) BIDDERS. 4. The lowest bidding price will not necessarily be accepted and ERWAT reserves the right to determine market related rate to be offered to the successful bidders. 5. The bid document shall be submitted as a whole and shall not be taken apart. 6. If the tender is found to be unauthorised, fruitless and wasteful or irregular as informed through a formal investigation, internal and or external audit outcome, the Auditor General, Council, ERWAT Board of Directors or National Treasury, ERWAT reserves the right to cancel the tender with immediate effect and the bidder will have no claim to his affect. The final terms of payment (where applicable) will be negotiated with the bidder at the time for final close out of the contract.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

1.1 TECHNICAL MANDATORY REQUIREMENTS

Potential service providers will have to meet all the minimum requirements for their technical proposals before their financial proposals 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.

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

- The bidders experience with similar projects.
- The qualifications and experience of the key staff proposed.

No alteration of technical 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.

EVALUATION ASPECT	MINIMUM REQUIREMENT
Company Experience Bidders to submit appointment letters with signed completion certificates and/ or 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.	Company experience in construction, upgrading, refurbishment, extension and decommissioning of water/wastewater infrastructure. Bidders to provide Appointment letters with completion certificates and/ or reference letter for completed projects: <ul style="list-style-type: none"> • 5 and More appointment Letters with completion certificates/reference letters Appointment Letters, Contractual Agreements, and Invoices submitted without the completion certificate and/ or reference letter will not be accepted. Partially completion certificates/reference letters will not be accepted.
Expertise of key staff Bidders to provide Curriculum Vitae(s) to prove the relevant experience as well as complete pro-forma CVs in full. (Form M)	Minimum Experience of key staff: Automatic disqualification for non-compliance to experience requirements. Certified copies of the qualifications must also be attached. Experience of key staff will be evaluated based on the years post qualification attainment. <u>Contracts Project Manager with BSc/BEng/B-Tech Degree in Civil Engineering & Professional Registration with SACPCMP as construction project manager:</u> <ul style="list-style-type: none"> • 10 years and More' Experience <u>Site Agent with Diploma in Civil Engineering & NQF Level 5:</u> <ul style="list-style-type: none"> • 5 years and More' Experience <u>General Foreman with Diploma in Civil Engineering:</u> <ul style="list-style-type: none"> • 5 Years and More' Experience <u>Health and Safety Officer with National Diploma in Safety Management or National Diploma in Environmental Studies (Professional Registration with SACPCMP):</u> <ul style="list-style-type: none"> • 5 years and More ' Experience

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PROJECT NO: ERW2211/01

THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

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 wilful misrepresentation by that Bidder to induce the contract. In such event the Employer has the discretionary right to terminate the contract.

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 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:
FORM B	NATIONAL TREASURY CENTRALIZED SUPPLIER DATABASE
FORM C	AUTHORITY OF SIGNATORY
FORM D	FINANCIAL REFERENCES /BIDDER'S CREDIT RATING AND BANK DETAILS
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 85 OF 1993 (N/A))
FORM G	OCCUPATIONAL HEALTH AND SAFETY AGREEMENT
FORM H	CERTIFIED COPY OF ID DOCUMENT/S OF OWNERS/MEMBERS/SHAREHOLDERS
FORM I	COPY OF COMPANY REGISTRATION DOCUMENTS
FORM J	CURRENT CERTIFICATE OF GOOD STANDING FROM COMPENSATION COMMISSIONER
FORM L	LETTER OF INTENT TO SUBMIT THIRD PARTY LIABILITY INSURANCE AND ALL RISK CONTRACTORS' INSURANCE TO COVER THIS CONTRACT
FORM M	COMPANY EXPERIENCE
FORM N	EXPERTISE OF THE KEY PERSONNEL

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

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	Occupational Health & Safety Plan		
6	Letter of intent to submit Third Party Liability Insurance and All Risk Contractors Insurance to cover this contract		
7	Expertise of the Key Personnel		

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	Audited Financial Statements for the past three financial years - failure to submit this information will result in disqualification		
3	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.		
4	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: ERW2211/01

THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

T2.2 RETURNABLE SCHEDULES

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

MBD 1

INVITATION TO BID

THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

BID NUMBER: ERW2211/01

CLOSING DATE: 18 April 2023

TIME: 12:00

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: ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS**" to be placed in Tender Box at ERWAT Head Office, Hartbeestfontein 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 will 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
5. Standard conditions of bidding
6. Special conditions of contract
7. General conditions of contract
8. Supporting documents where required

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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 WILL 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

NAME OF ENTERPRISE							
PHYSICAL ADDRESS:							
POSTAL ADDRESS:							
CONTACT PERSON							
TEL NO: _____		CELL NO: _____					
FAX NO: _____		EMAIL: _____					
COMPANY REGISTRATION NUMBER:							
VAT NUMBER:		TAX REF NUMBER:					
CENTRALIZED SUPPLIER DATABASE (CSD) NUMBER:		MAAA _____					
CIDB REGISTRATION NUMBER							
CIDB GRADING							
ERWAT VENDOR NUMBER (NOT COMPULSORY):							
BIDDERS OFFER: Please note that this is rates based tender. The contract is limited to Purchase orders issued within the available budget allocated for such on an as and when required basis.							
TOTAL NUMBER OF ITEMS OFFERED							
* PREFERENCE POINTS CLAIMED AS PER FORM MBD 6.1		POINTS CLAIMED [____]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS/SERVICES/WORKS OFFERED?			<table border="1"> <tr> <td>Yes</td> <td></td> <td>No</td> <td></td> </tr> </table>	Yes		No	
Yes		No					
DISABLED [____ %]		WOMEN [____ %]					
		YOUTH [____ %]					

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

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. Brenda Matlala

CONTACT DETAILS: (TEL) 011 929 7000

E-MAIL: brenda.matlala@erwat.co.za

TECHNICAL QUERIES MAY BE DIRECTED TO:

CONTACT PERSON: Mr. Jeffrey Mathunzi

CONTACT DETAILS: (TEL) 011 929 7000

E-MAIL: jeffrey.mathunzi@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

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.

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.

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

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: PRICE ADJUSTMENTS WILL BE ALLOWED AT THE PERIODS AND TIMES SPECIFIED IN THE BIDDING DOCUMENTS.

IN CASES WHERE DIFFERENT DELIVERY POINTS INFLUENCE THE PRICING, A SEPARATE PRICING SCHEDULE MUST BE SUBMITTED FOR EACH DELIVERY POINT

Name of Bidder: _____

Bid number: **ERW2211/01**

Closing Time: **12:00 PM**

Closing Date: **18 APRIL 2023**

OFFER TO BE VALID FOR 120 DAYS FROM THE CLOSING DATE OF BID.

ITEM NO.	DESCRIPTION	BID PRICE IN RSA CURRENCY **(ALL APPLICABLE TAXES INCLUDED)
-	Required by:	EKURHULENI WATER CARE WORKS
-	At:	INFRASTRUCTURE PROJECTS AND PLANNING
-	Brand and model
-	Country of origin
-	Does the offer comply with the specification(s)?	*YES/NO
-	If not to specification, indicate deviation(s)
-	Period required for delivery
-	Delivery:	*Firm/Not firm

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

*Delete if not applicable

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

MBD 4

DECLARATION OF INTEREST

1. No bid will be accepted from persons in the service of the state.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. A Person who is an advisor or consultant contracted with the municipality.
4. In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

4.1 Full Name of bidder or his or her representative:

4.2 Identity Number:

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

4.3 Position occupied in the Company (director, trustee, shareholder²):

4.4 Company Registration Number: _____

4.5 Tax Reference Number: _____

4.6 VAT Registration Number: _____

4.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 5 below.

4.8 Are you presently in the service of the state?
If so, furnish particulars.

YES / NO

4.9 Have you been in the service of the state for the past twelve months?

YES / NO

If so, furnish particulars.

4.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

YES / NO

If so, furnish particulars.

- 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.

- 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.

- 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.

- 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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

5. Full details of directors / trustees / members / shareholders.

FULL NAME	IDENTITY NUMBER	STATE EMPLOYEE NUMBER

1 MSCM Regulations: "in the service of the state" means to be –

- (a) A member of –
 - any municipal council/entity;
 - any provincial legislature; or
 - the national Assembly or the national Council of provinces;
- (b) a member of the board of directors of any municipal entity;
- (c) an official of any municipality or municipal entity;
- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the public Finance Management Act, 1999 (Act No 1 of 1999);
- (e) a member of the accounting authority of any national or provincial public entity; or
- (f) an employee of Parliament or a provincial legislature.

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

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 5

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

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

1. Are you by law required to prepare annual financial statements for auditing? ***YES/NO**

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

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

***YES/NO**

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

2.2 If yes, provide particulars.

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

***YES/ NO**

3.1 If yes, furnish particulars

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

YES / NO

4.1 If yes, furnish particulars

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 2022

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

1.1 The following preference point systems are applicable to invitations to tender:

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

1.2 To be completed by the organ of state

a) The applicable preference point system for this tender is the 90/10 preference point system.

b) The 90/10 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.3 Points for this tender shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

1.4 To be completed by the organ of state:

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
Total points for Price and SPECIFIC GOALS	100

1.5 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

2. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

2.1 POINTS AWARDED FOR PRICE

2.1.1 THE 90/10 PREFERENCE POINT SYSTEMS

A maximum of 90 points is allocated for price on the following basis:

90/10

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

Where

P_s = Points scored for price of tender under consideration

P_t = Price of tender under consideration

P_{min} = Price of lowest acceptable tender

3. POINTS AWARDED FOR SPECIFIC GOALS

3.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

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

Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

The specific goals allocated points in terms of this tender		Number of points allocated (90/10 system) (To be completed by the organ of state)
1	EME or QSE 51% owned by women	2
2	EME or QSE 51% owned by youth	2
3	EME or QSE 51% owned by people with disabilities	2
4	EME or QSE 51% owned by military veterans	2
5	EME or QSE within the boundaries of Ekurhuleni Municipality	2

The above information will be verified in accordance with the bidders B-BBEE certificate, and or a certificate from the companies and intellectual property commission (CIPC), the department of Military Veterans and or other supporting documents. All supporting evidence must be submitted in order to claim the preferential procurement points claimed. ERWAT reserves the right to verify the information submitted.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

In the case of multi-parties (Joint ventures, consortiums, partnerships, etc.), allocation of points will be calculated by adding the individual parties in the JV, etc. ownership % together; divide the total by the number of parties in the respective joint ventures, consortiums, partnerships, etc. The average % will thus be the indicating factor for the number of points to be scored.

EXAMPLE

Joint venture

Party 1 = 51% EME/QSE owned by women

Party 2 = 100% EME/QSE owned by women

= **151%** / 2 parties in the JV = 75% and will score = 2 points

The above principle will apply to points 1, 2, 3 & 4 indicated in Table 1 above.

For point 5: The collective JV agreement's address, or the Lead JV partners' domicile Address will be utilized for scoring of points.

DECLARATION WITH REGARD TO COMPANY/FIRM

3.2. Name of company/firm.....

3.3. Company registration number:

3.4. TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

3.5. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:

- i) The information furnished is true and correct;
- ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form;
- iii) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct;
- iv) If the specific goals have been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have –
 - (a) disqualify the person from the tendering process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

- (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
- (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
- (e) forward the matter for criminal prosecution, if deemed necessary.

.....	
SIGNATURE(S) OF TENDERER(S)	
SURNAME AND NAME:
DATE:
ADDRESS:

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

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

PART 1 (TO BE FILLED IN BY THE BIDDER)

1. I hereby undertake to supply all or any of the goods and/or works described in the attached bidding documents to (name of institution) in accordance with the requirements and specifications stipulated in bid number **ERW2211/01** at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the purchaser during the validity period indicated and calculated from the closing time of bid.
2. The following documents shall be deemed to form and be read and construed as part of this agreement:
 - (i) Bidding documents, viz
 - Invitation to bid;
 - Tax clearance certificate;
 - Pricing schedule(s);
 - Technical Specification(s);
 - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2022;
 - Declaration of interest;
 - Declaration of bidder's past SCM practices;
 - Certificate of Independent Bid Determination;
 - Special Conditions of Contract;
 - (ii) General Conditions of Contract; and
 - (iii) Other (specify)
3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the goods and/or works specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfilment of this contract.
5. I declare that I have no participation in any collusive practices with any bidder or any other person regarding this or any other bid.
6. I confirm that I am duly authorised to sign this contract.

NAME (PRINT)

CAPACITY

SIGNATURE

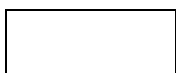
NAME OF FIRM

DATE

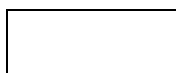
WITNESSES

1

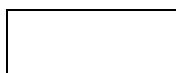
2.



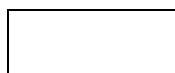
Contractor



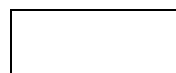
Witness 1



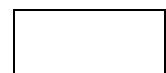
Witness 2



Employer



Witness 1



Witness 2

MBD 7.1

CONTRACT FORM - PURCHASE OF GOODS/WORKS

PART 2 (TO BE FILLED IN BY THE PURCHASER)

1. I..... in my capacity as.....
accept your bid under reference number **ERW2211/01** dated.....for the supply of goods/works indicated hereunder and/or further specified in the annexure(s).
2. An official order indicating delivery instructions is forthcoming.
3. I undertake to make payment for the goods/works delivered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice accompanied by the delivery note.

ITEM NO.	PRICE (ALL APPLICABLE TAXES INCLUDED)	BRAND	DELIVERY PERIOD	PREFERENTIAL POINTS CLAIMED	MINIMUM THRESHOLD FOR LOCAL PRODUCTION AND CONTENT (if applicable)

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

SIGNED ATON.....

NAME (PRINT)

SIGNATURE

OFFICIAL STAMP

WITNESSES

1.

2.

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 (www.treasury.gov.za) and can be accessed by clicking on its link at the bottom of the home page.</p>	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <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 (www.treasury.gov.za) by clicking on its link at the bottom of the home page.</p>	<p>Yes</p> <input type="checkbox"/>	<p>No</p> <input type="checkbox"/>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Item	Question	Yes	No
4.2.1	If so, furnish particulars:		
4.3	Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes <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 bids¹ invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).² Collusive bidding is a *per 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: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

PROJECT NO: ERW2211/01

in response to the invitation for the bid made by:

EKURHULENI WATER CARE 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 consortium³ 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;

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

SIGNATURE

DATE

POSITION

NAME OF 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:

(TO BE COMPLETED BY THE LANDLORD)		
Name of the Landlord:		
Property Physical Address:		
Please tick below	Yes	No
Rental: in arrears for more than 3 months		
Municipal services: in arrears for more than 3 months		
Landlord Signature:		
Date: _____ Landlord's business stamp here (where applicable)		

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 INFORMANTION		
1	VENDOR NAME	
2	CSD APPROVED NUMBER	M _____
3	COMPANY REG NUMBER	
4	COMPANY TAX NUMBER	
5	COMPANY VAT NUMBER	
6	CONTACT PERSON	
7	OFFICE TEL. NUMBER	
8	OFFICE FAX NUMBER	
9	E-MAIL ADDRESS	
10	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

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 CAPITALS)

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/ BIDDER'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.

BANK NAME:										
ACCOUNT NAME: (e.g. ABC Civil Construction cc)										
ACCOUNT TYPE: (e.g. Savings, Cheque etc)										
ACCOUNT NO:										
ADDRESS OF BANK:										
CONTACT PERSON:										
TEL. NO. OF BANK / CONTACT:										
How long has this account been in existence:	<table border="1"> <tr> <td>0-6 months</td> <td></td> </tr> <tr> <td>7-12 months</td> <td></td> </tr> <tr> <td>13-24 months</td> <td></td> </tr> <tr> <td>More than 24 months</td> <td></td> </tr> </table>	0-6 months		7-12 months		13-24 months		More than 24 months		(Tick which is appropriate)
0-6 months										
7-12 months										
13-24 months										
More than 24 months										

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.

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

FORM E

RECORD OF ADDENDA TO BID DOCUMENTS

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

	Date	Title of Details

SIGNATURE ON BEHALF OF BIDDER

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

**INCLUDE THE FOLLOWING DOCUMENTS IN THE SUPPORTING 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

- A trust, consortium or joint venture, will be able to claim for points for their specific goals provided that the entity submits a valid signed agreement.
- Bidders must submit concrete proof of the existence of joint ventures and/or consortium arrangements. National Treasury will accept signed agreements as acceptable proof of the existence of a joint venture and/or consortium arrangement.
- The joint venture and/or consortium agreements must clearly set out the roles and responsibilities of the Lead Partner and the joint venture and/or consortium party. The agreement must also clearly identify the Lead Partner, with the power of attorney to bind the other party/parties in respect of matters pertaining to the joint venture and/or consortium arrangement.

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 J

CURRENT CERTIFICATE OF GOOD STANDING FROM COMPENSATION COMMISSIONER

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM K

**PROOF OF RELEVANT REGULATORY CERTIFICATION OR OTHER REQUIREMENTS IN
TERMS OF THE REQUIRED REGULATORY AUTHORITY AS SET OUT IN THE SCOPE OF
WORKS**

BIDDERS MUST HAVE A MINIMUM CIDB GRADING OF **7CE** TO QUALIFY FOR EVALUATION.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

FORM L

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 M

COMPANY EXPERIENCE

Briefly summarize the Company's experience with regard to construction, upgrading, refurbishment, extension and decommissioning of water/wastewater infrastructure. 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. references that cannot be verified will result in cancellation. ERWAT reserves the right to request a visit to the project site where the works were completed

	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 N

EXPERTISE OF THE KEY PERSONNEL

1. **Personnel / Individual adequacy:** Portfolio of evidence (CV) should be provided. Indicating similar projects / jobs completed or undertaken by the personnel stated below.
2. **Qualifications:** Portfolio of evidence should be provided for the key staff with supporting Qualifications (SAQA, QCTO etc. accredited) and detailed organogram.
3. All foreign qualifications must be SAQA (South African Qualifications Authority) accredited.
4. All professional registrations must be in good standing during the period of tender evaluation.
5. **Pro-Forma CV:** A pro-forma curriculum vitae shall be filled in full on the below given forms.

NB: Failure to provide information will lead to non-compliance and disqualification.

KEY STAFF EXPERIENCE				
Position on this Contract	Full Name	ID No.	Qualifications	No. of Relevant Years of Experience
Project Manager				
Site Agent				
General Foreman				
Health & Safety Officer				

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

PRO-FORMA CURRICULUM VITAE OF KEY PERSONNEL/STAFF

This form should be completed for each key person listed in the functionality criterion

Responsibility or role on the project (as per list in form k)	PROJECT MANAGER
Name:	Date of Birth:
Profession:	Nationality:
Qualifications (Attach Proof of Qualification):	
Professional Membership (If any):	
Name of Employer (Firm):	
Current Position:	Years with firm:
Employment record: (List of chronological order starting with earliest work experience)	
Experience records pertinent to required service:	
Certification: I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualification and my experience and that I will be available to execute the work for which I have been nominated.	
<hr/> (Signature of Person named in Schedule) Date	

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Contractor

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Witness 1

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Witness 2

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Employer

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Witness 1

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Witness 2

This form should be completed for each key person listed in the functionality criterion

Responsibility or role on the project (as per list in form k)	SITE AGENT
Name:	Date of Birth:
Profession:	Nationality:
Qualifications (Attach Proof of Qualification):	
Professional Membership (If any):	
Name of Employer (Firm):	
Current Position:	Years with firm:
Employment record: (List of chronological order starting with earliest work experience)	
Experience records pertinent to required service:	
Certification: I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualification and my experience and that I will be available to execute the work for which I have been nominated.	
_____ (Signature of Person named in Schedule) Date	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

This form should be completed for each key person listed in the functionality criterion

Responsibility or role on the project (as per list in form k)	GENERAL FOREMAN
Name:	Date of Birth:
Profession:	Nationality:
Qualifications (Attach Proof of Qualification):	
Professional Membership (If any):	
Name of Employer (Firm):	
Current Position:	Years with firm:
Employment record: (List of chronological order starting with earliest work experience)	
Experience records pertinent to required service:	
Certification: I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualification and my experience and that I will be available to execute the work for which I have been nominated.	
(Signature of Person named in Schedule) Date	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

This form should be completed for each key person listed in the functionality criterion

Responsibility or role on the project (as per list in form k)	HEALTH & SAFETY OFFICER
Name:	Date of Birth:
Profession:	Nationality:
Qualifications (Attach Proof of Qualification):	
Professional Membership:	
Name of Employer (Firm):	
Current Position:	Years with firm:
Employment record: (List of chronological order starting with earliest work experience)	
Experience records pertinent to required service:	
Certification: I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualification and my experience and that I will be available to execute the work for which I have been nominated.	
_____ (Signature of Person named in Schedule) Date	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PROJECT NO: ERW2211/01

**THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING,
REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING
ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD
OF THIRTY-SIX (36) MONTHS**

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PROJECT NO: ERW2211/01

**THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING,
REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING
ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD
OF THIRTY-SIX (36) MONTHS**

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

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: ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS**

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:

.....
.....
..... **ALL TENDERED RATES BY THE SERVICE PROVIDER**
..... 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)

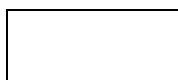
Capacity

For the Bidder
(Name and address of organisation)

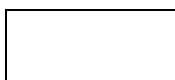
Name & Signature
Of Witness

Name

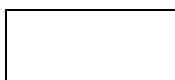
Date



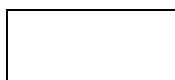
Contractor



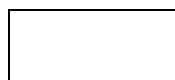
Witness 1



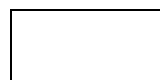
Witness 2



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 (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 Employer
(Name and address of organisation)

Name & Signature

Of Witness
Name Date

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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.....

.....

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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.
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
	Definitions The definitions contained in Clause 1.1 are hereby amended and/or supplemented as follows:
SCC 1.1.1.13	The Defects Liability Period is 12 months from the date of the Certificate of Completion. The Defects Liability Period is 12 months from the date of the Certificate of Completion per installation
SCC 1.1.1.14	The Works shall be completed within 36 months from the commencement date on an "as and when required basis". The Purchase Orders of the Works shall be placed within 36 months from the commencement date on an "as and when required basis".
SCC 1.1.1.15 1.2.1.2	The Name of the Employer is ERWAT The address of the Employer is: The Managing Director Hartebeestfontein Office Park R25 (Bapsfontein/Bronkhorstspuit) Kempton Park Telephone: 011 929 7000

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Data
SCC 1.1.1.16	Employer's Agent Will be notified after the award
SCC 1.1.1.18	The time for obtaining Completion Certificate is 21 calendar days after Practical completion.
SCC 1.1.1.26	The Pricing Strategy is Re-measurement Contract
3.2.2	DELETE AND REPLACE WITH: "Whenever the Employer's Agent intends, in terms of the contract, to exercise any discretion, or make or issue any ruling, contract interpretation or price determination, he shall first consult with the Employer and thereafter with the Contractor in an attempt to reach agreement. Failing agreement, the Employer's Agent shall advise the Employer on contractual issues where after the Employer will make a final decision based on the advice of the Agent read with the MFMA. Only then will the Agent be allowed to issue a final instruction to the contractor."
SCC 3.2.3	Add the following: 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 Accounting Officer 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.
SCC 4.1.2	Add the following: "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"
SCC 4.3.3	Add the following: "The Special Conditions of Contract are supplementary to that of the General Conditions of Contract. In the event of any contradiction between the GCC or any other applicable contractual agreement, the Municipal Financial Management Act and its applicable regulations will take precedence"
SCC 4.4.1	Add the following: The Contractor is to submit to the Employer 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"> ▪ Previous experience ▪ Work which will be sub-contracted to him/her ▪ Approximate value of the work to be sub-contracted <p>Before the Employer 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</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Data
	<p>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:</p> <ul style="list-style-type: none"> ▪ Informs the Employer in writing that he has reasonable cause for withholding or refusing such payment; and ▪ Submits to the Employer reasonable proof that he has so informed such sub-contractor in writing.
SCC 4.9.1	<p>Add the following:</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, be substandard or breaks down frequently to such an extent that it affects the progress on the project, the Employer may instruct the Contractor to replace such equipment.”</p>
SCC 5.3.1	<p>Add the following to 5.3.1:</p> <p>The documentation required before Commencement of the Works are:</p> <ul style="list-style-type: none"> • Health & Safety Plan (Refer to Cl. 4.3 of GCC 3rd Ed 2015) • Initial Programme (Refer to Cl. 5.6 of GCC 3rd Ed 2015) • Security (Deed of Guarantee) (refer to Cl. 6.2 of GCC 3rd Ed 2015) • Insurances (Refer to Cl. 8.6 of GCC 3rd Ed 2015)
SCC 5.3.3	<p>Add the following:</p> <p>The time to the documentation required before Commencement of the Works execution is 28 days</p>
SCC 5.4.1	<p>Add the following:</p> <p>The contract will commence on the last signature date of the Service Level Agreement.</p>
SCC 5.8.1	<p>Add the following:</p> <p>The special non-working days are the official builder's holiday plus all statutory public holidays.</p>
SCC 5.12	<p>Add the following:</p> <p>A delay caused by inclement weather conditions will be regarded as a delay only if, in the opinion of the Employer, 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
	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.
SCC 5.12.2.1	<p>Add the following:</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>
SCC 5.13.1	<p>Add the following:</p> <p>The penalty for failing to complete the works is shall be calculated as follows; Purchase Order</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Data
	value multiply 0.04% per day
SCC 6.2.1	<p>Add the following:</p> <p>The Security to be provided by the Contractor shall be the Performance guarantee liability of 10% of the Purchase Order. This guarantee shall be delivered within 21 days of the Commencement Date.</p>
SCC 6.2.2	<p>Add the following:</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	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.
SCC 6.10.1.5	<p>Add the following:</p> <p>The percentage advance on materials not yet built into the Permanent Works but received on site is 80 %.</p>
SCC 6.10.3	<p>Add the following:</p> <p>The percentage retention on the amounts due to the Contractor is 10%.</p>
SCC 6.10.3	<p>Add the following:</p> <p>The limit of retention money is 10% of the purchase order value.</p>
SCC 7.2.1	<p>Add the following:</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 Employers approval of such material must be gained before use thereof.</p>
SCC 8.6.1.1.2	<p>Add the following:</p> <p>The value of the materials supplied by the Employer to be included in the insurance sum is nil.</p>
SCC 8.6.1.1.3	<p>Add the following:</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 Purchase Order value.</p>

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

Clause	Data
SCC 8.6.1.3	Add the following: The limit of indemnity for liability insurance is 10 % of Purchase Order value. Public Liability Insurance to a minimum of R5 million to be provided.
SCC 9.2.1	Add the following: If the tender is found to be unauthorised, fruitless and wasteful or irregular as informed through a formal investigation, internal and or external audit outcome, the Auditor General, Council, ERWAT Board of Directors or National Treasury, ERWAT reserves the right to cancel the tender with immediate effect and the bidder will have no claim to his affect. The final terms of payment (where applicable) will be negotiated with the bidder at the time for final close out of the contract.

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>.....</p> <p>.....</p> <p>Address (postal):</p> <p>.....</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: ERW2211/01

THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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 THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS 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
 - (b) The date of termination of the Contract in terms of Clauses 9.1, 9.2, 9.3 of the GCC.

Contractor

Witness 1

Witness 2

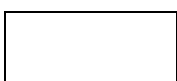
Employer

Witness 1

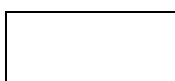
Witness 2

- 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.
 - 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.

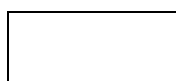
In witness hereof the parties are to set their signatures hereon in the presence of the subscribing witnesses:



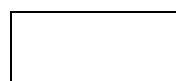
Contractor



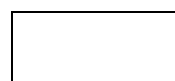
Witness 1



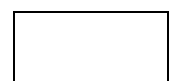
Witness 2



Employer



Witness 1



Witness 2

SIGNED FOR AND ON BEHALF OF THE EMPLOYER :

Witness

Witness

(Name)
(Print)

(Name)
(Print)

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

Witness

Witness

(Name)
(Print)

(Name)
(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.....:

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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: ERW2211/01

THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS.

C2 PRICING DATA

C2.1 Pricing Instructions

C2.2 Schedule of Rates

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PROJECT NO: ERW2211/01

THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

C2.1 PRICING INSTRUCTIONS

1. This Contract is a Framework Agreement and shall be solely used to provide services on as-instructed basis, the Service Provider shall only tender rates against each item given in the Schedule of Rates so that as-and when the employer requires services scoped as per this contract; the Service Provider is in position, without delay, to render such services.
2. The Service Provider shall tender his rates considering that the employer does not commit itself to offer the Service Provider any minimum or maximum volume and or value of work during the term of the Framework Agreement.
3. The Service Provider shall ensure that a rate/amount is entered against each item in the Schedule of Rates. An item against which no rate or amount is entered shall be deemed grounds for a partially completed bid document and will lead to disqualification.
4. The rates/amounts tendered in the Schedule of Rates shall be the full inclusive rates/amounts to the Employer for the work described under the several items. Such rates/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, overhead charges, taxes (including value-added tax), liabilities and obligations set forth or implied in the documents on which the Tender is based. The Service Provider shall ensure that all inserted rates are reasonable as these shall be used during bid evaluation and shall become the basis for payment of all work that will be carried out during the Term of the Framework Agreement.
5. The applicable Conditions of Contract, the Contract Data, the Specifications (including the Project Specifications) and the Drawings (where attached) shall be read in conjunction with the Schedule of Rates.
6. Descriptions in the Schedule of Rates 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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

7. Unless stated to the contrary, items are measured net in accordance with the Drawings without any allowance having been made for waste.

8. For the purposes of this Schedule of Rates, 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 Bidder 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 Schedule of Rates, the Specifications or elsewhere, but of which the quantity of work is not measured in units

9. The units of measurement indicated in the Schedule of Rates are metric units. The following abbreviations may appear in the Schedule of Rates:

mm	=	millimetre
m	=	metre
km	=	kilometre
km-pass	=	kilometre-pass
m ²	=	square metre
m ² -pass	=	square metre-pass
ha	=	hectare
m ³	=	cubic metre
m ³ -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

10. 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.

11. Mistakes made by the Bidder in completion of the Schedule of Rates 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 Bidder. Failure to observe this Condition will lead to the Tender being disqualified.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

12. **This is a Rates based contract developed under an indicative scope of work and therefore there are no quantities or Totals set out in the pricing schedule, Work Orders will only be generated on “as and when” required basis according to the rates tendered by the service provider as contained in the Schedule of Rates.**
13. Work Orders generated on “as and when” basis shall contain estimate quantities for the proposed Works. The actual quantities of work/services rendered as finally measured and accepted and certified for payment in accordance with the applicable Conditions of Contract, and not the estimate quantities set out in the Bill of Quantities for the Works Order, 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 for the generated Works Order and the quantities certified for payment.
14. The successful bidder will be required to submit a quote for the works required prior to being issued an official order and will be limited to the rates as set out herein.
15. Evaluation for price scoring will be done by calculating the line items in the table below to an indicative sum to determine the highest scoring bidder as provided for in the PPPFA Regulation 2022.
16. The effect of changes in prices or law on the amounts due shall be adjusted on the following basis:
- a) No price adjustment over the first 12-month period of the Contract.
 - b) On the 12-month anniversary date of the signing of the agreement, the rates shall be adjusted by a twelve-month year on year CPI index (as published in the monthly bulletin PO141.1 of statistics South Africa) ruling on the 12-month anniversary date of the signing of the contract.
17. **Complete all ‘Rates’ columns on Preliminary and General section for the three indicated project sizes or values (≤R20m, >R20m but ≤R40m & >R40m but ≤R60m. If you do not fill in the rates for the Preliminary and General items, your bid will be considered incomplete and that shall be used as grounds for disqualification as stipulated in clause no 3 above**
18. It is the Main Contractor’s responsibility to make sure their offered Rates are market-related such that they can in turn pay market-related Rates to subcontractors. Should there be a deficit between the Main Contractor’s rates and the Subcontractor’s tendered or negotiated Rates, the main Contractor will have to cover for such difference.
19. The Contractor’s monthly invoice shall be accompanied by confirmation from the Engineer or his duly authorised representative that items listed for payment have been successfully executed and/or delivered as required. Failure to obtain such confirmation from the Engineer or his duly authorised representative shall result in non-payment of the Contractor’s invoice until the default has been corrected or the deemed incomplete items are excluded from the invoice.
20. The Contractor shall note that payment shall only be made for Works activities successfully (delivering the end result) executed, complying with the quality requirements and provided to the Engineer or his duly authorised representative.
21. The Provisional Sums and Tendered amounts/prices shall be applicable per Works Order or IPW issued, and should not be deemed to represent the maximum available budget for the entire Framework Contract.
22. **Provisional Sum for Other Specialist Services**
The Consulting Engineer must obtain a minimum of three quotations to be approved in writing by the relevant ERWAT Project Manager before proceeding with Other Specialist Service.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

23. Mark Up on items not covered under the pricing schedule is limited to a 5% on the actual price of the item, not on the pricing schedule and not on profit:

The service provider is to be aware that ERWAT reserves the right to obtain quotes to check if the contractor is not overcharging with respect to such item/s. **The mark up percentage will be limited to a maximum of 5% and will be considered on a case by case basis and limited to the scope.**

24. A maximum allowable of 10% shall be included on each and every order that will be issued upon award to cater for contingencies.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



PROJECT NO: ERW2211/01

**THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION,
UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF
NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN
REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS**

C2.2 SCHEDULE OF RATES

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ERWAT

CONTRACT NO: ERW2211/01

THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36 NO.) MONTHS

ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE FOR PROJECT VALUE LESS OR EQUAL TO R20,000,000,00	RATE FOR VALUE HIGHER THAN R20,000,000 BUT LESS OR EQUAL TO R40,000,000,00	RATE FOR VALUE HIGHER THAN R40,000,000 BUT LESS OR EQUAL TO R60,000,000,00
A.1	SANS 1200A	SCHEDULE A: PRELIMINARY GENERAL				
	8,3	FIXED CHARGED ITEMS				
A.1.1	8.3.1	Contractual Requirements	Sum			
	8.3.2	ESTABLISH FACILITIES ON THE SITE				
	8.3.2.1	FACILITIES FOR THE ENGINEER				
A.1.2	PSAB 3.1	Name board	No.			
A.1.3	PSAB 3.2	Offices: 3 furnished rooms with telephones and 2 name-boards	Sum			
A.1.4	PSAB 4.1	telephone	Sum			
A.1.5		Provision for survey equipment	Sum			
	8.3.2.2	FACILITIES FOR CONTRACTOR				
A.1.6		office and storage sheds	Sum			
A.1.7		workshops	Sum			
A.1.8		laboratories	Sum			
A.1.9		ablution and toilet facilities	Sum			
A.1.10		tools and equipment	Sum			
A.1.11		water supply, eclectic power and communications	Sum			
A.1.12	PSA 5.5	dealing with water	Sum			
A.1.13		access	Sum			
A.1.14		other fixed charged obligations(specify)	Sum			
					
					
					
A.1.16		remove engineer's and contractor's site establishment on completion of contract	Sum			

<p style="text-align: center;">ERWAT CONTRACT NO: ERW2211/01 THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36 NO.) MONTHS</p>						
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A.2	8,4	TIME RELATED ITEMS				
A.2.1	8.4.1	contractual requirements	Sum			
	8.4.2	OPERATION AND MAINTENANCE OF FACILITIES ON SITE FOR DURATION OF CONSTRUCTION				
	8.4.2.1	FACILITIES FOR ENGINEER				
A.2.2	PSAB 3.1	name board	Sum			
A.2.3	PSAB 3.2	engineer's office and facilities	Sum			
A.2.4	PSAB 4.1	telephone	Prov Sum	R 12 000,00	R 12 000,00	R 12 000,00
A.2.5		contractor's mark up on Item A.2.4	%			
	8.4.2.2	FACILITIES FOR CONTRACTOR FOR THE DURATION OF CONSTRUCTION				
A.2.6		offices and storage sheds	Sum			
A.2.7		workshops	Sum			
A.2.8		laboratories	Sum			
A.2.9		ablution and toilet facilities	Sum			
A.2.10		tools and equipment	Sum			
A.2.11		water supply, electric power and communications	Sum			
A.2.12	PSA 5.5	dealing with water (sub clause 5.5)	Sum			
A.2.13		access	Sum			
A.2.14		supervision for duration of construction	Sum			
A.2.15	8.4.4	company and head office overhead costs for the duration of the contract	Sum			
A.2.16	8.4.5	other time related obligations (specify)	Sum			
					
					
					

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[illegible]

ERWAT

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A.6	PSA 8.9	OCCUPATIONAL HEALTH AND SAFETY MEASURES REQUIREMENTS TO BE MET BY CONTRACTOR				
A.6.1	PSA 8.9.1	Cost of health and safety measures required in terms of the Construction Regulations (2003) of the Occupational Health and Safety act	Sum			
A.6.2	PSA 8.9.2	Compilation and maintenance of a Health and Safety Plan, including Risk Assessments, Safe Work Procedures and Method Statements	Sum			
A.6.3	PSA 8.9.3	Compilation and maintenance of a Health and Safety File	Sum			
A.6.4	PS 10 Appendix C	OCCUPATIONAL HEALTH AND SAFETY MEASURES SPECIAL REQUIREMENTS FOR THE APPOINTED HEALTH & SAFETY AGENT FOR THE PROJECT				
A.6.5	PS 10.8	a) Notification of Construction Work Notification of Construction work to the Provincial Director as requested by the Engineer under the Construction Regulations (Regulation 3) of the Occupational Health and Safety Act NO. 85 of 1993	Prov Sum			
		b) Contractor's handling costs, profit and other charges on item above	%			
A.6.6	PS 10.5	a) Health & Safety Plan Setting up a job and site specific Health and Safety Plan by the Engineer's approved representative as requested by the Engineer under the Construction Regulations (Regulation 5) of the Occupational Health and Safety Act NO. 85 of 1993	Prov Sum	R 4 500,00	R 4 500,00	R 4 500,00
		b) Contractor's handling costs, profit and other charges on item above	%			

ERWAT

CONTRACT NO: ERW2211/01

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A.6.7	PS 10.7.1	<p>a) Health & Safety Main File</p> <p>Setting up a job and site specific Health and Safety Main File requested by the Engineer under the Construction Regulations (Regulation 5) of the Occupational Health and Safety Act NO. 85 of 1993 Engineer's approved representative to be appointed by Contractor.</p> <p>The File to include the following: Copy of H&S Act Proof of registration with COID Insurer Notification of construction work Mandatory Agreement H&S Specifications provided by client Copy of tender document, drawings etc Company Safety Policy to be signed by CEO Company organogramme with respect to H&S on specific site Letters of appointment for specific site List of subcontractors Evacuation plan Risk assessments and method statements Safe work procedures and material safety data sheets Fall protection plan Incident recordings Medical records Minutes of H&S meetings</p>	Prov Sum	R 14 500,00	R 14 500,00	R 14 500,00
		b) Contractor's handling costs, profit and other charges on item above	%			
A.6.8	PS 10.7.2	<p>a) Health & Safety Register File</p> <p>Setting up a job and site specific Health and Safety Register File requested by the Engineer under the Construction Regulations (Regulation 5) of the Occupational Health and Safety Act NO. 85 of 1993.</p> <p>The file shall be a lever arch file with original colour document of acceptable standards including dividers NOT TO BE REMOVED FROM SITE Engineer's approved representative to be appointed by Contractor</p>	Prov Sum	R 7 500,00	R 7 500,00	R 7 500,00
		b) Contractor's handling costs, profit and other charges on item above	%			

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[illegible]

ERWAT

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A.6.11	PS 10.35	<p>a) Training On-Site</p> <p>Appointment of a competent H&S Representative to perform H&S duties on site</p> <p>Apoinntee to be permanently on site and under supervision of Contractor's Site Supervisor</p> <p>Appointment to be for the duration of the contract</p> <p>Induction training of all workers of Principal Contractor</p> <p>Induction training of all workers of Sub Contractors</p> <p>Public awareness training</p> <p>Toolbox talks on environmental awareness</p> <p>First aid awareness</p> <p>Fire fighting awareness</p> <p>HIV training - 7 units</p> <p>Tool box talks on hand tools and hand tool accidents</p> <p>Tool box talks on machine guarding</p> <p>Tool box talks on lifting materials by hand</p> <p>Tool box talks on safe loading</p> <p>Tool box talks on safety signs</p> <p>Tool box talks on ten commandments of safety</p> <p>Community training</p> <p>Allow for a monthly salary as required by law for the duration of the project</p>	Sum			
A.6.12		<p>a) Accredited Training Of-Site</p> <p>Appointment of a competent person to perform accredited training off site. Engineer's approved representative to be appointed by Contractor.</p> <p>Training shall include the following:</p> <p>Training on construction vehicles and mobile plant of operators of machinery</p> <p>First Aid Level 1</p> <p>Fire fighting Level 1</p> <p>SHE Representative Certificate</p>	Prov Sum	R 48 000,00	R 48 000,00	R 48 000,00
		<p>b) Contractor's handling costs, profit and other charges on item above</p>	%			
A.6.13	PS 10.25	First Aid Equipment				
		a) First Aid Box	No.			
		b) First Aid Boxes for Sub Contractors	No.			

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A.6.14	PS 10.26	c) Stretcher	No.			
		Fire Fighting Equipment				
		a) Fire Extinguishers	No.			
		b) Fire Extinguishers for Sub Contractors	No.			
		c) Fire Extinguishers Test Certificates	No.			
A.6.15	PS 10.37	Personnel Protective Equipment (PPE)				
		a) Hard Hats	Sum			
		b) Safety Shoes	Sum			
		c) Dust Masks	Sum			
		d) Safety Goggles	Sum			
		e) Gum Boots	Sum			
		f) Overhauls	Sum			
A.6.16	PS10.27	Chemical Toilets				
		Allow for chemical toilets on site as required by the specification				
		a) For Male Workers	No.			
		b) For Female Workers	No.			
A.6.17	PS10.7	Eating Facilities				
		Allow for eating facilities on site in the form of a at least a shaded net, table and chairs	No.			
A.6.18	PS 10.16	Signs				
		Allow for sign boards to be displayed on site as required				
		a) Safety Management Information (SMI) Board	No.			
		b) No Entry Signs	No.			
		c) First Aid Sign	No.			
		d) Fire Equipment Signs	No.			

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A.7	PSA 8.10 C3.5.5.1to3	ENVIRONMENTAL MANAGEMENT PLAN				
A.7.1	PSA 8.10.1 C3.5.5.1to3	Cost of the Environmental Management Plan (EMP) required in terms of the Environmental Management Act (Act No.107,1998)	Sum			
A.7.2	PSA 8.10.2/ C3.5.5.1to3	Compliance and maintenance of the Environmental Management Plan (EMP) required in terms of the Environmental Management Act (Act No.107,1998)	Sum			
A.8		TRAINING				
A.8.1		Training allowance paid to targeted labour in terms of formal training	Prov Sum	R 200 000,00	R 200 000,00	R 200 000,00
A.8.2		extra over for the administration of payment of training allowances to targeted labour	%			
A.8.3		Transport and accommodation of workers for training where it is not possible to undertake the training in close proximity to the site	Prov Sum	R 30 000,00	R 30 000,00	R 30 000,00
A.8.2		extra over for the transport & accommodation for training at locations	%			
A.9		TEMPORARY CONNECTIONS FOR SEWER LINE (PHASE 1)				
A.9.1	PSA8.11.1	a) Allow for temporary inlet connection from the "Old" Sewage Works after the degritter into the Main Sewer Line at nearest manhole. Make allowance for the decommissioning of this connection once the new permanent sewer connection is made into the main sump at the inlet works of the "Old" Works.	Sum			
A.9.2	PSA8.11.2	b) Allow for temporary bypass of the Inlet Works straight to the Biological Reactor for the Phase 1 operation of the project. Make allowance for the decommissioning of this bypass when the Phase 2 Inlet Works will be built.	Sum			

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A12	PSA 8.7	DAYWORKS				
A.12.1		Unskilled Labour	hours			
A.12.2		Semi-skilled Labour	hours			
A.12.3		Construction-hand and operator	hours			
A.12.4		Carpenter	hours			
A.12.5		Clerk	hours			
A.12.6		Artisan	hours			
A.12.7		Foreman	hours			
A.12.8		Gangers and section leaders	hours			
A.12.9		Steel fixer	hours			
A.12.10		Bricklayer or plasterer	hours			
A.12.11		Welder	hours			
A.13	PSA 8.7	MATERIALS				
A.13.1		Provisional sum for cost of material	Prov Sum	R 300 000,00	R 300 000,00	R 300 000,00
A.13.2		Contractors mark-up on material	%			
A.14	PSA 8.7	PLANT				
		Tenderers to insert the hire rate at which each item will be charged that will cover all relevant costs of plant hire, including operating crew				
A.14.1		Lowbed transport of plant to and from site	km			

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A.14.2		All-terrain hydraulic crane 40t load capacity, 35m telescopic boom, 44m height	hours			
A.14.3		Truck mounted hydraulic crane 2t load capacity	hours			
A.14.4		Tower crane 2.8t@60m, 55m height	hours			
A.14.5		Bulldozer and ripper 18-20t, 125-135kW (D6 or equivalent)	hours			
A.14.6		Bulldozer and ripper 26-30t, 160-175kW (D7 or equivalent)	hours			
A.14.7		Grader 101-130kW (120K or equivalent)	hours			
A.14.8		Grader 171-190kW (Bell770 or equivalent)	hours			
A.14.9		Front end wheel loaders 14-18t (Cat950 or similar)	hours			
A.14.10		Front end wheel loaders 26-30t (Cat980 or similar)	hours			
A.14.11		Back acting excavators 19-22t, 70-105kW (Hitachi EX200 or similar)	hours			
A.14.12		Back acting excavators 31-35t, 150-180kW (JCB290 or similar)	hours			
A.14.13		TLB 4WD, 6-7t (Cat416 or similar)	hours			

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A.14.14		TLB 4WD, 8-9t (Cat428 or similar)	hours			
A.14.15		Skidsteer loader 1-2t (Bobcat or similar)	hours			
A.14.16		Tractors and drawn trailers and rollers	hours			
A.14.17		Articulated dump trucks 11-13m3 (Bell18E or similar)	hours			
A.14.18		Articulated dump trucks 21-25m3 (Bell40D or similar)	hours			
A.14.19		Tipper trucks 10m3	hours			
A.14.20		Tipper trucks 15m3	hours			
A.14.21		Concrete mixer truck 5-6m3	hours			
A.14.22		Crane truck 2-4t	hours			
A.14.23		Crane Truck 6-8t	hours			
A.14.24		Flatbed truck 2-4t	hours			
A.14.25		Flatbed truck 6-8t	hours			
A.14.26		Lowbed <30t	hours			
A.14.27		Lowbed 30-40t	hours			
A.14.28		Trucks (7t or equivalent)	hours			
A.14.29		Water tanker 4-6000litres	hours			
A.14.30		Water tanker 6-10000litres	hours			
A.14.31		Plate compactor	hours			
A.14.32		Pedestrian roller 0.9-1t	hours			

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A.14.33		Static roller 9-11t	hours			
A.14.34		Double drum vibratory roller 1-1.5t, width 0.7-1.0m (DTV315S or similar)	hours			
A.14.35		Double drum vibratory roller 2.5-3.5t, width 1.2-1.4m (Cat214D or similar)	hours			
A.14.36		Pneumatic roller 7-14t	hours			
A.14.37		Pneumatic roller 15-21t	hours			
A.14.38		Single drum vibratory roller, padfoot 4-7t, width 1.5m	hours			
A.14.39		Single drum vibratory roller, padfoot 10-14t, width 2.1m (Cat CP563D or similar)	hours			
A.14.40		Single drum vibratory roller, smooth 4-7t, width 1.5m	hours			
A.14.41		Single drum vibratory roller, smooth 10-14t, width 2.1m (Cat CS563D or similar)	hours			
A.14.42		Compressors (140CFM or equivalent)	hours			
A.14.43		Compressors (250CFM or equivalent)	hours			
A.14.44		Light delivery vehicles (1t or equivalent)	km			
A.14.45		Generator 30kVA	hours			
A.14.46		Generator 60kVA	hours			

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A.14.47		Concrete bucket 0.25m3	hours			
A.14.48		Concrete mixer 200l	hours			
A.14.49		Concrete vibrator 50mm	hours			
A.14.50		Pump 110m3/hr, 30m	hours			
A.14.51		Pump 220m3/hr, 30m	hours			
A.14.52		Site Offices - container 15m2	hours			
A.14.53		Mobile toilets (x2)	hours			
A.14.54		Container 6m	hours			
A.14.55		Container 12m	hours			
A.15	PSA 8.5	SUMS STATED PROVISIONALLY BY ENGINEER				
A.15.1	PSA 8.5.2	a) Safeguarding of excavations as required by the Engineer	Prov Sum	R 100 000,00	R 100 000,00	R 100 000,00
A.15.2		b) Overheads, charges and profit on item 3.4.3 above	%			
A.15.3	PSA 8.5.3	a) Control tests by independent laboratory. Additional tests that may be required by the Engineer over and above normal quality control tests performed by the Contractor.	Prov Sum	R 100 000,00	R 100 000,00	R 100 000,00
A.15.4		b) Overheads, charges and profit on item 3.4.5 above	%			

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
B		SCHEDULE B: PLATFORMS & GENERAL SITE WORKS		
	SANS 1200 C	SECTION : SITE CLEARANCE (ALL PLATFORMS)		
B1.1	8.2.1	Clear and grub Site	ha	
B1.1.1	8.2.1	Cear and grub small trees and bushes	m ²	
	8.2.2	REMOVE AND GRUB LARGE TREES AND TREE STUMPS OF GIRTH		
1.1.2	(a)	over 1 m and up to 2 m	No.	
1.1.3	(b)	over 2 m and up to 3 m	No.	
1.1.4	8.2.4	reclear surfaces (provisional) (where ordered by the Engineer)	m ²	
B1.2		PLATFORM A		
	SANS 1200 D	SECTION : EARTHWORKS		
	8.3.2	EXCAVATION		
B 1.2.1	8.3.1.2	a. Remove topsoil to nominal depth 150mm, stockpile, and maintain for later re-use.	m ²	
		b. Load, haul and spreading of the topsoil so stockpiled for the final landscaping and rehabilitation of disturbed so instructed by the Engineer within a 3km freehaul distance.	m ³	
B 1.2.2	8.3.2(a)	Excavate in all materials and place within freehaul distance for :		
		a) Excavation Type 1 material from platform prism as instructed by the Engineer and spoil at designated spoiling site east of works to extend flood-line platform.	m ³	
		b) Excavate Type 2 material from platform prism and temporary stockpiled for re-use as general fill material in the platforms as instructed by the Engineer.	m ³	
		c) Excavate Type 3 material from platform prism and stockpile for possible re-use as layerworks at designated fill areas (roads, pipe trenches or final fill layers of platform) as instructed by the Engineer.	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
B1.2.3	8.3.2(b)	Extra-over items 1.2.2 for excavation in:		
	PS D 3.1.1 & 3.1.2	a) Hard Rock Excavation	m ³	
B1.2.4		RIP AND RE-COMPACT EXCAVATED PLATFORM BASE LAYER		
		After the platform excavations have been completed to lines and levels indicated, allow for the preparation of the in-situ material. Rip the in-situ material to 300mm depth and re-compact to 90% MOD AASHTO Density to form a uniform base layer to receive the various fill layers.	m ²	
B1.3	8.3.4	IMPORT MATERIAL		
		a) To construct terraces : for general fill below wearing course from stockpiled material Type 2 in layers of 150mm max. to 93% MOD AASTHO Density (Min G7/G8 material).	m ³	
		b) To construct terraces : for general fill below wearing course from stockpiled material Type 2, modified with 3% Roadcem 32.5 cement in layers of 150mm max. to 93% MOD AASTHO Density (Min G7/G8 material).	m ³	
		c) To complete terraces : first wearing course layer of 150mm maximum thickness, G5/G6 material mixed in a ratio of 50:50 with imported borrow pit material (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
		d) To complete terraces : first wearing course layer of 150mm maximum thickness, Type 2 material modified with 3% cement (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
		e) To complete terraces : first wearing course layer of 150mm maximum thickness, On-site material stockpiled elsewhere (access roads, or outfall sewer), minimum G6, compacted to 95% MOD AASTHO Density.	m ³	
		f) To complete terraces : Final wearing course of 150mm maximum thickness, Imported from approved Borrow pit (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
B1.4	8.3.4	Deal with overburden at designated borrow pit (Provisional Sum)	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
B2.2		PLATFORM B		
	SANS 1200 D	SECTION : EARTHWORKS		
	8.3.2	EXCAVATION		
B2.2.1	8.3.1.2	a. Remove topsoil to nominal depth 150mm, stockpile, and maintain for later re-use.	m ²	
		b. Load, haul and spreading of the topsoil so stockpiled for the final landscaping and rehabilitation of disturbed so instructed by the Engineer within a 3km freehaul distance.	m ³	
B2.2.2	8.3.2(a)	Excavate in all materials and place within freehaul distance for :		
		a) Excavation Type 1 material from platform prism as instructed by the Engineer and spoil at designated spoiling site east of works to extend flood-line platform.	m ³	
		b) Excavate Type 2 material from platform prism and temporary stockpiled for re-use as general fill material in the platforms as instructed by the Engineer.	m ³	
		c) Excavate Type 3 material from platform prism and stockpile for possible re-use as layerworks at designated fill areas (roads, pipe trenches or final fill layers of platform) as instructed by the Engineer.	m ³	
B2.2.3	8.3.2(b)	Extra-over items 1.2.2 for excavation in:		
	PS D 3.1.1 & 3.1.2	a) Hard Rock Excavation	m ³	
B2.2.4		RIP AND RE-COMPACT EXCAVATED PLATFORM BASE LAYER		
		After the platform excavations have been completed to lines and levels indicated, allow for the preparation of the in-situ material. Rip the in-situ material to 300mm depth and re-compact to 90% MOD AASHTO Density to form a uniform base layer to receive the various fill layers.	m ²	
B2.3	8.3.4	IMPORT MATERIAL		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
B1.2.3	8.3.2(b)	Extra-over items 1.2.2 for excavation in:		
	PS D 3.1.1 & 3.1.2	a) Hard Rock Excavation	m ³	
B1.2.4		RIP AND RE-COMPACT EXCAVATED PLATFORM BASE LAYER		
		After the platform excavations have been completed to lines and levels indicated, allow for the preparation of the in-situ material. Rip the in-situ material to 300mm depth and re-compact to 90% MOD AASHTO Density to form a uniform base layer to receive the various fill layers.	m ²	
B1.3	8.3.4	IMPORT MATERIAL		
		a) To construct terraces : for general fill below wearing course from stockpiled material Type 2 in layers of 150mm max. to 93% MOD AASTHO Density (Min G7/G8 material).	m ³	
		b) To construct terraces : for general fill below wearing course from stockpiled material Type 2, modified with 3% Roadcem 32.5 cement in layers of 150mm max. to 93% MOD AASTHO Density (Min G7/G8 material).	m ³	
		c) To complete terraces : first wearing course layer of 150mm maximum thickness, G5/G6 material mixed in a ratio of 50:50 with imported borrow pit material (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
		d) To complete terraces : first wearing course layer of 150mm maximum thickness, Type 2 material modified with 3% cement (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
		e) To complete terraces : first wearing course layer of 150mm maximum thickness, On-site material stockpiled elsewhere (access roads, or outfall sewer), minimum G6, compacted to 95% MOD AASTHO Density.	m ³	
		f) To complete terraces : Final wearing course of 150mm maximum thickness, Imported from approved Borrow pit (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
B1.4	8.3.4	Deal with overburden at designated borrow pit (Provisional Sum)	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		a) To construct terraces : for general fill below wearing course from stockpiled material Type 2 in layers of 150mm max. to 93% MOD AASTHO Density (Min G7/G8 material).	m ³	
		b) To construct terraces : for general fill below wearing course from stockpiled material Type 2, modified with 3% Roadcem 32.5 cement in layers of 150mm max. to 93% MOD AASTHO Density (Min G7/G8 material).	m ³	
		c) To complete terraces : first wearing course layer of 150mm maximum thickness, G5/G6 material mixed in a ratio of 50:50 with imported borrow pit material (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
		d) To complete terraces : first wearing course layer of 150mm maximum thickness, Type 2 material modified with 3% cement (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
		e) To complete terraces : first wearing course layer of 150mm maximum thickness, On-site material stockpiled elsewhere (access roads, or outfall sewer), minimum G6, compacted to 95% MOD AASTHO Density.	m ³	
		f) To complete terraces : Final wearing course of 150mm maximum thickness, Imported from approved Borrow pit (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
B2.4	8.3.4	Deal with overburden at designated borrow pit (Provisional Sum)	m ³	
B3.2		PLATFORM C1 & C2		
	SANS 1200 D	SECTION : EARTHWORKS		
	8.3.2	EXCAVATION		
B3.2.1	8.3.1.2	a. Remove topsoil to nominal depth 150mm, stockpile, and maintain for later re-use.	m ²	
		b. Load, haul and spreading of the topsoil so stockpiled for the final landscaping and rehabilitation of disturbed so instructed by the Engineer within a 3km freehaul distance.	m ³	
B3.2.2	8.3.2(a)	Excavate in all materials and place within freehaul distance for :		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		a) Excavation Type 1 material from platform prism as instructed by the Engineer and spoil at designated spoiling site east of works to extend flood-line platform.	m ³	
		b) Excavate Type 2 material from platform prism and temporary stockpiled for re-use as general fill material in the platforms as instructed by the Engineer.	m ³	
		c) Excavate Type 3 material from platform prism and stockpile for possible re-use as layerworks at designated fill areas (roads, pipe trenches or final fill layers of platform) as instructed by the Engineer.	m ³	
B3.2.3	8.3.2(b)	Extra-over items 1.2.2 for excavation in:		
	PS D 3.1.1 & 3.1.2	a) Hard Rock Excavation	m ³	
B3.2.4		RIP AND RE-COMPACT EXCAVATED PLATFORM BASE LAYER		
		After the platform excavations have been completed to lines and levels indicated, allow for the preparation of the in-situ material. Rip the in-situ material to 300mm depth and re-compact to 90% MOD AASHTO Density to form a uniform base layer to receive the various fill layers.	m ²	
B3.3	8.3.4	IMPORT MATERIAL		
		a) To construct terraces : for general fill below wearing course from stockpiled material Type 2 in layers of 150mm max. to 93% MOD AASTHO Density (Min G7/G8 material).	m ³	
		b) To construct terraces : for general fill below wearing course from stockpiled material Type 2, modified with 3% Roadcem 32.5 cement in layers of 150mm max. to 93% MOD AASTHO Density (Min G7/G8 material).	m ³	
		c) To complete terraces : first wearing course layer of 150mm maximum thickness, G5/G6 material mixed in a ratio of 50:50 with imported borrow pit material (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
		d) To complete terraces : first wearing course layer of 150mm maximum thickness, Type 2 material modified with 3% cement (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		e) To complete terraces : first wearing course layer of 150mm maximum thickness, On-site material stockpiled elsewhere (access roads, or outfall sewer), minimum G6, compacted to 95% MOD AASTHO Density.	m ³	
		f) To complete terraces : Final wearing course in layers of 2 x 150mm maximum thickness, Imported from approved Borrow pit (minimum G6), compacted to 95% MOD AASTHO Density.	m ³	
B3.4	8.3.4	Deal with overburden at designated borrow pit (Provisional Sum)	m ³	
B3.5	PART SPEC PC	FINISHINGS (LANDSCAPING & GRASSING)		
B3.5.1	PSD 5.2.4.1/ PC 8.3	PREPARING AREAS FOR GRASSING		
	PC8.1a	a) Scarifying and machine trimming of area to receive grassing (horizontal and sloping)	m ²	
	PC8.1b	b) Trimming by hand on areas so instructed by the Engineer.	m ²	
B1.5.2	PC8.3	TOPSOILING ON HORIZONTAL AND SLOPING SURFACES WITH:		
	8.3.10/ 5.2.4.2	a) Topsoil (100mm thick) of exposed areas to be grassed from designated stockpile dumps	m ²	
B1.5.3	PC8.3	SUPPLYING AND APPLYING CHEMICAL FERTILIZER		
		a) Applying 2:3:2 chemical fertilizer @ 50g/m2 on horizontal and sloping surfaces	kg	
	8.3.11/ 5.2.4.3	d) Kikuyu (cuttings) including maintaining for duration of contract as instructed by Engineer	m ²	
B1.5.4	PC8.4	GRASSING OF AREAS		
	8.3.11/ 5.2.4.3	a) Plant Kikuyu grass (instant) including maintaining for duration of contract as instructed by Engineer	m ²	
	8.3.11/ 5.2.4.3	b) Kikuyu (cuttings) including maintaining for duration of contract as instructed by Engineer	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	8.3.11/ 5.2.4.3	c) Kikuyu (sods) including maintaining for duration of contract as instructed by Engineer	m ²	
B1.5.5	PC8.7c	TREES, SHRUBS AND GROUND COVER		
		a) Planting and establishing of Trees and Shrubs as instructed by the Engineer	No.	
		b) Planting and establishing of Ground Covers as instructed by the Engineer	No.	
B1,6		STORM WATER DIVERSION BERMS		
		a) Construct stormwater diversion berms to dimensions and specifications given in layers of 150mm maximum depth compacted to 90% MOD AASHTO Density using approved fill material (Min G8 material) so stockpiled from excavations elsewhere.	m ³	
B1.7	SANS 1200 DK	SECTION : GABIONS AND PITCHING		
		EXCAVATION		
B1.7.1		GABIONS		
	8.2.1	Surface preparation for bedding of gabions	m ²	
B1.7.2	8.2.2	Construct gabions using 2mm (minimum) wire mesh		
		a) Foundation mattresses of depth 0,3 m with diaphragms providing 2 m x 1 m cells	m ³	
		b) Gabions of section 1,5 m x 1,0 m for walls	m ³	
B1.7.3	8.2.4	Geotextile (Kaymat A2 or equally approved) placed underneath all mattresses:		
		a) below foundation mattresses & gabions	m ²	
B1.7.4		PITCHING		
	8.2.5	a) Ordinary pitching, of thickness at least 300 mm on slope of bank where instructed by the Engineer	m ²	
B1.8		SECTION : SEGMENTED PAVING AROUND STRUCTURES		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
B1.8.1	SANS 1200 D	CONSTRUCTION WITHIN ENGINEERED PLATFORMS		
		a) Excavate in platform material to final levels	m ³	
		b) Rip and re-compact in-situ layer to 95% MOD AASHTO Density to final levels.	m ³	
		c) Import selected sand (maximum 20mm thick) layer below segmented paving.	m ²	
B1.8.2	8.2.1	PROVIDE EDGE RESTRAINTS		
		a) Supply and install edge restraints consisting of kerbing as per SANS 927 Fig 12 for Item 1.8.4 (a) below	m	
		b) Supply and install edge restraints consisting of kerbing as per SANS 927 Fig 12 for Item 1.8.4 (b) below	m	
B1.8.3	8.2.3	CUT UNITS TO FIT EDGE RESTRAINTS	m	
B1.8.4	8.2.2	CONSTRUCT PRECAST CONCRETE SEGMENTED PAVING:		
		a) Construction 50mm thick (natural colour) bond paving	m ²	
		b) Construction of 80mm thick (natural colour) interlocking paving	m ²	
B1.9		BOLLARDS		
B1.9.1		Supply and install bollards.	Prov Sum	200 000,00
B1.1		TERRAFORCING		
B1.10.1		Supply and install terraforcing.	Prov Sum	400 000,00
B1.11	SANS 1200MK	KERBING AND CHANNELING		
B1.11.1	8.2.2	CONCRETE KERBING AND CHANNELING		
		a)Type SABS 927 Figure 6, half battered on curves	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
C	SABS 1200 D	SCHEDULE C: EARTHWORKS FOR STRUCTURES		
		The items below are for the earthworks into platforms and natural ground for concrete structures and buildings. Earthworks for pipelines, services and roads are measured elsewhere. Provision for working space and lateral support is deemed to be included in rates and no additional allowance will be made.		
C1	8.3.3 (a)	Restricted Excavation, backfilling and compaction to 95% mod. AASHTO density or disposal:		
C1.1		Strip foundations for small buildings and structures	m ³	
C1.2		Biological Reactor	m ³	
C1.3		Chlorine Contact Tank	m ³	
C1.4		RAS Pump Station	m ³	
C1.5		Secondary Settling Tanks	m ³	
C1.6		Sludge Drying Beds	m ³	
C1.7		Supernatant Pump Station	m ³	
C1.8		Tanker Discharge	m ³	
C1.9		Trenches for underfloor drains up to 1,5m deep	m ³	
C2		Extra over Items 1 for G6 natural gravel imported from commercial sources and compaction to 95% mod. AASHTO density (Provisional)	m ³	
C3	8.3.3 (b)	Extra over Item 1 above for:		
C3.1		Hard rock excavation	m ³	
C4	8.3.6	Overhaul:		
C4.1		Limited Overhaul (provisional)	m ³	
C4.2		Long Overhaul (provisional)	m ³ .km	
C5	8.3.9	Backfilling against structure:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		This item is only applicable for the installation of subsoil drainage systems against the perimeters of structures and to the extent of a maximum width of 1.0m dat is deemed to be sufficient for installation of drainage components and backfilling, regardless of depth		
C5.1		Selected permeable granular material complying with SABS 1200 LB clause 3.1	m ³	
C5.2		Extra over Item 1 for importation from commercial sources (provisional)	m ³	
		<i>The items below are for the earthworks into platforms and natural ground for concrete structures and buildings. Earthworks for pipelines, services and roads are measured elsewhere. Provision for working space and lateral support is deemed to be included in rates and no additional allowance will be made.</i>		
C6	8.3.3 (a)	Restricted Excavation, backfilling and compaction to 95% mod. AASHTO density or disposal:		
C6.1		Strip foundations for small buildings and structures	m ³	
C6.2		Aerobic Digester	m ³	
C6.5		Screens	m ³	
C6.6		Vortex Degritter	m ³	
C6.8		Inlet Division Chamber	m ³	
C6.9		Secondary Settling Tanks	m ³	
C6.1		Sludge Drying Beds	m ³	
C6.13		WAS Sludge Thickness	m ³	
C6.14		Trenches for underfloor drains up to 1,5m deep	m ³	
C7		Extra over Items 1 for G6 natural gravel imported from commercial sources and compaction to 95% mod. AASHTO density (Provisional)	m ³	
C8	8.3.3 (b)	Extra over Item 1 above for:		
C8.1		Hard rock excavation	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D	SANS 1200D	SCHEDULE D : BIOLOGICAL REACTOR		
D.1		EARTHWORKS MISCELLANEOUS		
D.1.2		Extra over items for 5% soil cement backfilling	m ³	
	(c)	where instructed by the engineer		
D.1.4	Item 2.1 in Schedule C	Dewatering of foundation excavations	Sum	
D.2	SANS 1200 L	PIPE SPECIALS		
D.2.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials as detailed in the pipe schedule	Sum	
D.3		PIPES SUPPLIED AND INSTALL (IRRESPECTIVE OF TYPE)		
D.3.1		670mm nominal diameter concrete pipe class T4 Pressure pipe	m	
D.3.2		750mm nominal diameter concrete pipe class T4 Pressure pipe	m	
D.3.3		2500mm nominal diameter concrete pipe class T4 Pressure pipe (2000mm o.a) as draft tube for aerators	No.	
	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x20mm chamfers to all visible corners</i>		
D.4	8,2	FORMWORK:		
D.4.1	8.2.5	Rough vertical formwork to edge of concrete floors and bases not higher than 400mm.	m	
D.4.2	8.2.4	Extra over Item 1.1.1 for Special formwork	m	
D.4.3	8.2.5	Rough formwork 100mm high for apron and channel edges	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	8.2.4	Special vertical formwork to columns of size 500 x 500mm for the following height ranges:		
D.4.4		0 - 1.5m	m ²	
D.4.5		1.5 - 3.0m	m ²	
D.4.6		3.0 - 4.5m	m ²	
D.4.7		4.5 - 5.8m	m ²	
	8.2.2	Smooth vertical formwork to columns of size 350 x 350mm for the following height ranges:		
D.4.8		0 - 1.5m	m ²	
D.4.9		1.5 - 3.0m	m ²	
D.4.10		3.0 - 4.5m	m ²	
D.4.11		4.5 - 5.8m	m ²	
D.4.12	8.2.2	Smooth vertical formwork to walls not higher than 6,0m	m ²	
D.4.13	8.2.5	Smooth formwork for pipe cradles and other complex shapes	m ²	
	8.2.6	Forming of square openings in shuttering for walls for the following sizes: Items in D.4.14 to D.4.34 is formed in components not deeper or thicker than 500mm.		
D.4.14		200 x 2550mm long	No.	
D.4.15		300 x 300mm	No.	
D.4.16		300 x 3500mm long	No.	
D.4.17		300 x 3800mm long	No.	
D.4.18		300 x 4100mm long	No.	
D.4.19		400 x 400mm	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D.4.20		400 x 600mm	No.	
D.4.21		500 x 500mm	No.	
D.4.22		500 x 2500mm	No.	
D.4.23		500 x 5050mm long	No.	
D.4.24		600 x 700mm	No.	
D.4.25		600 x 900mm	No.	
D.4.26		800 x 800mm	No.	
D.4.27		800 x 2000 mm long	No.	
D.4.28		2500 x 2500mm long	No.	
	8.2.6	Forming of square openings in slabs for the following sizes:		
D.4.29		800 x 800mm	No.	
D.4.30		900 x 900mm	No.	
	8.2.6	Cutting of holes in shuttering and casting in of pipes for the following diameters:		
D.4.31		250mm	No.	
D.4.32		450mm	No.	
D.4.33		500mm	No.	
D.4.34		750mm	No.	
D.4.35	8.2.2	Smooth vertical formwork to edges of concrete slabs for mechanical equipment not higher than 400mm.	m	
D.4.36		Smooth horizontal formwork to soffits of elevated concrete slabs for mechanical equipment.	m ²	
D.4.37		Smooth vertical formwork to edges of slabs of elevated walkways not higher than 300mm.	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D.4.38		Smooth horizontal formwork to soffits of elevated walkways	m ²	
D.4.39		Forming of 500wide x 130deep recessed channel for service ducts in walkways and equipment platforms (smooth formwork)	m	
D.4.40		Forming of support nibs for walkway into mechanical equipment platforms, 200mm high by 200mm deep	m	
D.4.41		Forming of recess in 250mm walls and casting in of hand stops, 500 wide by 2500mm deep	No.	
D.5	8.3 & PSG 8.2.1	REINFORCING:		
D.5.1	8.3.1	High yield bars	kg	
D.5.2		Mild steel bars	kg	
D.6	8,4	CONCRETE:		
D.6.1	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and side shuttering.	m ³	
D.6.2	8.4.3, PSG5.5.16	NF20 in 100mm no-fines concrete under reinforced concrete structures, including surface finish and shuttering.	m ³	
	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in floors with the following thickness:		
D.6.3		200mm	m ³	
D.6.4		250mm	m ³	
D.6.5		300mm	m ³	
D.6.6		400mm	m ³	
	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete walls to the following thickness:		
D.6.7		200mm	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D.6.8		250mm	m ³	
D.6.9		300mm	m ³	
D.6.10		350mm	m ³	
	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in columns to the following sizes:		
D.6.11		350 x 350mm	m ³	
D.6.12		500 x 500mm	m ³	
D.6.13	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in overhead walkways	m ³	
D.6.14		Class 30/19 concrete in reinforced concrete overhead slabs.	m ³	
D.6.15		Class 25/19 concrete in concrete aprons and channels	m ³	
D.7		SULPHIDE RESISTANT SCREEDS AND BENCHING, INCLUDING SURFACE FINISH:		
D.7.1		Screed to falls on concrete floor.	m ³	
D.8	PSG8.9	SEALING OF NO-FINES LAYER WITH 8MM DRY MORTAR SCREED ON:		
D.8.1		Horizontal surface	m ²	
D.8.2		Inclines up to 25°	m ²	
D.9	8.4.4	UNFORMED SURFACE FINISHES:		
D.9.1		Steel floated to concrete floors and bases.	m ²	
D.9.2		Steel floated to concrete floors and bases on inclines not exceeding 25°	m ²	
D.9.3		Steel floated to top of walls.	m ²	
D.9.4		Steel floated to slabs and channels for cables.	m ²	
D.9.5		Steel floated to aprons and channels	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D.10	PSG 8.5, PSGP5	JOINTS: “The joints and the rates below must be fully inclusive for the construction of the complete joint, including labour, materials, formwork, sealants, waterstops, including the effect on programming and limitations as described in PSGP5, (especially for Continuously Reinforced Construction Joints), complete.” <i>Note: All external waterstops are installed under floors and bases</i>		
D.10.1		Joint Type 1 in inclined wall bases (external waterstop)	Prov Sum	80 000,00
D.10.2		Joint Type 2 vertical, between external wall panels above TWL	Prov Sum	80 000,00
D.10.3		Joint Type 4 between base toe and floor edge (external waterstop)	Prov Sum	100 000,00
D.10.4		Joint Type 5, vertical, between external wall panels above ground level (internal waterstop)	Prov Sum	100 000,00
D.10.5		Joint Type 6, vertical, between external wall panels below ground level (internal waterstop)	Prov Sum	80 000,00
D.10.6		Joint Type 7 between external wall base panels (no waterstop)	Prov Sum	80 000,00
D.10.7		Joint Type 8, between internal wall bases (external waterstop)	Prov Sum	100 000,00
D.10.8		Joint Type 9, vertical, between 350mm internal wall panels (no waterstop)	Prov Sum	80 000,00
D.10.9		Joint Type 10, vertical, between 250mm internal wall panels (no waterstop)	Prov Sum	100 000,00
D.10.10		Joint Type 11 between bases and floor (external waterstop)	Prov Sum	100 000,00
D.10.11		Joint Type 12 between base toe and 400mm floor (external waterstop)	Prov Sum	100 000,00
D.10.12		Joint Type 13 btween 400mm base toe and 400mm base (external waterstop)	Prov Sum	100 000,00

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D.10.13		Joint Type 14 between floor panels (external waterstop)	Prov Sum	100 000,00
D.10.14		Joint Type 15 between base and floor (external waterstop)	Prov Sum	100 000,00
D.10.15		Joint Type 16 between 400mm base toe and 250mm base toe (external waterstop)	Prov Sum	80 000,00
D.10.16		Joint Type T at the base of 250mm walls	Prov Sum	50 000,00
D.10.17		Joint Type 17 between 200mm floor panels	Prov Sum	50 000,00
		Extra over for PVC waterstop Junctions :		
D.10.18		T-Piece junction : External waterstop (under bases) to center bulb water stop (in walls)	No.	
D.10.19		External waterstop cross junctions under floors and bases	No.	
D.10.20		External waterstop T-pieces under floors and bases	No.	
D.10.21		External waterstop corner piece under floors and bases	No.	
D.10.22		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	m	
D.10.23		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	m	
D.10.24		Joint for support of walkway ends (Bearing strips measured elsewhere)	m	
D.11		METALWORK AND CAST IN ITEMS:		
		All mild steel components to be hot dip galvanized to 85µm		
		Floor Gratings:		
D.11.1		"Rectagrid" or similar 25 x 4.5mm galvanized mild steel RS40 floor gratings of size 900x900mm.	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D.11.2		"Rectagrid" or similar 25 x 4.5mm galvanized mild steel RS40 floor gratings spanning 1.6m cut to max 1.2m sections complete to suit platform, including saddle clamp fittings.	m ²	
D.11.3		"Rectagrid" or similar 25 x 4.5mm galvanized mild steel RS40 floor gratings spanning 1.9m cut to max 1.2m sections complete to suit platform, including saddle clamp fittings.	m ²	
D.11.4		50x50x5mm hot dip galvanized to 130 micron equal angles with R10 anchors at max 300 c/c 100mm long cast into concrete.	m	
		Cast iron manhole covers:		
D.11.5		450mm ø SABS 558 Type 4A CI cover and frame.	No.	
		Hand stops :		
		All hand stops to be of 3CR12 with a minimum plate thickness of 3,5mm, neoprene seals and R16 handle, with a maximum friction force of 10kN		
D.11.6		700 wide x 600 high in 700 w x 1300 h guide frame and 900mm handle, wall mounted	No.	
D.11.7		500x500 in 500 w x 2500 h guide frame with 2200 mm handle, with cast in guides	No.	
D.11.8		900w x 600 h in 900w x 1300 h guide frame with 900mm handle, wall mounted	No.	
		Dowels:		
D.11.9		600mm long R25 galvanized dowel bars cast horizonatly into joints between wall panels with bond breaker on side	No.	
		Handrails:		
		"Macklock" or similar heavy duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 um galvanized, complete with all chemical anchors into concrete, bolts and nuts, completely installed :		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D.11.10	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type B 90° stanchions.	No.	
D.11.11	SABS 1200 HA 8.3.2	Straight railings consisting of 2No 38 x 2.5 hand railings	m	
D.11.12	SABS 1200 HA 8.3.2	Railings on 14.5m radius, consisting of 2No 38 x 2.5 hand railings	m	
D.11.13	SABS 1200 HA 8.3.2	Extra over for 90° corners consisting of two bends	No.	
D.11.14	SABS 1200 HA 8.3.2	Extra over for end closures	No.	
D.12		SERVICE CHANNELS :		
D.12.1		Clean concrete sand filling in channel for bedding of ducts	m ³	
D.12.2		25mm screed cover over of sand bedding, with Class A 50x50x2.5 fencing mesh and edges to channel formed with nosing tool	m ²	
D.13		BEARINGS :		
D.13.1		"Kilcher" or similar approved bearing strips with 50kN/m and 30mm horizontal movement capacity (bearing surface width 150mm)	m	
D.14		DRAINAGE:		
D.14.1		Flownet or similar HDPE drainage core with Bidim A4 or similar geotextile filter jacket	m ²	
D.14.2		Bidim A3 or similar geotextile under no-fines layer mortar seal	m ²	
D.14.3		110 diameter Flo-pipe or similar HDPE perforated drainage pipe	m	
D.14.4		110 diameter Class 34 PCV pipe	m	
D.14.5		110 diameter PVC T-piece	No.	
D.14.6		110 diameter PVC bends	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
D.14.7		110 diameter end stops	No.	
D.14.8		19mm crushed stone in drainage trenches	m ³	
D.14.9		"Bidim A4" or similar geotextile trench lining for crushed stone	m ²	
D.15	PS G 8.11	BUILDING PIPES INTO CONCRETE WORK (IRRESPECTIVE OF TYPE)		
		pipes supplied by the mechanical contractor		
D.15.1		250 mm diameter	No.	
		pipes supplied by the civil contractor		
D.15.2		450 mm diameter	No.	
D.15.3		500 mm diameter	No.	
D.15.4		800 mm diameter	No.	
D.16	SANS 1200 HA	STRUCTURAL STEELWORK (SMALL WORK)		
D.16.1	PSHA 8.3.4	Supply and installation of GRP open grid flooring complete with frames (40x40x5)	m ²	
D.16.2		Supply and installation of ground water pressure relief valves (Refer to PSHA 5.2.15)	No.	
D.17		MISCELLANEOUS		
D.17.1		Filling cable ducts with sand	m ³	
D.17.2		Filling outlet box with sand	m ³	
D.17.3		Pipe supports type 1	Prov Sum	100 000,00
D.17.4		Pipe supports type 2	Prov Sum	150 000,00
D.17.5		Pipe supports type 3	Prov Sum	120 000,00
D.18		GROUTING: The item below is applicable to all structures of the Works		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
E	SANS 1200D	SCHEDULE E: SECONDARY SETTLING TANKS -		
E.1		EARTHWORKS MISCELLANEOUS		
E.1.1	Item 1.5 in Schedule C	Extra over items E.1.1 to E.1.6 for 5% soil cement backfilling where instructed by the engineer	m ³	
E.1.5	PSD 8.3.16	Dewatering of foundation excavation	Sum	
E.2	SANS 1200L	PIPE SPECIALS		
E.2.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Prov Sum	500 000,00
E.3	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
		Formwork:		
E.3.1	8.2.5	Rough vertical formwork to outside of wall base on radius, 535mm high	m	
E.3.2		Rough vertical formwork on radius to bases not higher than 300mm	m	
E.3.3	8.2.1, PSGP5	Rough vertical formwork to outsides of walls on radius, not higher than 6,0m in alternating panel (cast in 1 lifts)	m ²	
E.3.4		Extra over Item 1.1.3 for Smooth formwork above ground level	m ²	
E.3.5	8.2.4, PSGP5	Special vertical formwork to inside of walls on radius not higher than 6,0m and in alternating panels (cast in 1 lift)	m ²	
E.3.6		Provision for pull-out bars in wall shuttering on inside radius for channel floor 200mm thick	m	

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E.3.7	8.2.4	Special horizontal and inclined at 45° to form soffit of overflow channel on radius, with total width of 1200mm, including overhang lip	m	
E.3.8		Special vertical formwork to form central column 1,8m diameter, not higher 5,7m	m ²	
E.3.9		Special vertical formwork to central column collar on 2,2m radius, 500mm high	m	
E.3.10		Special soffit of central column	m ²	
E.3.11		Vertical Special to inside and outside of overflow channel on radius, 600mm high	m	
E.3.12		Vertical Special on inside radius of central sludge channel, 1.35m deep	m ²	
E.3.13		Inclined shuttering to inside lip 200mm wide for overhang lip of overflow channel	m	
E.3.14		Cutting of openings in formwork and casting in of 600 ø inlet pipe in central concrete column	No.	
E.3.15		Cutting of openings in formwork and casting in of 90 ø Class 10 HDPE cable sleeve in concrete	No.	
	PSG 8.5, PSGP5	Joints: “The joints b and the rates below must be fully inclusive for the construction of the complete joint, including labour, materials, formwork, sealants, waterstops, including the effect on programming and limitations as described in PSGP5, especially for Continuously Reinforced Construction Joints), complete.”		
E.3.16		Joint Type R on 1.85m radius between central channel and floor	Prov Sum	100 000,00
E.3.17		Joint Type S between floor and outer base on 13.4m radius	Prov Sum	200 000,00
E.3.18		Joints Type 17 in floor on straight	Prov Sum	100 000,00
E.3.19		Joint Type 17 on 7.13m radius	Prov Sum	100 000,00
E.3.20		Joint Type 17 on 8.13m radius	Prov Sum	100 000,00

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E.3.21		Joint Type 17 between vertical wall panel, 300mm thick	Prov Sum	150 000,00
E.3.22		Joints Type 17 on radius between between ring base panels, 550mm high	Prov Sum	100 000,00
E.3.23		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	Prov Sum	50 000,00
E.3.24		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	Prov Sum	100 000,00
	8.3 & psg 8.2.1	Reinforcing:		
E.3.25	8.3.1	High yield bars	t	
E.3.26		Mild steel bars	t	
	8,4	Concrete:		
E.3.29	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and side shuttering	m ³	
E.3.30	8.4.3, PSG5.5.16	NF20 in 100mm no-fines concrete under reinforced concrete structures, including surface finishes and shuttering	m ³	
E.3.31	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete bases	m ³	
E.3.32	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete walls	m ³	
E.3.33	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete floor panels	m ³	
E.3.34	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete overflow channel	m ³	
E.3.35	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete centre column	m ³	
E.3.36		Class 25/19 concrete in concrete aprons and channels	m ³	
		Sulphide Resistant Screeds and benching, including surface finish :		
E.3.37		Benching in central channel	m ³	

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E.3.38		Screed to falls in overflow channel	m ³	
	PSG8.9	Sealing of no-fines layer with 8mm dry mortar screed on:		
E.3.39		Horizontal surface	m ²	
E.3.40		Inclines up to 15°	m ²	
	8.4.4	Unformed surface finishes:		
E.3.41		Steel floated to top of concrete bases	m ²	
E.3.42		Steel trowel floated to top of concrete bases	m ²	
E.3.43		Steel trowel floated to top of concrete wall	m ²	
E.3.44		Steel trowel floated to concrete overflow channel	m ²	
E.3.45		Steel trowel floated to inclined surface of channel lip at 45° angle	m ²	
E.3.46		Steel trowel floated to inclined floor- and infill panels	m ²	
E.3.47		Steel trowel floated to top of centre column	m ²	
E.3.48		Steel floated to aprons and channels	m ²	
E.4		DRAINAGE:		
E.4.1		Flownet or similar HDPE drainage core with Bidim A4 or similar geotextile filter jacket	m ²	
E.4.2		110 diameter Flo-pipe or similar HDPE perforated drainage pipe	m	
E.4.3		110 diameter Class 34 PCV pipe	m	
E.4.4		110 diameter PVC T-piece	No.	
E.4.5		"Gereg" or similar approved stainless steel ground water pressure relief valve	No.	
E.5	8,7	GROUTING IN OF EQUIPMENT SUPPLIED AND INSTALLED BY PLANT SUPPLIER		
E.5.1	PSG 8.7 (c) i	Approved non-shrink cementitious grout for machine bases and pipes through walls	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F	SANS 1200D	SCHEDUL F: RAS AND WAS PUMP STATION		
F.1		EARTHWORKS MISCELLANEOUS		
F.1.2	Item 1.4 in Schedule C	Extra over itemes H.1.1 to H.1.4 for 5% soil cement backfilling where instructed by the engineer	m ³	
F.1.3	Item 1.4 in Schedule C	Excavate and dispose of unsuitable material from bottom of excavations	m ³	
F.1.4	PSD 8.3.16	Dewatering of foundation excavation	Sum	
F.2	SANS 1200L	PIPE SPECIALS		
F.2.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Prov Sum	400 000,00
	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
F.3	8,2	FORMWORK:		
F.3.1	8.2.1	Rough vertical formwork to edge of basement base not higher than 350mm	m ²	
F.3.2	8.2.4	Special to edge of ground floor slab not higher than 250mm	m ²	
F.3.3	8.2.1	Rough vertical formwork to outside of concrete walls not higher than 5.2m	m ²	
F.3.4	8.2.4	Special vertical formwork to plinth edges for pumps not higher than 300mm	m ²	
F.3.5	8.2.4	Special vertical formwork to inside of concrete walls not higher than 5.2m	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F.3.6		Special horizontal formwork to soffit of first floor slab	m ²	
		Special vertical formwork to columns not wider than 300mm for the following height ranges:		
F.3.7		0 - 1.5m	m ²	
F.3.8		1.5 - 2.5m	m ²	
F.3.9		2.5 - 4.0m	m ²	
F.3.10		Special vertical formwork to internal downstand beams not higher than 500mm	m ²	
F.3.11		Special vertical formwork to external downstand beams not higher than 500mm	m ²	
F.3.12		Special vertical formwork to external downstand beams not higher than 750mm	m ²	
F.3.13		Special to soffits of downstand beams, 300mm wide	m ²	
F.3.14		Special vertical formwork to soffit of second floor slab	m ²	
F.3.15		Special horizontal formwork to soffit of roof slab	m ²	
F.3.16	8.2.4	Special vertical formwork to inside of upstands on roof slab not higher than 300mm	m	
F.3.17	8.2.4	Special to outside of roof upstand 500mm high, including forming of overhang 490mm wide and drip groove	m	
F.3.18		Special vertical formwork to edge of first floor slab, not higher than 250mm	m	
F.3.19		Special formwork to soffit of landings of staircases	m ²	
F.3.20		Special inclined formwork to soffits of staircases	m ²	
F.3.21		Forming of 100mm upstand to stairs and landings, including external shuttering and inside on stair side, ready for fixing of hand railings	m	
F.3.22		Forming of steps in stair, not wider than 1.4m	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	8.2.6	Cutting of square holes in shuttering for concrete walls for the following sizes (measured per face): Items F.3.23 to F.3.26 is formed in components not deeper or thicker than 500mm		
F.3.23		350 x 350mm	No.	
F.3.24		350 x 500mm	No.	
F.3.25		500 x 1030mm	No.	
F.3.26		650 x 650mm	No.	
F.3.27	8.2.6	Forming of square holes 350x350 through slabs not thicker than 300mm	No.	
F.3.28	8.2.4	Special shuttering to edges of cable channel in benching, not higher than 300mm	m	
F.3.29	8.2.6	Boxing out of 600x600x1000 sump for sump pump in basement floor	No.	
F.4	8.3 & PSG8.2.1	REINFORCING:		
F.4.1	8.3.1	High yield bars	kg	
F.4.2		Mild steel bars	kg	
F.4.3	8.3.2	Ref 311 high yield welded mesh in floor benching	m ²	
F.5	8.4, PSG	CONCRETE:		
F.5.1	8.4.2	Class 15/13 50mm blinding under reinforced concrete structures	m ³	
F.5.2	8.4.3	Class 30/19 concrete in reinforced concrete floors	m ³	
F.5.3		Class 30/19 concrete in 300mm walls 5.11m high	m ³	
F.5.4		Class 30/19 concrete in concrete plinths for pumps	m ³	
F.5.5		Class 30/19 concrete in reinforced concrete staircases	m ³	
F.5.6		Class 30/19 concrete in reinforced concrete landing	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F.5.7		Class 30/19 concrete in reinforced concrete slabs and beams	m ³	
F.5.8		Class 30/19 concrete in reinforced concrete columns	m ³	
F.5.9		Class 25/19 concrete in concrete aprons	m ³	
F.6		SCREED TO CONCRETE FLOORS AND SLABS, INCLUDING SURFACE FINISHES:		
F.6.1		Benching to falls in basement	m ³	
F.6.2		30mm screeds to slabs	m ³	
F.6.3		30mm screeds to stairs, including nosing and non slip ridges for 1200x250 treads	No.	
F.6.4		Screed to falls on roof slabs ready to receive waterproofing with thickness between 30 and 100mm, including coves to upstands	m ³	
F.6.5		Screed to falls in channel	m ³	
F.7	8.4.4	UNFORMED SURFACE FINISHES:		
F.7.1		Wood floated to manhole base and cover slab	m ²	
F.7.2		Wood floated to concrete floor ready for screed to falls	m ²	
F.7.3		Steel floated to plinths	m ²	
F.7.4		Steel floated to staircases	m ²	
F.7.5		Steel floated to staircase landing	m ²	
F.7.6		Steel floated to slabs	m ²	
F.7.7		Steel trowel floated to 150mm upstands on roof slab, slanted	m ²	
F.7.8		Steel floated to aprons and channels	m ²	
F.8	8,5	JOINTS AND CAULCING:		
		Joints :		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		Normal constuction joints is deemed to be included in rates		
F.8.1		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	m	
F.8.2		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	m	
		Caulking of openings:		
		Caulcing of openings through 300mm concrete walls with cementitious non-shrink grout after installation of pipework, including shuttering (measured per face):		
F.8.3	PSG 8.7(c)	350 x 350mm	No.	
F.8.4	PSG 8.7(c)	350 x 500mm	No.	
F.8.5	PSG 8.7(c)	500 x 1030mm	No.	
F.8.6	PSG 8.7(c)	650 x 650mm	No.	
F.9		METALWORK AND CAST IN ITEMS:		
		All mild steel components to be hot dip galvanized to 85µm		
F.10		FLOOR GRATINGS:		
F.10.1		"Vitaglass" Pultraded or similar FRP floor gratings spanning 400mm	m	
F.10.2		Extra over for 300x300 channel entry splays	No.	
F.10.3		50x50x5mm hot dip galvanized angles cast into channel edges with R10 anchors at max 400 c/c 100mm	m	
F.11	SABS 1200 HA 8.3.2	HANDRAILS:		
		<i>"Macklock" or similar medium duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 µm galvanized, complete with all bolts and nuts:</i>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F.11.1		1000mm, 48 x 4,0 top mounted type B 90° stanchions	No.	
F.11.2		1000, 48 x 4,0 top mounted type BTA 35 stanchions	No.	
F.11.3		Handrailings consiting of 2 No 38 x 2.5 hand rails	m	
F.11.4		Extra over for 35° bends	No.	
F.11.5		Extra over for 90° corners consisting of 2 bends	No.	
F.11.6		Extra over for 135° bends	No.	
F.11.7		Extra over for end closures	No.	
F.11.8		Extra over for fixing of railings into walls	No.	
F.12	SABS 1200 H	STRUCTURAL STEEL		
		The rates below must include for the supply, manufacture and installation of structural steel components for overhead crawler beams, including primer and 2 coats enamel		
F.12.1		254x146x30 I beam profiles	kg	
F.12.2		IPE 180 profiles	kg	
F.12.3		Sundries plate and lugs up to 10mm in thickness	kg	
F.12.4	8.3.6	M12 Grade 4.8 galvanized anchors 125mm into soffits (20 kN recommended load)	No.	
F.12.5		M16 Grade 4.8 galvanized anchors 125mm into soffits (40 kN recommended load)	No.	
F.13	PW371	BUILDING WORK:		
F.13.1		Termite poisoning in accordance with SABS 124, SABS 1164 and SABS 1165 under buildings	m ²	
F.14		WATERPROOFING:		
F.14.1		375 µm 220mm wide "Consol Plastics Brickgrip DPC" under walls and windows sills	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F.14.2		"Derbigum SP4" or similar approved torch on waterproofing membrane to roof sceed, including priming of screed, turn ups onto parapet, with 75mm side laps and 100mm end laps, sealed to primed surface to falls and crossfalls by 'torch-fusion' finished with one coat of acrylic primer followed by two coats acrylic paint.	m ²	
F.14.3		Extra over for counter flashing to parapets	m	
F.15		MASONRY:		
		<i>The rates below are fully inclusive for mortar, brick-force and bitumen coating between skins of external walls</i>		
F.15.1		NFP brickwork in 220mm external walls	m ²	
F.15.2		NFP brickwork in 110mm walls	m ²	
F.15.3		Air bricks	No.	
F.15.4		Extra over for brickwork tied to concrete columns with 32x1.6mm hoop irons 400mm into brickwork, every 4th course	No.	
F.16		PRE-CAST LINTELS:		
F.16.1		110 x 85mm reinforced pre-cast pre-stressed concrete lintels, including propping	m	
F.17		WINDOW SILLS:		
F.17.1		Facebrick on edge window sills	m	
F.18		CEILINGS:		
F.18.1		75 mm Wrot meranti coved cornices	m	
F.19		SKIRTINGS:		
F.19.1		70 x 18mm meranti skirting board (PA227) with 18 x 8mm quarter round fixed to walls and varnished	m	
F.20		WINDOWS:		
		<i>KSW Series 340 top hung dark bronze anodized aluminium window frames with safety glazing to SANS 10137:</i>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F.20.1		900 x 2400 (PTT249) with 3 mm safety glazing	No.	
F.20.2		900 x 900 (PT99) with 3 mm safety glazing	No.	
F.20.3		600 x 600 (PT66) with frosted glass	No.	
F.21		DOORS AND FRAMES:		
		<i>The items below are completely installed with frames and brass hinges</i>		
F.21.1		2032 x 813 mm Swartland framed, ledged and battened open back braced meranti door (KYD1/OB/BR) and frame, varnished	No.	
F.21.2		2935 x 1726 mm Swartland framed, ledged and battened open back braced double meranti door and frame, with top of frame and door modified for passing through of 254x146 I beam, varnished	No.	
F.22		LOCKS AND HANDLES:		
F.22.1		Union 3 lever mortice lock set with striker plates and 3 key sets	No.	
F.23		PLASTER:		
F.23.1		12 mm Plaster to walls	m ²	
F.23.2		12mm Plaster to reveals	m	
F.23.3		Forming of V-joint between paster and concrete junction and sealing with exterior silicone sealant	m	
F.24		FLOOR COVERING:		
F.24.1		2.5 mm Marley Superflex semi-flexible vinyl 300 x 300 floor tiles laid and bonded to screed surfaces	m ²	
F.24.2		Two coats wax polish to floors	m ²	
F.25		RAINWATER GOODS:		
F.25.1		80ø Cast iron domed full bore outlet, threaded	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F.25.2		80ø nominal bore galvanized mild steel downpipes fixed to walls with holder bats at max 2,0m c/c	m	
F.25.3		Outlet shoes	No.	
F.25.4		50ø PVC 200mm long emergency overflow scuppers cast into roof upstand	No.	
F.26		SANITARY WARE AND PIPE FITTINGS:		
F.26.1		"Franke" Oval V - Inset Vanity hand wash basin with tap and traps, completely installed	No.	
F.26.2		"Franke" Zurich - ZRX 120B Stainless steel (code 310256) multiple kitchen sink with tap and traps, completely installed	No.	
F.26.3		"Franke" Model HCL pedestal water closet of Grade 304 stainless steel with connection to external waste pipe	No.	
F.26.4		"Franke" Model SCL stainless steel cistern with internal mechanism and connection to WC	No.	
F.26.5		40mm Waste union with plug and chain	No.	
F.26.6		20mm Full-way brass gate valve	No.	
F.27		"MARLEY" PVC SOIL AND WASTE PIPEWORK:		
F.27.1		50mm Pipe	m	
F.27.2		110mm Pipe	m	
F.27.3		White "P" Trap 40 x 50mm (with re-seal)	No.	
F.27.4		White Double Sink Combo 40 x 40 x 300mm	No.	
F.27.5		50mm access bend	No.	
F.27.6		50 x 110mm Access reducing junction	No.	
F.27.7		50 x 110mm Access double reducing junction	No.	
F.27.8		50mm two way vent valve	No.	
F.27.9		110mm Access bend	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F.27.10		110mm Access junction	No.	
F.27.11		110mm Two way vent valve	No.	
F.27.12		110mm Access pan connector	No.	
F.27.13		110mm Bend	No.	
F.27.14		110mm Rodding eye	No.	
F.28		INTERNAL PLUMBING:		
		<i>The rates below are fully inclusive for building in and chasing into walls</i>		
F.28.1		15mm Class 1 copper pipe	m	
F.28.2		22mm Class 1 copper pipe	m	
F.28.3		15mm Capillary fittings, T-pieces, etc. fan copper pipes	No.	
F.28.4		22mm Capillary fittings, T-pieces, etc. fan copper pipes	No.	
F.28.5		20mm Brass stopcock in 200 x 200 x 200 brick manhole with SABS 558 Type 11ACI cover	No.	
F.28.6		20mm Copper pipe to 20mm HDPe pressure coupling	No.	
F.28.7		Pressure testing of internal plumbing	Sum	
F.29		PAINTING:		
		<i>The rates below are for surfaces painted in accordance with the manufacturer's specifications, including primer coats</i>		
F.29.1		Exterior walls with two coats "Plascon Wall and All"	m ²	
F.29.2		Interior walls with two coats "Plascon Double Velvet"	m ²	
F.29.3		Concrete ceilings with two coats "Plascon Double Velvet"	m ²	
F.30		SUNDRIES:		
F.30.1		4.5kg CO ² fire extinguisher with wall mounting bracket and signage, SANS compliant	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
F.30.2		ZIPHydroboil 15l Stainless steel instant boiling unit (code: 380011). Unit to be installed in accordance with manufacturer's installation instruction manual	No.	
F.31		DRAINAGE:		
F.31.1		Flownet or similar HDPE drainage core with Bidim A4 or similar geotextile filter jacket	m ²	
F.31.2		110 diameter Flo-pipe or similar HDPE perforated drainage pipe	m	
F.31.3		110 diameter PVC T-piece	No.	
F.31.4		110 diameter PVC bends	No.	
F.31.5		Waterproofing of basement wall by painting of concrete wall and top of bases with 3 coats bitumen paint	m ²	
F.32	SABS 1200 A	PROVISIONAL SUMS :		
	8,5	The sums below are allowed for the expenditure on instruction by the Engineer		
F.32.1		Shop fitting and joinery	Prov Sum	
F.32.2		Overheads, charges, profit and attendance on Item 26.1	%	
F.32.3		Furniture and loose equipment	Prov Sum	
F.32.4		Overheads, charges, profit and attendance on Item 26.3	%	
F.33	PSG 8.11	BUILDING PIPES INTO CONCRETE WORK (IRRESPECTIVE OF TYPE)		
		pipes supplied by the mechanical contractor		
F.33.1		150 mm diameter	No	
F.33.2		350 mm diameter	No	
F.33.3		450 mm diameter	No	
F.34	8.2.2	AIR BRICKS		
F.34.1	(a)	Supply and build in external airbricks as specified	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
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F.34.2	(b)	Supply and build in internal airbricks as specified	No.
F.35	SANS 1200HA	STRUCTURAL STEELWORK	
F.35.1		Supply and install galvanised steel security gate for door D1	No
F.35.2		Supply and install galvanised steel security gate for door D2	No
F.36		SUNDRY ITEMS	
F.37		FILLING CABLE DUCTS	
		FILLING OF CABLE DUCT WITH SAND AND FINISH WITH 25mm THICK SCREED AS SHOWN ON THE DETAIL ON DRAWING FOR DUCTS OF THE FOLLOWING WIDTH	
F.37.1		200mm wide cable ducts	m
F.37.2		300mm wide cable ducts	m
	PS LB 8.2.6	BUILDING PIPES INTO BRICK WORK (IRRESPECTIVE OF TYPE) SUPPLY AND BUILDING uPVC PIPES INTO BRICK WORK FOR THE FOLLOWING	
F.37.3		Up to 150mm diameter in 230mm brick walls, complete as specified	No

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
G		SCHEDULE G: INTERCONNECTING PIPEWORK AND MANHOLES		
G.1	8.3.2 PS DB	EXCAVATION		
G.2	8.3.2(a)	EXCAVATE IN ALL MATERIALS FOR TRENCHES, STOCKPILE, BACKFILL AND COMPACT, INCLUDING DISPOSAL OF SURPLUS SUITABLE MATERIAL WITHIN THE FREEHAUL DISTANCE FOR PIPES, CABLE DUCTS AND PIPE SLEEVES (INCLUDING DEWATERING)		
		UP TO 100mm DIAMETER FOR DEPTHS		
G.3		OVER AND UP TO:		
G.3.1		0,0m - 1,0m	m	
		OVER 100mm UP TO 315mm DIAMETER FOR DEPTHS		
G.3.2		0,0m - 1,0m	m	
G.3.3		1,0m - 2,0m	m	
G.3.4		2,0m - 3,0m	m	
G.3.5		3,0m - 4,0m	m	
G.3.6		4,0m - 5,0m	m	
		OVER 315mm UP TO 600mm FOR DEPTHS		
G.3.7		0,0m - 1,0m	m	
G.3.8		1,0m - 2,0m	m	
G.3.9		2,0m - 3,0m	m	
		OVER 600mm UP TO 1000mm FOR DEPTHS		
G.3.10		0,0m - 1,0m	m	
G.3.11		1,0m - 2,0m	m	

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G.3.12		2,0m - 3,0m	m	
G.3.13	8.3.2(b)	extra over Items for excavation (provisional) in hard rock material	m ³	
G.3.14	PS DB 8.3.2(c)	excavate unsuitable material from trench bottom (provisional)	m ³	
G.3.15	PS DB 8.3.2(d)	excavate by hand in soft material to expose existing services	m ³	
G.3.16	PS DB 8.3.2 (e)	excavate and backfill by hand in restriced areas	m ³	
G.3.17	8.2.4	shoring of trenches where instructed by the engineer	m	
G.4	SANS 1200L	MEDIUM PRESSURE PIPELINES		
G.5	8.2.1	SUPPLY, HANDLE, LAY, BED CLASS C AND TEST		
G.6		HDPE CLASS 10		
G.6.1		50mm diameter	m	
G.6.2		75mm diameter	m	
G.7		SUPPLY, HANDLE, LAY, BED CLASS C AND TEST		
		uPVC class 6		
G.7.1		110mm diameter	m	
G.7.2		160mm diameter	m	
G.7.3		200mm diameter	m	
G.7.4		250mm diameter	m	
G.7.5		450mm diameter	m	
G.7.6		500mm diameter	m	
G.8	8.2.1	SUPPLY, HANDLE, LAY, BED CLASS C AND TEST		
		uPVC class 34		

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G.8.1		110mm diameter	m	
G.8.2		200mm diameter	m	
G.8.3		355mm diameter	m	
G.9	1200LE	SUPPLY, HANDLE, LAY AND BED CLASS C CONCRETE		
G.10	8.2.2	PRESSURE PIPES CLASS T4		
G.10.1		600mm diameter	m	
G.10.2		675mm diameter	m	
G.10.3		825mm diameter	m	
G.10.4		1050mm diameter	m	
G.11		SUPPLY, HANDLE, LAY AND BED CLASS C SPIGOT AND SOCKET CONCRETE PIPES (SABS 677) CLASS 50D		
G.11.1		1050mm diameter	m	
G.12	8.2.2	SPECIALS AND FITTINGS		
G.13		SUPPLY, LAY, JOINT, BED CLASS C AND TEST INCLUDING CUTTING PIPES, SUPPLYING FLEXIBLE COUPLINGS AND CORROSION PROTECTION		
G.14		EXTRA OVER ITEMS G.8.1 AND G.8.2		
		HDPE 90o bends		
G.14.1		50mm diameter	No.	
G.14.2		20mm brass hose bibcock with brass union	No.	
G.14.3		20mm GMS pipe 1800 long	No.	
G.14.4		GMS elbows	No.	
G.14.5		32x20x32 HDPE reducing tee	No.	
G.15		EXTRA OVER ITEMS G.9		
		uPVC class 6 90o bends		

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G.15.1		110mm diameter	No.	
G.15.2		160mm diameter	No.	
G.15.3		200mm diameter	No.	
G.15.4		250mm diameter	No.	
G.15.5		450mm diameter	No.	
G.15.6		500mm diameter	No.	
		uPVC class 6 45o bends to 70o bends		
G.15.7		110mm diameter	No.	
G.15.8		160mm diameter	No.	
G.15.9		250mm diameter	No.	
		uPVC class 6 T Piece		
G.15.10		110mm diameter	No.	
G.15.11		160mm diameter	No.	
		uPVC class 34 90o bends		
G.15.12		110mm diameter	No.	
		uPVC class 34 45o bends		
G.15.13		110mm diameter	No.	
G.15.14	8.2.11	anchor of thrust blocks	m ³	
G.15.15	8.2.12	encase pipes in concrete Grade 20/20	m ³	
G.16	SANS 1200LB	BEDDING PIPES		
G.17	8.2.1	FROM TRECNCHEXCAVATION		
G.17.1	(a)	selected granular material	m ³	
G.17.2	(b)	selected fill material	m ³	
G.18		SUPPLY ONLY OF BEDDING MATERIAL BY IMPORTING		

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G.19		FROM COMMERCIAL SOURCES (PROVISIONAL)		
G.19.1	(a)	selected granular material	m ³	
G.19.2	(b)	selected fill material	m ³	
	PS LB 8.2.6	Building Pipes into brick wall		
G.19.3	8.2.6	i) up to and including a 315mm pipe into a 110mm thick wall	No.	
G.19.4		ii) up to and including a 315mm pipe into a 220mm thick wall	No.	
G.20	SANS 1200LD	SEWERS		
G.21	8.2.3	MANHOLES		
	PS LD 8.2.3.1	MANHOLES 2000mm DIAMETER COMPLETE WITH TYPE 4 COVER AND FRAME FOR DEPTHS		
G.21.1		up to 1.5m	No.	
G.21.2		1.5m to 2.5m	No.	
G.21.3		2.5m to 3.5m	No.	
G.21.4		3.5m to 4.5m	No.	
G.21.5		4.5m to 5.5m	No.	
G.21.6		5.5m to 6.5m	No.	
G.21.7		5.5m to 6m	No.	
		MANHOLES 1250 UPTO 1500mm DIAMETER COMPLETE WITH TYPE 4 COVER AND FRAME FOR DEPTHS		
G.21.8		up to 1.5m	No.	
G.21.9		1.5m - 2.5m	No.	
G.21.10		2.5m to 3.5m	No.	
G.21.11		3.5m to 4.5m	No.	
G.21.12		4.5m to 5.5m	No.	

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G.21.13	5.5m to 6.5m	No.	
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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
H		SCHEDULE H: SUPERNATANT PUMP STATION		
H.1	SANS 1200D	EARTHWORKS MISCELLANEOUS		
H.1.4	PS D 8.3.16	Dewatering of foundation excavation	Sum	
H.2	1200L	PIPE SPECIALS		
H.2.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Sum	
	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
H.3	8,2	FORMWORK		
H.3.1	8.2.1	Rough formwork to edges of concrete floors not higher than 250mm	m	
H.3.2		Rough vertical formwork to concrete walls not higher than 3.5m	m ²	
H.3.3	8.2.4	Special formwork to sides of stairs	m ²	
H.3.4	8.2.4	Special vertical formwork to concrete walls not higher than 3.5m	m ²	
H.3.5		Special vertical formwork to edges of slabs not higher than 200mm	m	
H.3.6	8.2.5	Special formwork for stair treads 1000mm wide x 175mm high	No.	
H.3.7	8.2.1	Rough horizontal formwork to soffit of slab	m ²	
H.3.8	8.2.6	Forming of square openings in 250mm concrete walls, 400 x 400mm in components not deeper or thicker than 500mm	No.	
H.3.9		Forming of rectangular openings in 200mm concrete slabs, 1000 x 600mm in components not deeper or thicker than 500mm	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		Cutting of holes in shuttering and casting in pipes through walls for the following diameters		
H.3.10		110mm dia	No.	
H.3.11		50mm dia	No.	
H.4	8.3 & PSG 8.2.1	REINFORCING		
H.4.1		High yield bars	kg	
H.4.2		Mild steel bars	kg	
H.5	8.4, PSG, PSGP	CONCRETE		
H.5.1	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and side shuttering	m ³	
H.5.2	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete floors	m ³	
H.5.3	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete walls	m ³	
H.5.4	8.4.3	Class 30/19 concrete in reinforced concrete stairs	m ³	
H.5.5	8.4.3	Class 30/19 concrete in reinforced concrete slabs	m ³	
H.6		SULPHIDE RESISTANT SCREEDS AND BENCHING, INCLUDING SURFACE FINISH:		
H.6.1		Benching to falls in sump	m ³	
	8.4.4	Unformed surface finishes:		
H.6.2		Steel floated to concrete floors	m ²	
H.6.3		Steel floated to slab	m ²	
H.6.4		Steel floated to staircase	m ²	
H.7		METAL WORK:		
		<i>All mild steel components to be hot dip galvanized to 85µm</i>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
H.8		ANCHOR BOLTS:		
H.8.1		M20 "Hilti" HIT-V-HCR anchors 150mm into concrete with HIT-RE-500 SD injection mortar	No.	
H.9	SABS 1200 H	STRUCTURAL STEEL:		
		<i>Rates below are fully inclusive for galvanizing, manufacturing, supply and installation</i>		
H.9.1		IPE 160 Beams	kg	
H.9.2		Sundries small base plates and connector plates	kg	
H.9.3		Grade 4.8 bolts with washers and nuts	kg	
H.9.4		6mm galvanized "Vastrap" checker floor plate manhole covers, 1000 x 600mm, with two R16 handles	No.	
H.9.5		25 x 25 x 5mm angle welded to floor plates	kg	
H.9.6		Manhole cover locking devices manufactured of 80x8mm flatbar	kg	
H.10	SABS 1200 HA 8.3.2	HANDRAILS:		
		<i>"Maclock" or similar medium duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 µm galvanized, complete with all bolts and nuts:</i>		
H.10.1	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type B 90° stanchions	No.	
H.10.2	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type BTA 35 stanchions	No.	
H.10.3	SABS 1200 HA 8.3.2	Handrailings consisting of 2No 38 x 2.5 railings, straight.	m	
H.10.4	SABS 1200 HA 8.3.2	Extra over for 35° bends	No.	
H.10.5	SABS 1200 HA 8.3.2	Extra over for 90° corners consisting of two bends each	No.	
H.10.6		Extra over for end closures	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
I		SCHEDULE I: CHLORINE CONTACT CHANNEL		
I.1	SANS 1200D	EARTHWORKS MISCELLANEOUS		
I.1.2		Extra over items I.1.1 to I.1.3 for 5% soil cement backfilling where instructed by the engineer	m ³	
I.1.4		Dewatering of foundation excavation	Sum	
I.2	1200L	PIPE SPECIALS		
I.2.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Sum	
I.3	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20x20mm chamfers to all visible corners</i>		
I.4	8,2	FORMWORK:		
I.4.1	8.2.5	Rough vertical formwork to edge of concrete floor not higher than 250mm	m	
I.4.2		Rough vertical formwork to concrete walls not higher than 3.75m.	m ²	
I.4.3	8.2.3	Special vertical formwork to concrete walls not higher than 3.75m.	m ²	
I.4.4		Special vertical formwork to sides of concrete stairs.	m ²	
I.4.5		Forming of square openings in shuttering in concrete 250mm wall of size 800 x 600mm.	No.	
I.4.6		Forming of overflow opening 1050 deep x 1800 in 250mm wall	No.	
I.4.7		Cutting of holes in shuttering and casting in of 500mm diameter pipe in concrete walls in components not deeper or thicker than 500mm.	No.	
I.4.8		Cutting of holes in shuttering and casting in of 150mm diameter pipe in concrete walls in components not deeper or thicker than 500mm.	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
I.4.9		Forming of risers of stairs, 185mm high and 1500mm wide	No.	
I.4.10		Rough formwork to edges of aprons and channels, 100mm high	m	
I.5	8.3 & PSG 8.2.1	REINFORCING:		
I.5.1	8.3.1	High yield bars	kg	
I.5.2		Mild steel bars	kg	
I.6	8.4, PSG, PSGP	CONCRETE:		
I.6.1	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and and side shuttering.	m ³	
I.6.2	8.4.3, PSG5.5.16	NF20 in 100mm no-fines concrete under reinforced concrete structures, including surface finish and shuttering.	m ³	
I.6.3	8.4.3, PSGP3.4(b)	Class 35/19 concrete for water retaining structures in 200mm reinforced concrete floors	m ³	
I.6.4	8.4.3, PSGP3.4(b)	Class 35/19 concrete for water retaining structures in reinforced concrete walls	m ³	
I.6.5	8.4.3	Class 25/19 concrete in concrete stair	m ³	
I.6.6		Class 25/19 concrete in concrete aprons and channels	m ³	
		Benching to concrete floors:		
I.6.7		Benching in outlet compartment, including surface finish	m ³	
I.7	PSG8.9	SEALING OF NO-FINES LAYER WITH 8MM DRY MORTAR SCREED ON:		
I.7.1		Horizontal surface	m ²	
I.8	8.4.4	UNFORMED SURFACE FINISHES:		
I.8.1		Steel floated to reinforced concrete floors	m ²	
I.8.2		Steel floated to top of walls	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
I.8.3		Steel floated to concrete staircase.	m ²	
I.8.4		Steel floated to aprons and channels	m ²	
I.9	PSG 8.5, PSGP5	JOINTS: "The rates below must be fully inclusive for the construction of the complete joint, including labour, materials, formwork, sealants, waterstops, including the effect on programming and limitations as described in PSGP5, especially for Continuously Reinforced Construction Joints), complete."		
		<i>Structure to be constructed in three sections with 1000mm wide infill strips</i>		
I.9.1		Joint Type 17 between floor panels and infills, 250mm high	m	
I.9.2		Joint Type 17 between vertical wall panels and infills, 250mm thick	m	
I.9.3		Joint Type T between outside wall and floor for 250mm wall	m	
I.9.4		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	m	
I.9.5		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	m	
I.10		METAL WORK: All mild steel components to be hot dip galvanized to 85µm		
I.10.1		"Rectagrid" or similar 25 x 4.5mm galvanized mild steel RS40 floor gratings Spanning 2.1 m cut to max 1.05 m sections complete to suit platform, including saddle clamp fittings.	m ²	
I.10.2		50x50x5mm Galvanized Angle with R8 anchors at max 250 c/c 100mm long cast into concrete.	m	
I.10.3		4,5mm thick 3CR12 1850x1050mm V-notch weir plate including bolts into concrete and seal	No.	
I.10.4		4,5mm thick 3CR12 1950x600 rectangular weir plate including bolts into concrete and seals	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
I.11		HANDRAILS:		
		<i>"Macklock" or similar medium duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 um galvanized, complete with all bolts and nuts:</i>		
I.11.1	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type B 90° stanchions, including anchors.	No.	
I.11.2	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type BTA 35 stanchions, including anchors.	No.	
I.11.3	SABS 1200 HA 8.3.2	Hand railings consisting of 2 No 38 x 2.5 hand railings, straight.	m	
I.11.4	SABS 1200 HA 8.3.2	Extra over for 35° bends	No.	
I.11.5	SABS 1200 HA 8.3.2	Extra over for 90° corners consisting of two bends each	No.	
I.12		DRAINAGE:		
I.12.1		Flownet or similar HDPe drainage core with Bidim A4 or similar geotextile filter jacket	m²	
I.12.2		Bidim A3 or similar geotextile under no-fines layer mortar seal	m²	
I.12.3		110 diameter Flo-pipe or similar HDPe perforated drainage pipe	m	
I.12.4		110 diameter Class 34 PCV pipe	m	
I.12.5		110 diameter PVC T-piece	No.	
I.12.6		110 diameter PVC bends	No.	
I.13	PSG 8.11	BUILDING PIPES INTO CONCRETE WORK (IRRESPECTIVE OF TYPE) PIPES SUPPLIED BY THE CIVIL CONTRACTOR		
I.13.1		150 mm diameter	No.	
I.13.2		500 mm diameter	No.	
I.14	SANS 1200 HA	STRUCTURAL STEELWORK (SMALL WORK)		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
J	SANS 1200D	SCHEDULE J: CHLORINE BUILDING		
J.1		EARTHWORKS MISCELLANEOUS		
J.1.2		Extra over itemes J.1.1 to J.1.4 for 5% soil cement backfilling where instructed by the engineer	m ³	
J.1.4		Dewatering of foundation excavation	Sum	
	SABS 1200G, PSG	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
J.2	8,2	FORMWORK:		
J.2.1	8.2.5	Rough formwork to edge of surface bed not higher than 100mm	m	
J.2.2		Rough formwork to edge of concrete ramp not higher than 100mm	m	
J.2.3	8.2.4	Special horizontal formwork to soffits of roof slabs.	m ²	
J.2.4	8.2.4	Special vertical formwork to inside of upstands on roof slab not higher than 300mm	m	
J.2.5	8.2.3	Special to outside of roof upstand 500mm high, including forming of overhang 490mm wide and drip groove	m	
J.2.6		Cutting of circular holes in shuttering and casting in of downpipes through concrete roof slab for 80mm dia formed in components not deeper or thicker than 500mm.	No.	
J.3	8.3 & PSG 8.2.1	REINFORCING:		
J.3.1	8.3.1	High yield bars	kg	
J.3.2		Mild steel bars	kg	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
J.4	8.4, PSG	CONCRETE:		
J.4.1	8.4.3	Class 25/19 concrete in strip foundations.	m ³	
J.4.2		Class 25/19 concrete in 100mm surface beds.	m ³	
J.4.3		Class 25/19 concrete in 100mm concrete ramp.	m ³	
J.4.4		Class 30/19 concrete in roof slabs.	m ³	
J.5		SCREED TO CONCRETE FLOORS:		
J.5.1		30mm screed to surface beds finished to receive floor covering	m ²	
J.5.2		Screed to falls on roof slabs ready to receive waterproofing with thickness between 30 and 65mm, including surface finish and forming of coving against upstand.	m ³	
J.6	8.4.4	UNFORMED SURFACE FINISHES:		
J.6.1		Steel floated to strip foundations	m ²	
J.6.2		Steel floated to surface beds ready for screeds	m ²	
J.6.3		Steel floated to concrete ramps	m ²	
J.6.4		Steel floated to roof slabs ready to receive screed to falls	m ²	
J.7	8,5	JOINTS:		
J.7.1		10x100mm "Jointex" joints sealed with 10x10 poly-sulphide joint sealant.	m	
J.8	PW371	BUILDING WORK:		
J.8.1		Termite poisoning in accordance with SABS 124, SABS 1164 and SABS 1165 under buildings.	m ²	
J.9		WATERPROOFING:		
J.9.1		375 µm "Consol Plastics Brickgrip" DPC in walls and under windows:	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
J.9.2		220mm wide.	m ²	
J.9.3		250mm "Consol Plastics Gunplas Black" damp proof membrane under surface beds turned up against walls	m ²	
J.9.4		250mm "Consol Plastics Gunplas Black" damp proof membrane under concrete ramps and paving.	m ²	
		Waterproofing of concrete roof slabs:		
J.9.5		"Derbigum SP4" or similar approved torch on waterproofing membrane to roof sceed, including priming of screed, turn ups onto parapet, with 75mm side laps and 100mm end laps, sealed to primed surface to falls and crossfalls by 'torch-fusion' finished with one coat of acrylic primer followed by two coats acrylic paint.	m ²	
J.9.6		Extra over for counter flashing to parapets	m	
J.10		MASONRY:		
		<i>The rates below are fully inclusive for Class II mortar, brick-force every 2nd course, bitumen coating between skins of external walls, scratching out for joints where applicable, complete</i>		
J.10.1		NFX brickwork in 220mm foundation walls	m ²	
J.10.2		NFP brickwork in 220mm walls	m ²	
J.10.3		NFP air bricks	No.	
J.11		PRE-CAST LINTELS:		
J.11.1		110x85mm reinforced pre-cast pre-stressed concrete lintels, including propping.	m	
J.12		WINDOW SILLS:		
J.12.1		Face brick on edge window sills.	m	
J.13		SKIRTINGS:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
J.13.1		70 x 18mm meranti skirting board (PA227) with 18 x 8mm quarter round fixed to walls and varnished.	m	
J.14		WINDOWS:		
		<i>KSW Series 340 top hung dark bronze anodized aluminium window frames with safety glazing to SANS 10137:</i>		
J.14.1		900 x 900 (PT99) with 3mm safety glazing.	No.	
J.15		DOORS & FRAMES:		
		<i>The items below are completely installed with frames and brass hinges.</i>		
J.15.1		2032 x 813mm Swartland framed, ledge and battened open back braced meranti door (KYD1/OB/BR) and varnished.	No.	
J.16		LOCKS AND HANDLES:		
J.16.1		Union 3 lever mortice lock set with striker plates and 3 key sets.	No.	
J.17		PLASTER:		
J.17.1		12mm Plaster to walls.	m ²	
J.17.2		12mm Plaster to reveals	m	
J.18		RAINWATER GOODS:		
J.18.1		80mmø Cast Iron domed full-bore roof outlet, threaded	No.	
J.18.2		80ø nominal bore galvanized mild steel downpipes fixed to walls with holder bats every 2m.	m	
J.18.3		Outlet shoes.	No.	
J.18.4		50ø PVC 200mm long emergency overflow scuppers cast into roof upstand	No.	
J.19		PAINTING:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		<i>The rates below are for surfaces painted in accordance with the manufacturer's specifications, including primer coats.</i>		
J.19.1		Exterior walls with two coats "Plascon Wall and All".	m ²	
J.19.2		Interior walls with two coats "Plascon Double Velvet".	m ²	
J.19.3		Concrete ceilings with two coats "Plascon Double Velvet".	m ²	
J.20		PAVING:		
J.20.1		60mm 25MPa rectangular grey interlocking paving bricks on 20mm sand bed, including of locking.	m ²	
J.20.2		Cutting of edges against restraints and walls	m	
J.20.3		Forming of 150x100 Class 20/19 edge beam, including shuttering	m	
J.21		SUNDRIES:		
J.21.1		4.5kg CO2 fire extinguisher with wall mounting bracket and signage, SANS compliant.	No.	
J.22	SANS 1200HA	STRUCTURAL STEELWORK		
J.22.1		Supply and install galvanised steel security gate for door D1	No.	
J.22.2		Supply and install galvanised steel security gate for door D2	No.	
J.23	SANS 1200L	MEDIUM PRESSURE PIPELINES		
	8.2.1	Supply and install pipes through pump station wall or in floor slab		
J.23.1		160 mm dia uPVC Class 9 pipe, 500 mm long, into switchboard	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
K	SANS 1200D	SCHEDULE K: SLUDGE DRYING PANS AND SCUM DRYING BEDS		
K.1		EARTHWORKS MISCELLANEOUS		
K.1.2	Item 1.6 in Schedule C	Extra over items K.1.1 to K.1.5 for 5% soil cement backfilling	m ³	
	(c)	where instructed by the engineer		
K.1.4	Item 1.6 in Schedule C	Dewatering of foundation excavations (27 off Pans and 3 off Beds)	Sum	
K.2	SANS 1200 L	PIPE SPECIALS		
K.2.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Sum	
	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
K.3	8,2	FORMWORK:		
		Formwork to earth faces of channels deemed to be included in rates		
K.3.1	8.2.4	Special vertical formwork to 0.75m wide channel in sludge drying pan not higher than 1.4m	m ²	
K.3.2		Special vertical formwork to 0.6m wide channels in sludge drying pans not higher than 950mm	m ²	
K.3.3		Special vertical formwork to 0.3m wide channels in sludge drying pans not higher than 550mm	m ²	
K.3.4		Special vertical formwork to 0.3m wide channels in scum drying beds not higher than 550mm	m ²	
K.3.5		Special vertical formwork to sludge drying bed walls not higher than 2m	m ²	
K.3.6		Special vertical formwork to sludge drying pan wall not higher than 600mm	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
K.3.7		Special vertical formwork to sludge drying pan concrete floors not higher than 300mm	m	
K.3.8		Special vertical formwork to scum drying bed concrete blocks not higher than 300mm	m	
1,9	8.2.5	Special formwork to edges of 600 x 600mm precast concrete slab	No.	
K.3.10		Special formwork 100mm high to edges of aprons and channels	m	
K.3.11	8.2.6	Forming of openings in shuttering for walls, for handstops of size 400 x 500mm	No.	
	8.2.6	Cutting of holes in shuttering and casting in of pipes for the following diameters;		
K.3.12		110mm	No.	
K.3.13		200mm	No.	
K.4	8.3 & PSG 8.2.1	REINFORCING:		
K.4.1	8.3.1	High yield bars	kg	
K.4.2		Mild steel bars	kg	
K.5	8,4	CONCRETE:		
K.5.1	8.4.2	Class 15/13 50mm blinding under reinforced concrete structures, including surface finish	m ³	
K.5.2	8.4.3, PSGP3.4(b)	Class 35/19 concrete for water retaining structures in 200mm reinforced concrete channel floors	m ³	
K.5.3	8.4.3, PSGP3.4(b)	Class 35/19 concrete for water retaining structures in 200mm reinforced concrete surface beds	m ³	
	8.4.3, PSGP3.4(b)	Class 35/19 concrete for water retaining structures in reinforced concrete walls for the following wall thickness;		
K.5.4		150mm	m ³	
K.5.5		200mm	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
K.5.6		Class 30/19 concrete in mass concrete blocks	m ³	
K.5.7	8.4.3	Class 25/19 concrete in aprons and channels	m ²	
K.6		SCREEDS AND BENCHING, INCLUDING SURFACE FINISH:		
K.6.1		Shaped screed in concrete channels	m ³	
K.7	8.4.4	UNFORMED SURFACE FINISHES:		
K.7.1		Steel floated to concrete floors and surface beds	m ²	
K.7.2		Steel floated to concrete floors and surface beds on inclines not steeper than 10°	m ²	
K.7.3		Steel floated to top of walls	m ²	
K.7.4		Steel floated to mass concrete blocks	m ²	
K.7.5		Steel floated to aprons and channels	m ²	
K.8	PSG 8.5, PSGP5	JOINTS: “The rates below must be fully inclusive for the construction of the complete joint, including labour, materials, formwork, sealants, waterstops, including the effect on programming and limitations as described in PSGP5, especially for Continuously Reinforced Construction Joints), complete.” <i>Note: All external waterstops are installed under floors and bases</i> Formwork to earth faces of channels deemed to be included in rates		
K.8.1		Joint Type 14 between floor panels (external waterstop)	m	
K.8.2		Joint Type 18 between floors and channels (external waterstop, 90° edge type)	m	
K.8.3		Joint Type 19 between floor panels and channel walls (external waterstop, 90° edge type)	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
K.8.4		Joint Type 17 between 200mm floor panels (continuously reinforced)	m	
		Extra over for PVC waterstop Junctions :		
K.8.5		External waterstop Cross junctions under floors and channels for 90° edge type	No.	
K.8.6		External waterstop T-pieces under floors and bases, for 90° edge type	No.	
K.8.7		External waterstop T-pieces under floors and bases, flat type to 90° edge type	No.	
K.8.8		External waterstop Corner piece under floors channels for 90° edge types	No.	
K.8.9		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	m	
K.8.10		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	m	
K.9		METAL WORK:		
		All mild steel components to be hot dip galvanized to 85µm		
K.10		FLOOR GRATINGS:		
K.10.1		"Rectagrid" or similar 25 x 4.5mm galvanized mild steel RS40 floor grating spanning 830mm cut to max 1.2m sections complete to suit platform, including saddle clamp fittings	m ²	
K.10.2		"Rectagrid" or similar 25 x 4.5mm galvanized mild steel RS40 floor gratings panning 680mm cut to max 1.2m sections complete to suit platform, including saddle clamp fittings.	m ²	
K.10.3		50x50x5mm galvanized Angle with R8 anchors at max 250 c/c 100mm long cast into concrete	m	
K.11		HAND STOPS :		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		All hand stops to be of 3CR12 with a minimum plate thickness of 3,5mm, neoprene seals and R16 handle, with a maximum friction force of 10kN		
K.11.1		500 wide x 400 high in 500 w x 400 h guide frame and 200mm handle, cast in	No.	
K.12		CAST IRON MANHOLE COVERS:		
K.12.1		900x900mm m/d single seal CI cover and frame to SABS 558.	No.	
K.13		HANDRAILS:		
		"Macklock" or similar heavy duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 um galvanized, complete with all chemical anchors into concrete, bolts and nuts, completely installed :		
K.13.1	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type B 90° stanchions.	No.	
K.13.2	SABS 1200 HA 8.3.2	Straight railings consisting of 2No 38 x 2.5 hand railings	m	
K.13.3	SABS 1200 HA 8.3.2	Extra over for 90° corners consisting of two bends	No.	
K.13.4	SABS 1200 HA 8.3.2	Extra over for end closures	No.	
K.14	PW371	MASONRY:		
K.14.1		110mm plastered brickwork not higher than 650mm	m	
		Drainage and channel unfill:		
K.14.2		Bidim A4 or similar geotextile over crushed stone for wrapping of top 100mm of crushed stone layer 300mm wide and 200mm overlap (total width = 900 mm	m ²	
K.14.3		110 diameter Flo-pipe or similar HDPe perforated drainage pipe	m	
K.14.4		110 diameter end stops	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
L		SCHEDULE L: MAIN OUTFALL SEWER		
	SANS 1200 C	SECTION : SITE CLEARANCE		
L1		MAIN OUTFALL SEWER (1200ND)		
L1,1		CLEAR SITE		
L1.1.1	8.2.1	Clear and grub Site	ha	
	8.2.2	Remove and grub large trees and tree stumps of girth Over and up to		
L1.1.2		1 m to 2 m	No.	
L1.1.3	8.2.5	Take down existing fences and re-erect after trench excavations have been completed.	km	
L1,2	SANS 1200 DB	PIPE TRENCHES		
		SITE CLEARANCE		
L1.2.1	8.3.1(c)	a. Remove topsoil to depth of 200mm and stockpile next to trench in spoil heaps not exceeding 1.5m height. This topsoil material so stockpiled will be used for the final rehabilitation of disturbed areas so instructed by the Engineer within a 2km freehaul distance.	m ²	
		b. Load, haul and spreading of the topsoil so stockpiled for the final landscaping and rehabilitation of disturbed so instructed by the Engineer within a 3km freehaul distance.	m ³	
	PS DB 8.3.1 d & e	Remove rubble fill material from the "old dumping site" above normal surface level before excavations commences for the main outfal sewer, as instructed by the Engineer..		
	8.3.1 (a)	c. Rubble removed by dozer within a 500m radius	m ³	
	8.3.1 (b)	d. Load, haul and spoil rubble so excavated to existing dumping site within 0.5km freehaul distance.	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	8.3.1.(c)	e. Construct a cutting through the waste dumping site to a depth of +/- 3m and spoil the material within 0.5km on the waste dump site as instructed by the Engineer. This is required for the deep excavation portions of the outfall sewer to ensure that safer working depths can be achieved. (Provisional Item)	m ³	
		EXCAVATION		
L1.2.2	8.3.2(a)	<p>Excavate in all materials for trenches and stockpile better quality material in varying quality stockpiles so excavated within a 0.5km freehaul distance for possible re-use as bedding material and/ or main backfill material of trench or elsewhere in other locations as fill material when instructed by the Engineer.</p> <p>The remaining excavated material from the trenches will be used for the main backfill of the trench which has to be compacted and reinstated as specified for this specific HDPE segmented pipe for a WELL installation type (consolidation factor Cf = 1) to 93% MOD AASHTO density.</p> <p>Any surplus or unsuitable material so excavated will be stockpiled for possible disposal later to a designated spoil site.</p> <p>This relates to the 1200 ID main sewer outfall pipe for the entire trench depth.</p>		
	PS DB 5.2/ PS D3.1.2 PS LB 2.1.3	Main Outfall Sewer for the 1200mm Dia structured wall HDPE pipes for total trench depth: (NOTE: Allowance must be made for to make safe the side slopes in excavations deeper than 1.5m where the side slopes have to be benched at a minimum offset of 1V:1H. In Areas where the slope stability is a problem and when confirmed with the Engineer, additional shoring will be constructed as a separate pay item).		
L1.2.2.1		Exceeding 1,0 m but not exceeding 1.5m	m	
L1.2.2.2		Exceeding 1.5 m but not exceeding 3,0 m	m	
L1.2.2.3		Exceeding 3,0 m but not exceeding 4,5 m	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
L1.2.2.4		Exceeding 4,5 m but not exceeding 6,0 m	m	
L1.2.2.5		Exceeding 6,0 m but not exceeding 7.5m	m	
L1.2.2.6		Exceeding 7.5 m and deeper	m	
	8.3.2(b)	Extra-over items .2.1 to .2.6 incl. for (prov):		
L1.2.3	PSD 3.1.1 & 3.1.2	Hard rock excavation	m ³	
L1.2.4	8.3.2(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m ³	
L1.2.5		EXCAVATION. ANCILLARIES Make up deficiency in backfill material (Provisional)		
L1.2.5.1	8.3.3.1(a)	from other necessary excavations on site within a 5km freehaul distance.	m ³	
L1.2.5.2	8.3.3.3	Compaction in road reserves	m ³	
L1.2.5.3	8.3.3.4	Overhaul (Allow for overhaul beyond the distances so given in 1.2.2. above).		
		a. Long overhaul (provisional)	m ³ .km	
L1.2.6	8.3.4(a)	Shore trench in areas where instructed by the Engineer		
		a) In deep excavations with side slope stability problems	m	
L1.2.7		EXISTING SERVICES		
	8.3.5	The existing industrial pumping main will be crossed when the new outfall sewer line is constructed.		
		Location		
L1.2.7.1		Excavate by hand in soft material to expose the existing industrial sewer pump-line. ..	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
L1.2.8		FINISHINGS		
	8.3.6	Reinstate road surfaces		
L1.2.8.1		b) Gravel surfaced	m ²	
L1,3	SANS 1200 LB	SECTION : BEDDING		
	PS LB 2.1.3	PROVISION OF BEDDING Provide selected bedding material and compact in layers of 150mm to achieve a 93% MOD AASHTO density to a distance of 500mm over the crown of the pipe to comply with the requirements of a WELL installation type - Class C for Rigid Pipes.		
L1.3.1		a) Available from trench or other necessary excavations within a 3km freehaul distance (Subclause 3.4.1)		
	8.2.1	a) Selected granular material (cradle)	m ³	
		b) Selected fill material (blanket)	m ³	
		Imported from		
L1.3.2	8.2.2.1	a) Stockpiled material where additional screening is required to ensure compliance for selected bedding material use within a 3km freehaul distance.		
		1) Selected granular material (cradle)	m ³	
		2) Selected fill blanket (blanket)	m ³	
L1.3.3	8.2.2.3	b) Imported from Commercial sources		
		1) Selected granular material (cradle)	m ³	
		2) Selected fill material (blanket)	m ³	
L1.3.4	8.2.3	Concrete bedding (Provisional)	m ³	
L1.3.5	8.2.5	Overhaul of material for bedding (Provisional) where ordered Extra-over items 1.3.1 to 1.3.3		
		a) Selected granular material (cradle)	m ³ .km	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		b) Selected fill material (blanket)	m ³ .km	
L1.3.6	PS LB 5.5	Special Flo-Drains installed in wet or high water table areas		
		a) Install Flo-Drains 1.5m high complete with 100mm Drainex pipe with flowgrid wrapped in A4 geotextile bidim as shown on the drawings.	m	
	PS LB 2.1.3	b) Bidim A6 to be used in wet areas for underdrain conditions	m ²	
L1,4	SANS	SECTION : SEWERS		
L1.4.1	1200 LD	PIPEWORK		
	8.2.1/ PS LD 3.1.8	Supply, lay, joint, bed (Class C bedding for rigid pipes) and test 1200mm dia structured wall HDPE sewer pipe with extrusion welded joints and stainless steel couplings. (for WELL Installation Type). Provide 1/3 of pipe order in lengths of 6m and 2/3 of order in lengths of 12m.		
		a) Ring Stiness 2kN/m2 (SN2) for shallow excavations (1.6m to 3m cover above crown of pipe) - 1200mm ID HDPE structured wall pipe	m	
		b) Ring Stifness 4kN/m2 (SN4) for normal depth excavations (3m to 6m dpeth above crown of pipe) - 1200mm ID HDPE structured wall pipe	m	
		c) Ring Stifness 12kN/m2 (SN12) for deep excavations (6m to 10.5m above crown of pipe) - 1200mm ID HDPE structured wall pipe	m	
1.4.2	8.2.2	Extra-over item 1.4.1 for supply, lay, joint, bed and test the following 1200mm ID HDPE structured wall specials		
		a) Bends 1 to 30 degree bends (2 x SN2; 2 x SN4 & 2 x SN12)	No.	
		b) Bends 31 to 60 degree bends (5 x SN2 & 1 x SN4)	No.	
		c) Bends 61 to 90 degree bends	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
L1.4.3		Pipe Special for Tanker connecting pipeline (500 ND) with the 1200 ND main outfall sewer	No	
L1.4.3	1200 LD	Customised Prefabricated HDPE MANHOLES of 1000mm dia welded onto the 1200 ID sewer main with access opening for human access to main sewer, complete with factory fitted stepladders . (Refer Typical Detail) for depths over and up to:		
	8.2.3			
	PS LD 3.5.9			
		a) 0m to 1m depth of invert	No.	
		b) 1m to 2m depth of invert	No.	
		c) 2m to 3m depth of invert	No.	
		d) 3m to 4m depth of invert	No.	
		e) 4m and deeper (Allow for special landing platform as detailed)	No.	
		f) Extra-over item 1.4.3 for temporary inlet connection at Manhole 45 (500mm dia).	No.	
		g) Extra-over item 1.4.3 for new industrial connection at Manhole 31 (300dia).	No.	
		h) Extra-over item 1.4.3 for future new connection at Manhole 15 for Huhudi Informal Settlement expansions. (500dia).	No.	
L1.4.4		Extra-over item 1.4.3 for heavy duty Type 4 manhole cover and frame complete with concrete slab and finishing.	No.	
L1.4.5	PS LD 3.5.8	Extra-over item 1.4.3 for composite manhole cover and frame complete with concrete slab and finishing.	No.	
L1.4.7		SUNDRIES		
	8.2.7	a) Casing to pipes, concrete mix 30/19 as instructed by the Engineer.	m ³	
	8.2.8	b) Anchor blocks, concrete mix 30/19.	m ³	
L2		CONNECTION FROM TANKER DISCHARGE (500ND)		
L2,1		CLEAR SITE		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
L2.1.1	8.2.1	Clear and grub Site	ha	
L2.2	SANS 1200 DB	PIPE TRENCHES		
		SITE CLEARANCE		
L2.2.1	8.3.1(c)	a. Remove topsoil to depth of 200mm and stockpile next to trench in spoil heaps not exceeding 1.5m height. This topsoil material so stockpiled will be used for the final rehabilitation of disturbed areas so instructed by the Engineer within a 2km freehaul distance. The	m ²	
		b. Load, haul and spreading of the topsoil so stockpiled for the final landscaping and rehabilitation of disturbed so instructed by the Engineer within a 3km freehaul distance.	m ³	
		EXCAVATION		
L2.2.2	8.3.2(a)	Excavate in all materials for trenches and stockpile better quality material in varying quality stockpiles so excavated within a 0.5km freehaul distance for possible re-use as bedding material and/ or main backfill material of trench or elsewhere in other locations as fill material when instructed by the Engineer. The remaining excavated material from the trenches will be used for the main backfill of the trench which has to be compacted and reinstated as specified for this specific HDPE segmented pipe for a WELL installation type (consolidation factor Cf = 1) to 93% MOD AASHTO density. Any surplus or unsuitable material so excavated will be stockpiled for possible disposal later to a designated spoil site. This relates to the 500 ID sewer connection from the tanker discharge to the main outfall pipe.		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	PS DB 5.2/ PS D3.1.2 PS LB 2.1.3	Tanker discharge sewer for the 500mm Dia structured wall HDPE pipes for total trench depth: (NOTE: Allowance must be made for to make safe the side slopes in excavations deeper than 1.5m where the side slopes have to be benched at a minimum ofset of 1V:1H.		
L2.2.2.1		Exceeding 1,0 m but not exceeding 1.5m to invert	m	
L2.2.2.2		Exceeding 1.5 m but not exceeding 3,0 m to invert	m	
	8.3.2(b)	Extra-over items .2.1 to .2.6 incl. for (prov):		
L2.2.3	PSD 3.1.1 & 3.1.2	Hard rock excavation	m ³	
L2.2.4	8.3.2(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m ³	
L2,3	SANS 1200 LB	SECTION : BEDDING		
	PS LB 2.1.3	PROVISION OF BEDDING Provide selected bedding material and compact in layers of 150mm to acheve a 93% MOD AASHTO density to a distance of 500mm over the crown of the pipe to comply with the requirements of a WELL installation type - Class C for Rigid Pipes.		
L2.3.1		a) Available from trench or other necessary excavations within a 3km freehaul distance (Subclause 3.4.1)		
	8.2.1	a) Selected granular material (cradle)	m ³	
		b) Selected fill material (blanket)	m ³	
		Imported from		
L2.3.2	8.2.2.1	a) Stockpiled material where additional screening is required to ensure compliance for selected bedding material use within a 3km freehaul distance.		
		1) Selected granular material (cradle)	m ³	
		2) Selected fill blanket (blanket)	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
M	SANS 1200D	SCHEDULE M: WAS SLUDGE THICKENER		
M.1		EARTHWORKS MISCELLANEOUS		
M.1.3	Item 1.13 in Schedule C	Extra over items F.1.1 to F.1.5 for 5% soil cement backfilling where instructed by the engineer	m ³	
M.1.4	Item 1.13 in Schedule C	Excavate and dispose of unsuitable material from bottom of excavations	m ³	
M.1.5	Item 1.13 in Schedule C	Dewatering of foundation excavation	Sum	
M.2	SANS 1200L	PIPE SPECIALS		
M.2.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Sum	
	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
M.3	8,2	FORMWORK:		
M.3.1	8.2.1	Rough vertical formwork to concrete bases on radius not smaller than 5m and not higher than 600mm	m ²	
M.3.2		Rough vertical formwork to concrete bases on radius not smaller than 5m and not higher than 250mm	m ²	
M.3.3		Rough vertical formwork to concrete bases on radius smaller than 1.5m not higher than 500mm	m ²	
M.3.4	8.2.5	Special formwork to edges of aprons and channels not higher than 100mm, on radius	m	
M.3.5	8.2.1	Rough vertical formwork to concrete encasing of pipes	m ²	
M.3.6	8.2.1, PSGP5	Rough vertical formwork on outside radius to walls not higher than 5.1m, cast in one lift and alternative panels	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
M.3.7	8.2.3	Extra over Item 1.6 for special smooth above ground level	m ²	
M.3.8	8.2.4, PSGP5	Special on inside radius to walls not higher than 5.1m, cast in one lift and alternative panels	m ²	
M.3.9		Provision for pull-out bars in wall shuttering on inside radius for channel floor 200mm thick	m	
M.3.10	8.2.4,	Special vertical on inside radius to outside of overflow channel not higher than 600mm	m ²	
M.3.11	8.2.4,	Special vertical on outside radius to inside of overflow channel not higher than 400mm	m ²	
M.3.12	8.2.4,	Special vertical on inside radius to outside box of channel 1.6m high	m ²	
M.3.13	8.2.6	Special vertical to outside of outlet box 750x1200	No.	
M.3.14	8.2.4,	Special vertical formwork to inside and outside radius of central outlet channel, not higher than 900mm	m ²	
M.3.15	8.2.1	Rough horizontal formwork to soffit of overflow channel, on inside radius of overflow channel and channel outlet, 750mm wide	m ²	
M.3.16	8.2.4,	Special vertical formwork to centre column, 800ø, not higher than 6m	m ²	
M.3.17	8.2.6	Forming of inside of outlet box, 1200 l x 750 w x 1000 d	No.	
M.3.18		Forming of square openings in shuttering in concrete wall for scum draw-off box of size 400 x 400mm	No.	
M.3.19		Cutting of holes in shuttering and casting in of 500mm diameter pipe in concrete walls formed in components not deeper or thicker than 500mm	No.	
M.3.20		Cutting of holes in shuttering and casting in of 200mm diameter pipe in concrete centre column formed in components not deeper or thicker than 500mm	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
M.3.21		Cutting of holes in shuttering and casting in of 80mm diameter HDPe Class 10 Cable sleeve in concrete centre column formed in components not deeper or thicker than 500mm	No.	
M.4	8.3 & PSG 8.2.1	REINFORCING:		
M.4.1	8.3.1	High yield bars	kg	
M.4.2		Mild steel bars	kg	
M.5	8,4	CONCRETE:		
M.5.1	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and side shuttering	m ³	
M.5.2	8.4.3, PSG5.5.16	NF20 in 100mm no-fines concrete under reinforced concrete structures, including surface finishes and shuttering	m ³	
M.5.3	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete bases	m ³	
M.5.4	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete walls	m ³	
M.5.5	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete floor panels	m ³	
M.5.6	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete overflow channel	m ³	
M.5.7	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete centre column	m ³	
M.5.8		Class 25/19 concrete in concrete aprons and channels	m ³	
M.6		SULPHIDE RESISTANT SCREEDS AND BENCHING, INCLUDING SURFACE FINISH:		
M.6.1		Benching in central outlet channel	m ³	
M.6.2		Screed to falls in outlet channel	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
M.7	PSG8.9	SEALING OF NO-FINES LAYER WITH 8MM DRY MORTAR SCREED ON:		
M.7.1		Horizontal surface	m ²	
M.7.2		Inclines up to 10°	m ²	
M.8	8.4.4	UNFORMED SURFACE FINISHES:		
M.8.1		Wood floated to top of reinforced concrete bases	m ²	
M.8.2		Steel trowel floated to floors on inclines not steeper than 10°	m	
M.8.3		Steel trowel floated to top of concrete bases	m ²	
M.8.4		Steel trowel floated to top of concrete walls	m ²	
M.8.5		Steel trowel floated to concrete overflow channel	m ²	
M.8.6		Steel trowel floated to top of centre column	m ²	
M.8.7		Wood floated to aprons and channels	m ²	
M.9		DRAINAGE:		
M.9.1		Flownet or similar HDPe drainage core with Bidim A4 or similar geotextile filter jacket	m ²	
M.9.2		110 diameter Flo-pipe or similar HDPe perforated drainage pipe	m	
M.9.3		110 diameter Class 34 PCV pipe	m	
M.9.4		110 diameter PVC T-piece	No.	
M.10	PSG 8.5, PSGP5	JOINTS: “The rates below must be fully inclusive for the construction of the complete joint, including labour, materials, formwork, sealants, waterstops, including the effect on programming and limitations as described in PSGP5, especially for Continuously Reinforced Construction Joints), complete.”		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
M.10.1		Joint Type R on 1.85m radius between central channel and floor	m	
M.10.2		Joint Type S between floor and outer base on 6m radius	m	
M.10.3		Joints Type 17 in floor on straight	m	
M.10.4		Joint Type 17 between vertical wall panels, 300mm thick	m	
M.10.5		Joints Type 17 on radius between between ring base panels, 550mm high	m ²	
M.10.6		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	m	
M.10.7		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	m	
M.11		METALWORK AND CAST IN ITEMS:		
		All mild steel components to be hot dip galvanized to 85µm		
M.12		HANDRAILS:		
		"Macklock" or similar heavy duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 um galvanized, complete with all chemical anchors into concrete, bolts and nuts, completely installed :		
M.12.1	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type B 90° stanchions.	No.	
M.12.2	SABS 1200 HA 8.3.2	Railings on 6.5m radius, consisting of 2No 38 x 2.5 hand railings	m	
M.12.3	SABS 1200 HA 8.3.2	Extra over for end closures	No.	
M.13	PSG 8.11	BUILDING PIPES INTO CONCRETE WORK (IRRESPECTIVE OF TYPE) PIPES SUPPLIED BY THE CIVIL CONTRACTOR		
		pipes supplied by the mechanical contractor		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
N		SCHEDULE N: AEROBIC DIGESTER		
N1		EARTHWORKS MISCELLANEOUS		
	PS D 8.3.3(a)	EXCAVATE FOR FOUNDATIONS AND PIPE TRENCHES IN ALL MATERAILS, BACKFILL BEHIND STRUCTURES, CONSTRUCT EMBANKMENTS OR DISPOSE WITHIN THE FREEHAUL DISTANCE FOR DEPTHS:		
N.1.1	Item 1.2 in Schedule C	Extra over items G.1.1 to G.1.6 for 5% soil cement backfilling where instructed by the engineer	m ³	
N.1.2	Item 1.2 in Schedule C	Excavate and dispose of unsuitable material from bottom of excavations	m ³	
N.1.6	Item 1.2 in Schedule C	Dewatering of foundation excavation	Sum	
N.2	SANS 1200L	PIPE SPECIALS		
N.2.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Sum	
N.3	SABS 1200 G, PSG, PSGP	CONCRETE(STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
	8,2	Formwork:		
N.3.1	8.2.1	Rough vertical formwork on radius to concrete bases, not higher than 700mm	m ²	
N.3.2	8.2.1	Rough vertical formwork to concrete encasing of pipes	m ²	
N.3.3	8.2.1, PSGP5	Rough vertical formwork on outside radius to walls not higher than 6.0m, cast in one lift and alternative panels	m ²	
N.3.4	8.2.3	Extra over Item 1.3 for special smooth above ground level	m ²	
N.3.5		Provision for pull-out bars in wall shuttering on inside radius for channel floor 200mm thick	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
N.3.6	8.2.2, PSGP5	Special on inside radius to walls not higher than 6.0m, cast in one lift and alternative panels	m ²	
N.3.7	8.2.4	Special vertical on radius to inside of channel not higher than 600mm	m ²	
N.3.8	8.2.4	Special vertical on radius to outside of channel not higher than 800mm	m ²	
N.3.9	8.2.4	Special, on radius to the inside and outside of the central channel, not higher than 1,5m	m ²	
N.3.10	8.2.4	Special horizontal formwork to soffit of overflow channel, on radius	m ²	
N.3.11	8.2.4	Special vertical formwork to centre circular spindle column not higher than 5.7m, 1800 dia	m ²	
N.3.12		Cutting of holes in shuttering and casting in of 600mm diameter pipe formed in components not deeper or thicker than 500mm	No.	
N.3.13		Cutting of holes in shuttering and casting in of 600mm diameter pipe	No.	
N.3.14		Cutting of holes in shuttering and casting in of 80mm diameter HDPE Class 10 Cable sleeve in concrete centre column formed in components not deeper or thicker than 500mm.	No.	
N.3.15		Forming of effluent box in overflow channel and opening in wall	No.	
N.3.16		Forming of 400x400 scum draw of opening in outside wall	No.	
N.4	8.3 & PSG 8.2.1	Reinforcing:		
N.4.1	8.3.1	High yield bars	kg	
N.4.2		Mild steel bars	kg	
N.5	8,4	Concrete:		
N.5.1	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and side shuttering	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
N.5.2	8.4.3, PSG5.5.16	NF20 in 100mm no-fines concrete under reinforced concrete structures, including surface finishes and shuttering	m ³	
N.5.3	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete bases	m ³	
N.5.4	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete walls	m ³	
N.5.5	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete floor panels	m ³	
N.5.6	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete overflow channel	m ³	
N.5.7	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete centre column	m ³	
N.5.8		Class 25/19 concrete in concrete aprons and channels	m ³	
N.6		Sulphide resistant screeds and benching, including surface finish:		
N.6.1		Benching in central outlet channel	m ³	
N.6.2		50mm Screed on compacted sand fill for overflow channel, including surface finish	m ³	
N.6.3	PSG8.9	Sealing of no-fines layer with 8mm dry mortar screed on:		
N.6.3.1		Horizontal surface	m ²	
N.6.3.2		Inclines up to 15°	m ²	
N.7	8.4.4	Unformed surface finishes:		
N.7.1		Wood floated to top of reinforced concrete bases	m ²	
N.7.2		Steel trowel floated to top of concrete bases	m ²	
N.7.3		Steel trowel floated to top of concrete walls	m ²	
N.7.4		Steel trowel floated to concrete overflow channel	m ²	
N.7.5		Steel trowel floated to inclined surface of floor- and infill panels	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
N.7.6		Steel trowel floated to top of centre column	m ²	
N.7.7		Wood floated to aprons and channels	m ²	
N.8		Drainage:		
N.8.1		Flownet or similar HDPe drainage core with Bidim A4 or similar geotextile filter jacket	m ²	
N.8.2		110 diameter Flo-pipe or similar HDPe perforated drainage pipe	m	
N.8.4		110 diameter Class 34 PCV pipe	m	
N.8.5		110 diameter PVC T-piece	No.	
N.8.4		"Gereg" or similar approved stainless steel ground water pressure relief valve	No.	
N.9	PSG 8.5, PSGP5	Joints: "The rates below must be fully inclusive for the construction of the complete joint, including labour, materials, formwork, sealants, waterstops, including the effect on programming and limitations as described in PSGP5, especially for Continuously Reinforced Construction Joints), complete."		
N.9.1		Joint Type R on 1.85m radius between central channel and floor	m	
N.9.2		Joint Type S between floor and outer base on 13.4m radius	m	
N.9.3		Joints Type 17 in floor on straight	m	
N.9.4		Joint Type 17 on 7.13m radius	m	
N.9.5		Joint Type 17 on 8.13m radius	m	
N.9.6		Joint Type 17 between vertical wall panels, 300mm thick	m	
N.9.7		Joints Type 17 on radius between between ring base panels, 550mm high	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
N.9.8		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	m	
N.9.9		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	m	
N.10	8,7	GROUTING IN OF EQUIPMENT SUPPLIED AND INSTALLED BY PLANT SUPPLIER WITH		
N.10.1	PSG 8.7 (c) i	Non-shrink grout	m ³	
N.10.2		Aerobic Digester	Sum	
N.11	PSG 8.11	BUILDING PIPES INTO CONCRETE WORK (IRRESPECTIVE OF TYPE)		
		PIPES SUPPLIED BY THE CIVIL CONTRACTOR		
N.11.1		400 mm diameter (in circular walls upto 300mm thick)	No.	
N.11.2		600 mm diameter (in circular walls upto 300mm thick)	No.	
N.12	SANS	STRUCTURAL STEELWORK (SMALL WORK)		
	1200 HA			
N.12.1	PS HA 8.3.2	Galvanised handrail assembly complete with kicker plate	m	
N.12.2		Supply and installation of ground water pressure relief valves	No.	
N.13	PW371	BUILDING WORK		
	8.2.1	BRICKWORK		
N.13.1		150mm thick X 850mm high, both sides stock brick walls, both faces and top plastered on top of launder walls	m ²	
N.13.2		300mm thick both sides stock brick walls, both faces plastered to brickup outlet launder as shown on drawings (800mm wide x 800mm high)	No.	
	8.2.6	PLASTER WORK		
N.13.3		12mm thick to both faces and top of walls	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
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O		SCHEDULE O : INDUSTRIAL SEWER LINE		
	SANS 1200 C	SECTION : SITE CLEARANCE		
O1,1		CLEAR SITE		
O 1.1.1	8.2.1	Clear and grub Site	ha	
	8.2.2	Remove and grub large trees and tree stumps of girth Over and up to		
O 1.1.2		1 m 2 m	No.	
O1.1.3	8.2.5	Take down existing fences and re-erect after trench excavations have been completed.	km	
O1,2	SANS 1200 DB	PIPE TRENCHES		
		SITE CLEARANCE		
O1.2.1	8.3.1(c)	a. Remove topsoil to depth of 200mm and stockpile next to trench in spoil heaps not exceeding 1.5m height. This topsoil material so stockpiled will be used for the final rehabilitation of disturbed areas so instructed by the Engineer within a 2km freehaul distance. The	m ²	
		b. Load, haul and spreading of the topsoil so stockpiled for the final landscaping and rehabilitation of disturbed so instructed by the Engineer within a 3km freehaul distance.	m ³	
		EXCAVATION		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
O1.2.2	8.3.2(a)	Excavate in all materials for trenches and stockpile better quality material in varying quality stockpiles so excavated within a 0.5km freehaul distance for possible re-use as bedding material and/ or fill material elsewhere for the project when instructed by the Engineer. The remaining excavated material from the trenches will be used for the main backfill of the trench which has to be compacted and reinstated as specified for this specific HDPE segmented pipe for a WELL installation type (consolidation factor Cf = 1). Any surplus or unsuitable material so excavated must be disposed at designated spoil terrains so indicated by the Engineer within a 5km freehaul distance. This relates to the 300 ID industrial sewer pumping line for the entire trench depth.		
	PS DB 5.2/ PS D3.1.2 PS LB 2.1.3	Industrial Sewer pumpline for the 315mm Dia HDPE pipes for total trench depth: (NOTE: Allowance must be made to make safe the side slopes in excavations deeper than 1.5m where the side slopes have to be benched at a minimum slope of 1V:2H. In Areas where the slope stability is a problem and when confirmed with the Engineer, additional shoring will be constructed as a separate pay item).		
O1.2.2.1		Exceeding 1,0 m but not exceeding 1.5m	m	
O1.2.2.2		Exceeding 1.5 m but not exceeding 3,0 m	m	
O1.2.2.3		Exceeding 3,0 m but not exceeding 4,5 m	m	
O1.2.2.4		Exceeding 4,5 m	m	
	8.3.2(b)	Extra-over items .2.1 to .2.12 incl. for (prov):		
O1.2.3	PSD 3.1.1 & 3.1.2	Hard rock excavation	m ³	
O1.2.4	8.3.2(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m ³	
O1.2.5		EXCAVATION. ANCILLARIES Make up deficiency in backfill material (Provisional)		
O1.2.5.1	8.3.3.1(a)	from other necessary excavations on site within a 5km freehaul distance.	m ³	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
O1.2.5.2	8.3.3.3	Compaction in road reserves	m ³	
O1.2.5.3	8.3.3.4	Overhaul (Allow for overhaul beyond the distances so given in 1.2.2. above).		
		a. Long overhaul (provisional)	m ³ .km	
O1.2.6	8.3.4(a)	Shore trench in areas where instructed by the Engineer		
		a) In deep excavations with side slope stability problems	m	
O1.2.7		EXISTING SERVICES		
	8.3.5	The existing industrial pumping main will be crossed when the new outfall sewer line is constructed.		
		Location		
O1.2.7.1		Excavate by hand in soft material to expose the existing industrial sewer pump-line. ..	m ³	
O1.2.8		FINISHINGS		
	8.3.6	Reinstate road surfaces		
O1.2.8.1		b) Gravel surfaced	m ²	
O1,3	SANS 1200 LB	SECTION : BEDDING		
	PS LB 2.1.3	PROVISION OF BEDDING Provide selected bedding material in accordance with class C bedding for flexible pipes and compact in layers of 150mm maximum to achieve a 93% MOD AASHTO density.		
O1.3.1		a) Available from trench or other necessary excavations within a 3km distance (Subclause 3.4.1)		
	8.2.1	a) Selected granular material (cradle)	m ³	
		b) Selected fill material (blanket)	m ³	
		Imported from		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
O1.3.2	8.2.2.1	a) Stockpiled material where additional screening must be done to ensure compliance for selected granular material use within a 3km freehaul distance.		
		1) Selected granular material (cradle)	m ³	
		2) Selected fill blanket (blanket)	m ³	
O1.3.3	8.2.2.3	b) Import from Commercial sources		
		1) Selected granular material (cradle)	m ³	
		2) Selected fill material (blanket)	m ³	
O1.3.4	8.2.3	Concrete bedding (Provisional)	m ³	
O1.3.5	8.2.5	Overhaul of material for bedding (Provisional) where ordered Extra-over items 1.3.1 to 1.3.3		
		a) Selected granular material (cradle)	m ³ .km	
		b) Selected fill material (blanket)	m ³ .km	
O1.3.6	PS LB 5.5	Special Flo-Drains installed in wet or high water table areas		
		a) Install Flo-Drains 1.5m high complete with 100mm Drainex pipe with flowgrid wrapped in A4 geotextile bidim as shown on the drawings.	m	
	PS LB 2.1.3	b) Bidim A6 to be used in wet areas for underdrain conditions	m ²	
O1,4	SANS	SECTION : SEWERS		
O1.4.1	1200 LD	PIPEWORK		
	8.2.1/ PS LD 3.1.8	Supply, lay, joint, bed (Class C bedding for flexible pipes) and test 300mm dia HDPE sewer pipe with extrusion welded joints and stainless steel couplings. (for WELL Installation Type).		
		a) PE100 (8 Mpa) ISO 4427 Class PN 8 HDPE 315mm OD solid wall pipes with electrofusion welding and spigot joints.	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
P	SANS 1200D	SCHEDULE P: INLET WORKS EQUIPMENT BUILDING		
P.1		EARTHWORKS		
P.2	PS D 8.3.3	RESTRICTED EXCAVATION		
P.3	PS D 8.3.3(a)	EXCAVATE FOR FOUNDATIONS AND PIPE TRENCHES IN ALL MATERAILS, BACKFILL BEHIND STRUCTURES, CONSTRUCT EMBANKMENTS OR DISPOSE WITHIN THE FREEHAUL DISTANCE FOR DEPTHS:		
P.3.1		0 m up to 2 m	m ³	
P.3.2	PS D 8.3.3 (b)	Extra over items K.3.1 for excavation in hard rockmaterial	m ³	
P.3.3	PSD 8.3.3 (c)	Extra over itemes K.3.1 and K.3.2 for 5% soil cement backfilling where instructed by the engineer	m ³	
P.3.4	PSD 8.3.3 (d)	Excavate and dispose of unsuitable material from bottom of excavations	m ³	
P.3.5	PSD 8.3.16	Dewatering of foundation excavation	Sum	
P.4	SANS 1200G	CONCRETE (STRUCTURAL)		
P.5	8,2	FORMWORK		
	8.2.2	SMOOTH FORMWORK (MEASURED FROM 150 mm		
P.6		BELOW FINISHED GROUNDLEVEL WHERE		
P.7		APPLICABLE)		
P.8		PLANE VERTICAL		
P.8.1		Sides and risers of ramps	m ²	
P.8.2		Cable channel	m ²	
P.8.3		Pump plinths	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
P.9	8,3	REINFORCEMENT		
P.10	8.3.2	HIGH-TENSILE WELDED MESH		
P.10.1		Ref 245 mesh in floor slab, plinths and aprons	m ²	
P.11	8,4	CONCRETE		
	8.4.2	BLINDING LAYER IN GRADE 20/20 CONCRETE 50 mm THICKNESS		
P.11.1		Plane horizontal beneath all floor slabs	m ²	
P.12		STRENGTH CONCRETE GRADE 20/20 IN FILLING OF OVER-BREAK IN EXCAVATIONS IN ROCK TO FORM BLINDING LAYER		
P.12.1		Plane horizontal beneath all floor slabs	m ²	
P.13	8.4.3	STRENGTH CONCRETE 20/20		
P.13.1		Strip foundations	m ³	
P.13.2		Floor slabs	m ³	
P.13.3		Bases for cable walls and trenches	m ³	
P.13.4		Mass concrete for ramp	m ³	
P.13.5		Pump plinth	m ³	
P.14	8.4.4	UNFORMED SURFACE FINISHES		
P.14.1		To upper surfaces of concealed work including surfaces to receive benching or screed and footing		
P.15	(a)	WOOD FLOAT FINISH		
P.16		UPPER SURFACES OF:		
P.16.1		Bases for cable walls and trenches	m ²	
P.16.2		All ramps	m ²	
P.17	(b)	STEEL FLOAT FINISH		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
P.18		UPPER SURFACES OF:		
P.18.1		Floor slabs	m ²	
P.19	PART	BUILDING WORK		
P.20	8.2.1	BRICKWORK		
P.20.1		330mm thick foundation walls, both faces stock brick	m ²	
P.20.2		230mm thick, one side face brick and one side stock brick (allow a purchase price of R4000,00 per 1000 bricks, excl VAT)	m ²	
P.20.3		230mm thick internal walls, both stock brick faces	m ²	
P.20.4		Supply and install Kilcher Limitgliss bearing (40kN/m) between beams and engineering brickwork (230mm wide)	m	
P.21	8.2.2	AIR BRICKS		
P.21.1	(a)	Supply and build in external airbricks as specified	No.	
P.21.2	(b)	Supply and build in internal airbricks as specified	No.	
P.22	8.2.4	WINDOW SILLS		
P.22.1	(a)	Brick on edge on external side of window including (DPC)	m	
P.22.2	(b)	Quarry tile, 110mm wide, on internal side of window	m	
P.23	8.2.6	PLASTER WORK		
P.23.1		10mm thick to faces of internal walls	m ²	
P.23.2		10 mm thick to internal faces external walls	m ²	
P.24	8.2.7	FLOOR SCREED		
P.24.1		Normal	m ²	
P.25	8.2.9	WATERPROOFING		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
P.25.1		Waterproofing of concrete roof with approved synthetic rubber or plastic sheet covering capable of being fusion welded, resistant to ultra-violet rays and heat, of thickness of not less than 2mm, complete with flashing around edges and covered with approved reflective paint	m ²	
P.25.2	(a)	Damp proof course between brick wall and concrete 230mm wide	m	
P.25.3	(a)	Supply and place damp proof course (DPC) under 230mm thick walls	m	
P.25.4	(a)	Supply and place damp proof course (DPC) around doors, windows and openings	m	
P.25.5	(b)	Supply and place 250 micron damp proof membrane (DPM), HDPE liner or similar approved, below floor slabs	m ²	
P.25.6	(b)	Supply and place 250 micron damp proof membrane (DPM), HDPE liner or similar approved, under base and vertically to walls of cable trenches	m ²	
P.26	8.2.14	RAINWATER OUTLETS		
P.26.1	(b)	Supply and installation of 80mm diameter "Eze-flo" or similar approved cast iron rainwater outlet in roof slab	No.	
P.26.2	(b)	80mm diameter medium quality galvanised screwed and socketed pipes including galvanised holding brackets	m	
P.26.3		80mm diameter medium quality galvanised 45 degree bends	No.	
P.27	8.2.17	JOINERY		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
P.27.1		Supply and install 45mm standard single outward opening hardwood door D1 (815mmx2000mm) ledged, braced and framed to suit standard steel door frame, three lever mortice lock with keys, door stop, brass hinges	No.	
P.28		METAL WORK		
P.28.1		Supply and install dark bronze anodized aluminium window 900mm wide x 1200mm high	No.	
P.29	8.2.20	PAINTING		
P.29.1		Paint internal plastered walls with one filler coat, one under coat and two final coats of water-based acrylic emulsion paint (colour off-white)	m ²	
P.29.2		Door D1 and frame with Plascon Velvaglo (or similar approved) paint, colour olive branch D22-6	No.	
P.30	SANS	STRUCTURAL STEELWORK		
P.30.1		Supply and install galvanised steel security gate for door D1	No.	
P.31	SANS	MEDIUM PRESSURE PIPELINES		
	8.2.1	Supply and install pipes through pump station wall or in floor slab		
P.31.1		160 mm dia uPVC Class 9 pipe, 500 mm long, into switchboard	No.	
P.31.2		110 mm dia uPVC Class 9 pipe, 750 mm long, into drainage channel	No.	
P.31.3		160 mm dia x 90o long radius	No.	
P.31.4		110 mm dia x 90o medium radius	No.	
		Supply, lay and bed uPVC Class 9 pipes and bends on bedding according to SANS 1200 drawing LB-2, joint S		
P.31.5		160 mm dia	m	
P.31.6		110 mm dia	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q	SANS 1200D	SCHEDULE Q: ADMINISTRATION AND WORKSHOP BUILDING		
Q.1		EARTHWORKS MISCELLANEOUS		
Q.1.3	PSD 8.3.3 (d)	Excavate and dispose of unsuitable material from bottom of excavations	m ³	
Q.1.4	PSD 8.3.16	Dewatering of foundation excavation	Sum	
Q.2		HARDCORE FILLING		
Q.2.1		Supplying, placing and compacting selected hardcore material under floor slabs	m ³	
	SANS 1200MJ 8.2.2	SEGMENTED PAVING CONSTRUCTION OF PAVING WITH 60 mm THICK CONCRETE BLOCKS INCLUDING 25 mm SANDBED COMPLETE		
Q.2.3		Horizontal	m ²	
	8.2.3	cutting units to fit edge restraints		
Q.2.4		Straight	m	
	SABS 1200G	CONCRETE (STRUCTURAL)		
Q.3	8,2	FORMWORK:		
Q.3.1	8.2.1	Rough Formwork to edges of surface beds and ramps not higher than 100mm	m	
Q.3.2		Rough vertical formwork to sides of reinforced overhead beams not higher than 425mm	m ²	
Q.3.3		Rough horizontal formwork to soffit of beam	m ²	
Q.3.4	8.2.2	Smooth vertical formwork to edges of concrete channels and aprons not higher than 100mm	m	
Q.4	8,3	REINFORCING:		
Q.4.1	8.3.1	Mild steel bars	t	
Q.4.2		High yield bars	t	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.5	8.4 & PSG8.2.1	CONCRETE:		
Q.5.1	8.4.3	Class 25/19 concrete in lightly reinforced strip foundations	m ³	
Q.5.2		Class 25/19 concrete in 100mm surface beds	m ³	
Q.5.3		Class 25/19 concrete in 220 x 425mm reinforced concrete beam	m ³	
Q.5.4		Class 25/19 concrete in aprons and channels	m ³	
Q.6		SCREED TO CONCRETE FLOORS:		
Q.6.1		30mm screed to surface beds finished to receive floor covering	m ²	
Q.7	8.4.4	UNFORMED SURFACE FINISHES:		
Q.7.1		Wood floated to strip foundations	m ²	
Q.7.2		Wood floated to surface beds ready for screeds	m ²	
Q.7.3		Wood floated to top of reinforced concrete beam	m ²	
Q.7.4		Wood floated to aprons and channels	m ²	
Q.8	PW371	BUILDING WORK:		
Q.8.1		Termite poisoning in accordance with SABS 124, SABS 1164 and SABS 1165 under buildings	m ²	
Q.9		WATERPROOFING:		
		375 µm "Consol Plastics Brickgrip" DPC in walls and under windows:		
Q.9.1		440mm wide	m	
Q.9.2		220mm wide	m	
Q.9.3		110mm wide	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.9.4		250mm "Consol Plastics Gunplas Black" damp proof membrane under surface beds turned up against walls	m ²	
Q.10		MASONRY:		
Q.10.1		NFX brickwork in 220mm foundation walls	m ²	
		<i>The rates below are fully inclusive for Class II mortar, brick-force every 2nd course, bitumen coating between skins of external walls, scratching out for joints where applicable, complete</i>		
Q.10.2		NFX brickwork in 110mm foundation walls	m ²	
Q.10.3		NFP brickwork in 220mm walls	m ²	
Q.10.4		NFP brickwork in 110mm walls	m ²	
Q.10.5		NFP air bricks	No	
		Joints in masonry:		
		Building of vertical joints between brick panels, including expanded polyurethane joint filler ("Jointex"), 10x10mm polysulphide joint sealant each side, and 32x600x1.6 galv concertina ties every 4th course for :		
Q.10.6		220mm walls	m	
Q.10.7		110mm walls	m	
Q.11		JOINTS IN APRONS AND CHANNELS:		
Q.11.1		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	m	
Q.11.2		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	m	
Q.12		PRE-CAST LINTELS:		
Q.12.1		110 x 85mm reinforced pre-cast pre-stressed concrete lintels, including propping.	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.13		WINDOW SILLS:		
Q.13.1		Facebrick on edge window sills	m	
Q.14		ROOF COVERING:		
		<i>(All roof covering and flashings to be galvanized with "Global-Duro" finish)</i>		
Q.14.1		0.6mm IBR galvanized roof sheeting with "Global-Duro" or similar coating including all roof screws.	m ²	
Q.14.2		0.8mm galvanized ridge and hip capping 460mm wide with serrated closers and poly-closers.	m	
Q.15		TIMBER ROOF STRUCTURE OF TREATED GRADE 4 SA PINE:		
Q.15.1		38 x 76 Wall plate including tie down wires six courses into brickwork at 1,1m centres coinciding with truss positions.	m	
Q.15.2		50 x 76 mm purlins	m	
Q.15.3		Prime cost sum for "Gangnail" or similar approved patented timber trusses for hip roof for IBR roof sheeting designed in accordance with SABS 10160 and SABS 10163-1 at max 1100mm, including all nails and connector plates.	Prov Sum	R 50 000,00
Q.15.4		Labour, profit, charges, costs and overheads on Item 13.3 for delivery and installation	%	
Q.15.5		Provide certificate by Professional Engineer for completed installation and design	Sum	
Q.15.6		38 x 50mm battens at 400mm c/c for ceilings	m	
Q.15.7		Hurricane clips	No	
Q.15.8		Painting of all eaves sprockets and timber in contact with masonry with carbolineum	m	
Q.16		CEILINGS:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.16.1		4mm fibre-cement ceiling fixed butt-jointed to brandering including 19mm half round jointing strips in joint between boards	m ²	
Q.16.2		75mm Wrot Meranti coved cornices	m	
Q.16.3		Extra over for 600 x 600 trapdoor including skeleton frame, boarding and border, complete	No	
Q.16.4		100mm thick resin bonded glass fibre or mineral wool insulation laid on ceilings	m ²	
Q.17		SKIRTINGS:		
Q.17.1		70 x 18mm meranti skirting board (PA227) with 18 x8 mm quarter round fixed to walls and varnished	m	
Q.18		FASCIAS AND LOUVRES:		
		"Everite" plain high density fibre-cement fascia boards drilled and brass screwed to and including 38 x 50 x 114mm cleats screwed to rafter or purlin ends, including joint filling with epoxy.		
Q.18.1		710mm x 15mm thick to facia	m	
Q.18.2		760x 15mm thick to overhang soffit	m	
Q.19		WINDOWS:		
		<i>KSW Series 340 top hung dark bronze anodized aluminium window frames with safety glazing to SANS 10137:</i>		
Q.19.1		900 x 2400 (PTT249) with 3mm safety glazing	No	
Q.20		DOORS AND FRAMES:		
		<i>The items below are completely installed with frames and brass hinges</i>		
Q.20.1		2032 x 813mm Swartland framed, ledge and battened open back braced door (KYD1/OB/BR) and varnished.	No	
Q.21		LOCKS AND HANDLES:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.21.1		Union 3 lever mortice lock set with striker plates and 3 key sets	No	
Q.22		PLASTER:		
Q.22.1		12mm Plaster to walls	m ²	
Q.22.2		12mm Plaster to reveals	m	
Q.23		FLOOR COVERING:		
Q.23.1		2.5mm Marley Superflex semi-flexible vinyl 300 x 300 floor tiles laid an bonded to screed surfaces	m ²	
Q.23.2		Two coats wax polish to floors	m ²	
Q.24		RAINWATER GOODS:		
		<i>"Allugutter" or similar approved aluminium rainwater components with Color-Tech G4 coating</i>		
Q.24.1		125 x 150mm gutters with brackets to fascia boards	m	
Q.24.2		Extra over for 75mm outlets	No	
Q.24.3		Corner pieces	No	
Q.24.4		75 x75mm downpipes fixed to walls with holder bats	m	
Q.24.5		Extra over for bends	No	
Q.24.6		Outlet shoes	No	
Q.25		PAINTING:		
		<i>The rates below are for surfaces painted in accordance with the manufacturer's specifications, including primer coats.</i>		
Q.25.1		Exterior walls with two coats "Plascon Wall and All"	m ²	
Q.25.2		Interior walls with two coats "Plascon Double Velvet"	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.25.3		Fibre cement ceilings with "Plascon One coat" ceiling paint	m ²	
Q.25.4		Fascia and barge boards with "Plascon Nuroof"	m ²	
Q.26		SUNDRIES:		
Q.26.1		4.5kg CO ² fire extinguisher with wall mounting bracket and signage, SANS compliant	No	
Q.27	SABS 1200 A	PROVISIONAL SUMS :		
	8,5	The sums below are allowed for the expenditure on instruction by the Engineer		
Q.27.1		Shop fitting and joinery	Prov Sum	R 60 000,00
Q.27.2		Overheads, charges, profit and attendance on Item 26.1	%	
Q.27.3		Furniture and loose equipment	Prov Sum	
Q.27.4		Overheads, charges, profit and attendance on Item 26.3	%	
Q.28	SANS 1200HA	STRUCTURAL STEELWORK		
Q.28.1		Supply and install galvanised steel security gate for door type D1 installed on external walls, , glazed and painted dark bronze as per window burglar proofing	No	
Q.28.2		Supply and install complete galvanised burglar proofing to suit Window Type W1 on full face of window, glazed and painted dark bronze to suit window frame	No	
Q.28.3		Supply and install complete galvanised burglar proofing to suit Window Type W2 on full face of window, glazed and painted dark bronze to suit window frame	No	
Q.28.4		Supply and install complete galvanised burglar proofing to suit Window Type W3 on full face of window, glazed and painted dark bronze to suit window frame	No	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.28.5		Supply and install complete galvanised burglar proofing to suit Window Type W4 on full face of window, glazed and painted dark bronze to suit window frame	No	
Q.29		PLUMBING OF BUILDINGS		
		refer to drawing number 13615217 ten-d ob01 to 13615217 ten-d ob04)		
Q.29.1		Water closet suite, fittings and connection to relevant pipework	No	
Q.29.2		Porcelain (single) wall mounted urinal with top flush entry and stopcock including fittings and connections to relevant pipework	No	
Q.29.3		Hand wash basin, fittings and connections to relevant pipework	No	
Q.29.4		Shower tray, fittings and connections to relevant pipework	No	
Q.29.5		Glazed aluminium shower sliding door (900 wide)	No	
Q.29.6		Stainless steel double bowl, kitchen sink 1200 x 600 x 300, fittings,cabinet and connections to relevant pipework	No	
Q.29.7		20 mm dia. standpipe with hose connection fixed to brick wall, connected to relevant pipework	No	
Q.29.8		150 litre high pressure horizontal mounted geyser, complete with drip tray, pressure control valve, overflow and connections to relevant pipework	No	
Q.29.9		Supply, install and connect 15 mm dia. copper pipes (soldered) including for all applicable fittings to complete cold and hot water reticulation and to connect to main water supply line	Sum	
Q.29.10		Extra over item M.3.56 for supply and installation of 15 mm diameter brass stopcock	No	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q		SCHEDULE Q: WORKSHOP BUILDING		
Q.31	SABS 1200G	CONCRETE (STRUCTURAL)		
Q.32	8,2	FORMWORK:		
Q.32.1	8.2.1	Rough formwork to edges of surface beds and ramps not higher than 100mm	m	
	8.3.1	Reinforcing:		
Q.32.2		Mild steel bars	kg	
Q.32.3		High yield bars	kg	
Q.33	8,4	CONCRETE:		
Q.33.1	8.4.3	Class 25/19 concrete in lightly reinforced strip foundations	m ³	
Q.33.2		Class 25/19 concrete in 100mm surface beds	m ³	
Q.33.3		Calls 25/19 concrete in aprons and channels	m ³	
Q.33.4		30mm screed to surface beds finished to receive floor covering	m ²	
Q.34	8.4.4	UNFORMED SURFACE FINISHES:		
Q.34.1		Wood floated to strip foundations	m ²	
Q.34.2		Wood floated to surface beds ready for screeds	m ²	
Q.34.3		Wood floated to aprons and channels	m ²	
Q.35	PW371	BUILDING WORK:		
Q.35.1		Termite poisoning in accordance with SABS 124, SABS 1164 and SABS 1165 under buildings	m ²	
Q.36		WATERPROOFING:		
		375 µm "Consol Plastics Brickgrip" damp proof course under walls and under window sills:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.36.1		220mm wide	m	
Q.36.2		110mm wide	m	
Q.36.3		250µm "Consol Plastics Gunplas Black" damp proof membrane under surface beds	m ²	
Q.37		MASONRY:		
		<i>The rates below are fully inclusive for Class II mortar, brick-force every 2nd course, bitumen coating between skins of external walls, scratching out for joints where applicable, complete</i>		
Q.37.1		NFX brickwork in 220mm foundation walls	m ²	
Q.37.2		NFX brickwork in 110mm foundation walls	m ²	
Q.37.3		NFP brickwork in 220mm walls	m ²	
Q.37.4		NFP brickwork in 110mm walls	m ²	
Q.37.5		NFP air bricks	No	
Q.38		JOINTS IN MASONRY:		
		Building of vertical joints between brick panels, including expanded polyurethane joint filler ("Jointex"), 10x10mm polysulphide joint sealant each side, and 32x600x1.6 galv concertina ties every 4th course for :		
Q.38.1		220mm walls	m	
Q.38.2		110mm walls	m	
Q.39		JOINTS IN APRONS AND CHANNELS:		
Q.39.1		100x10mm wide expanded poly-urethane joint filler ("Jointex") with 10x10 polysulphide joint sealant between structures and aprons	m	
Q.39.2		Forming of joints between apron or channel sections by casting in alternating panels and finishing with nosing tool	m	
Q.40		PRE-CAST LINTELS:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.40.1		110 x 85mm reinforced pre-cast pre-stressed concrete lintels, including propping	m	
Q.41		WINDOW SILLS:		
Q.41.1		Face brick on edge of window sills	m	
Q.42		ROOF COVERING:		
		<i>(All roof covering and flashings to be galvanized with "Global-Duro" or similar approved finish)</i>		
Q.42.1		0.6mm IBR galvanized roof sheeting with "Global-Duro" or similar coating including all roof screws	m ²	
Q.42.2		0.8mm galvanized ridge and hip capping 460mm wide with serrated closers and poly-closers	m ²	
		Timber roof structure of treated Grade 4 SA Pine:		
Q.42.3		38 x 76 Walled plate including tie down wires six courses into brickwork at 1,1m centres coinciding with truss positions	m	
Q.42.4		50 x 76 mm Purlins	m	
Q.42.5		Prime cost sum for "Gangnail" or similar approved patented timber trusses for hip roof for IBR roof sheeting designed in accordance with SABS 10160 and SABS 10163-1 at max 1100mm, including all nails and connector plates	Prov Sum	R 100 000,00
Q.42.6		Labour, profit charges, costs and overheads on Item 12.6 for delivery and installation	%	
Q.42.7		Provide certificate by Professional Engineer for completed installation and design	Sum	
Q.42.8		38 x 50mm battens at 400mm c/c for ceilings	m	
Q.42.9		Hurricane Clips	No	
Q.42.10		Painting of all eaves sprockets and timber in contact with masonry with carbolineum	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.43		CEILINGS:		
Q.43.1		4mm fibre-cement ceiling fixed butt-jointed to banderling including 19mm half round jointing strips in joint between boards.	m ²	
Q.43.2		75mm Wrot Meranti coved cornices	m	
Q.43.3		Extra over for 600 x 600 trapdoor including skeleton frame, boarding and border, complete.	No	
Q.43.4		100mm thick resin bonded glass fibre or mineral wool insulation laid on ceilings.	m ²	
Q.44		SKIRTINGS:		
Q.44.1		70 x 18mm meranti skirting board (PA227) with 18 x 8mm quarter round fixed to walls and varnished	m	
Q.45		FASCIAS AND LOUVRES:		
		"Everite" plain high density fibre-cement fascia boards drilled and brass screwed to and including 38 x 50 x 114mm cleats screwed to rafter or purlin ends, including joint filling with epoxy.		
Q.45.1		710mm x 15mm thick to fascia	m	
Q.45.2		760x 15mm thick to overhang soffit	m	
Q.46		WINDOWS:		
		<i>KSW Series 340 top hung dark bronze anodized aluminium window frames with safety glazing to SANS 10137:</i>		
Q.46.1		900 x 2400 (PTT249) with 3mm safety glazing.	No	
Q.46.2		900 x 900 (PT99) with 3mm safety glazing	No	
Q.46.3		600 x 600 (PT66) with frosted glass	No	
Q.47		DOORS AND FRAMES:		
		<i>The items below are completely installed with frames and brass hinges</i>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.47.1		2032 x 813mm Swartland framed, ledge and battened open back braced door (KYD1/OB/BR) and varnished.	No	
		Locks and handles:		
Q.47.2		Union 3 lever mortice lock set with striker plates and 3 key sets	No	
Q.48		PLASTER:		
Q.48.1		12mm Plaster to walls	m ²	
Q.48.2		12mm Plaster to reveals	m	
Q.49		FLOOR COVERING:		
Q.49.1		2.5mm Marley Superflex semi-flexible vinyl 300 x 300 floor tiles laid and bonded to screed surfaces	m ²	
Q.49.2		Two coats wax polish to floors	m ²	
Q.50		RAINWATER GOODS:		
		<i>"Allugutter" or similar approved aluminium rainwater components with Color-Tech G4 coating</i>		
Q.50.1		125 x 150mm gutters with brackets to fascia boards	m	
Q.50.2		Extra over for 75mm outlets	No	
Q.50.3		Corner pieces	No	
Q.50.4		75 x 75mm downpipes fixed to walls with holder bats	m	
Q.50.5		Extra over for bends	No	
Q.50.6		Outlet shoes	No	
Q.51		SANITARY WARE AND PIPE FITTINGS:		
Q.51.1		"Franke"Oval V - Inset Banity hand wash basin with tap and traps, completely installed	No	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.51.2		"Franke" Zurich - ZRX 120B Stainless Steel (code 310256) multiple kitchen sink with tap and traps, completely installed	No	
Q.51.3		"Franke" Model HCL pedestal water closet of Grade 304 stainless steel with connection to external waste pipe	No	
Q.51.4		"Franke"Model SCL stainless steel cistern with internal mechanism and connection to WC	No	
Q.51.5		"Franke"Model TE Barron Bowl Urinal of Grade 304 stainless steel with fittings and connections to external waste pip and WC	No	
Q.51.6		Cobra junior flushmaster ref FJ6.000 with Tailpipe:Conra ref FJT 5.5	No	
Q.51.7		40mm Waste union with plug and chain	No	
Q.51.8		20mm Full-way brass gate valve	No	
Q.51.9		"Franke"Model BS400 Pressed shower tray of Grade 304 stainless steel with connection to external waste pipe	No	
Q.52		"MARLEY"PVC SOIL AND WASTE PIPEWORK:		
Q.52.1		50mm pipe	m	
Q.52.2		110mm pipe	m	
Q.52.3		White "P" Trap 40 x 50mm (with re-seal)	No	
Q.52.4		White Double Sink Combo 40 x 40 x 300mm	No	
Q.52.5		50mm Access bend	No	
Q.52.6		50 x 110mm Access double reducing junction	No	
Q.52.7		110mm Access junction	No	
Q.52.8		110mm Two way vent valve	No	
Q.52.9		110mm bend	No	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Q.52.10		110mm Access junction	No	
Q.52.11		110mm Rodding eye	No	
Q.52.12		110mm Access pan connector	No	
Q.53		INTERNAL PLUMBING:		
Q.53.1		15mm Class 1 copper pipe	m	
Q.53.2		22mm Class 1 copper pipe	m	
Q.53.3		15mm Capillar fittings. T-pieces, etc. for copper pipes.	No	
Q.53.4		22mm Capillary fittings. T-pieces, etc for copper pipes.	No	
Q.53.5		20mm Brass stopcock in 200x200x200 brick manhole with SABS 558 Type 1A CI Cover	No	
Q.53.6		20mm Copper pipe to 20mm HDPe Pressure coupling.	No	
Q.53.7		Pressure testing of internal plumbing	Sum	
Q.54		PAINTING:		
		<i>The rates below are for surfaces painted in accordance with the manufacturer's specifications, including primer coats.</i>		
Q.54.1		Exterior walls with two coats "Plascon Wall and All"	m ²	
Q.54.2		Interior walls with two coats "Plascon Double Velvet"	m ²	
Q.54.3		Fibre cement ceilings with "Plascon One Coat" ceiling paint.	m ²	
Q.54.4		Fascia and barge boards with "Plascon Nuroof"	m ²	
Q.55		SUNDRIES:		
Q.55.1		4.5kg CO ² fire extinguisher with wall mounting bracket and signage, SANS compliant	No	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
R	SANS 1200D	SCHEDULE R: OVERFLOW EMERGENCY DAM		
R.1		EARTHWORKS		
R.2	PS D 8.3.3	RESTRICTED EXCAVATION		
R.3	PS D 8.3.3(a)	EXCAVATE FOR FOUNDATIONS AND PIPE TRENCHES IN ALL MATERAILS, BACKFILL BEHIND STRUCTURES, CONSTRUCT EMBANKMENTS OR DISPOSE WITHIN THE FREEHAUL DISTANCE FOR DEPTHS:		
R.3.1		0 m up to 2 m	m ³	
R.3.2		Exceeding 2m up to 4m	m ³	
R.3.3		Exceeding 4m up to 6m	m ³	
R.3.4	PS D 8.3.3 (b)	Extra over items P.1.1 and P.1.3 for excavation in hard rock material	m ³	
R.3.5	PSD 8.3.3 (c)	Extra over itemes P.1.1 to P.1.4 for 5% soil cement backfilling where instructed by the engineer	m ³	
R.3.6	PSD 8.3.3 (d)	Excavate and dispose of unsuitable material from bottom of excavations	m ³	
R.3.7	PSD 8.3.16	Dewatering of foundation excavation	Sum	
R.4	SANS 1200L	PIPE SPECIALS		
R.4.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Sum	
R.5	SANS 1200G	CONCRETE (STRUCTURAL)		
R.6	8,2	FORMWORK		
	8.2.2	SMOOTH FORMWORK (MEASURED TO 150mm BELOW FINISHED GROUND LEVEL WHERE APPLICABLE)		
R.7		PLANE VERTICAL		
R.7.1		Sides of mass concrete where ordered by the Engineer	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
R.7.2		Sides of drainage sump floor and external faces of drainage sump walls	m ²	
R.7.3		Sides of floor slabs	m ²	
R.7.4	PSG 8.2.5	Internal face of parapet walls (280mm high)	m ²	
R.7.5		External faces of walls below ground level	m ²	
	8.2.2	SPECIAL SMOOTH REPAIRED AND RUBBED FORMWORK (MEASURED FROM 150 mm BELOW FINISHED GROUND LEVEL WHERE APPLICABLE)		
R.8		PLANE HORIZONTAL		
R.8.1		Soffit of roof slabs and roof slab ring beams	m ²	
R.8.2		Soffit of walkways, first floor slab and first floor slab ring beams	m ²	
R.8.3		Soffit of groundfloor walkway	m ²	
R.9		PLANE SLOPING		
R.9.1		Soffit of stairs	m ²	
R.10		PLANE VERTICAL		
R.10.1		External faces of concrete walls above ground level	m ²	
R.10.2		Internal faces of concrete walls	m ²	
R.10.3	PSG 8.2.5	Sides of walkways and stairs	m ²	
R.10.4	PSG 8.2.5	Sides of pump plinths (300mm high)	m ²	
R.10.5		Risers of stairs,including support bases	m ²	
R.10.6	PSG 8.2.5	Side of first floor slabs (250mm high)	m ²	
R.10.7	PSG 8.2.5	External sides of parapet walls (500mm high)	m ²	
R.10.8	PSG 8.2.5	Sides of ring beams (500mm high)	m ²	
R.10.9	PSG 8.2.5	Sides of channels in false floor (250mm high)	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
R.10.10	PSG 8.2.5	Sides of upstand beam on walkways and stairs (100mm high)	m ²	
R.10.11	PSG 8.2.5	Sides of ramp (varies from 350mm to 150mm)	m ²	
R.10.12		Internal walls of drainage sump	m ²	
R.10.13	PSG 8.2.5	Sides of coumns (300mm x 300mm)	m ²	
R.11		SPECIAL FORMWORK		
R.12	PSG 8.2.6	BOX OUT HOLES / FORM VOIDS		
R.13	(a)	CYLINDRICAL OF VOLUME		
R.14		OVER AND UP TO AND INCLUDING		
R.14.1		(ii) 0.01m3 - 0.05m3	No.	
R.15	(b)	CUBICAL OF VOLUME		
R.16		OVER AND UP TO AND INCLUDING		
R.16.1		(ii) 0.01m3 - 0.05m3	No.	
R.16.2		(iii) 0.05m3 - 0.15m3	No.	
		RECESSES AND CHAMFERS LARGER THAN 20x20 mm		
R.16.3		Forming 500mm high vertical grooves tapering from 20 to 38mm, 38mm deep to outside of roof slab parapet wall	No.	
R.16.4		Forming drip groove tapering from 38 to 30mm, 20mm deep below roof slab	m	
R.17	8,3	REINFORCEMENT		
R.18		HIGH TENSILE STEEL BARS		
R.18.1	8.3.1	Y25 mm dia. : basic price	t	
R.19		EXTRA OVER ITEM P.4.1 (PROVISIONAL QUANTITIES)		
R.20		FOR BARS OF DIAMETER		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
R.20.1		Y10 m	t	
R.20.2		Y12 mm	t	
R.20.3		Y16 mm	t	
R.20.4		Y20 mm	t	
R.21		MILD STEEL BARS		
R.21.1	8.3.1	R25 mm dia. : basic price	t	
R.22		EXTRA OVER ITEM P.4.6 (PROVISIONAL QUANTITIES) FOR BARS OF DIAMETER		
R.22.1		R8 mm	t	
R.22.2		R10 mm	t	
R.22.3		R12 mm	t	
R.23	8,4	CONCRETE		
	8.4.2	BLINDING LAYER IN GRADE 20/20 CONCRETE 50 mm THICKNESS		
R.23.1		Horizontal	m ²	
R.24		STRENGTH CONCRETE GRADE 20/20 IN FILLING OF OVER-BREAK IN EXCAVATIONS IN ROCK TO FORM BLINDING LAYER		
R.24.1		Horizontal	m ²	
R.25		STRENGTH CONCRETE 20/20		
R.25.1		False floor	m ³	
R.25.2		Mass concrete below structures or where ordered by the Engineer	m ³	
R.25.3		Mass concrete ramp	m ³	
R.26		STRENGTH CONCRETE 20/10		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
R.26.1		Benching to sumps, boxes and channels	m ³	
R.26.2		Screeds to roof slab	m ³	
R.27		STRENGTH CONCRETE 35/20		
R.27.1		Floor slabs including drainage sump	m ³	
R.27.2		Straight walls including drainage sump walls	m ³	
R.27.3		Walkways including upstand beam	m ³	
R.27.4		Roof slabs and ringbeams	m ³	
R.27.5		First floor slab and ring beams	m ³	
R.27.6		Pump plinths	m ³	
R.27.7		Parapet walls	m ³	
R.27.8		Stair cases including upstand beam	m ³	
R.27.9		Columns	m ³	
R.28	8.4.4	UNFORMED SURFACE FINISHES		
R.28.1		To upper surfaces of concealed work and surfaces to receive benching or screed	m ²	
R.29		WOOD FLOAT FINISH		
R.30		UPPER SURFACES OF:		
R.30.1		Top of wall, first floor ring beams and parapet walls	m ²	
R.30.2		Top of pump plinths	m ²	
R.30.3		Top of walkways and upstand beams on walkways	m ²	
R.30.4		Treads stairs	m ²	
R.31		STEEL FLOAT FINISH		
R.32		UPPER SURFACES OF:		
R.32.1		Benching in channels	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
R.32.2		Top of false floor	m ²	
R.32.3		Top of screed on roof slab	m ²	
R.32.4		Screed of first floor	m ²	
R.33	8,7	GROUTING IN OF EQUIPMENT SUPPLIED AND INSTALLED BY PLANT SUPPLIER WITH		
R.33.1		Non-shrink grout	m ³	
R.34	PSG 8.10	TESTING STRUCTURES FOR WATERTIGHTNESS (IRRESPECTIVE OF TYPE)		
R.34.1		Pump station wet sump	Sum	
R.35	PSG 8.11	BUILDING PIPES INTO CONCRETE WORK (IRRESPECTIVE OF TYPE)		
R.36		PIPES SUPPLIED BY THE MECHANICAL CONTRACTOR		
R.36.1		150 mm diameter	No.	
R.36.2		350 mm diameter	No.	
R.36.3		450 mm diameter	No.	
R.37	SANS 1200HA	STRUCTURAL STEELWORK (SMALL WORK)		
R.37.1	8.3.1	Supply and installation of galvanised mild steel 203 X 133 X 30 kg/m I-beam complete with stops etc as shown on drawing of Emergency Overflow Dam	t	
R.37.2	PS HA 8.3.2	Galvanised handrail assembly complete with kicker plate	m	
R.38	PART	BUILDING WORK		
R.39	8.2.1	BRICKWORK		
R.39.1		230mm thick, one side face brick and one side stock brick (allow a purchase price of R4000,00 per 1000 bricks, excl VAT)	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
R.39.2		230mm thick,one side face brick and one side stock brick to be bricked up after MCC installation. (allow a purchase price of R4000,00 per 1000 bricks, excl VAT)	m ²	
R.39.3		110mm thick internal walls, stock brick	m ²	
R.39.4		230mm thick internal walls, stock brick	m ²	
R.39.5		Supply and install Kilcher Limitgliss bearing (40kN/m) between beams and engineering brickwork (230mm wide)	m	
R.40	8.2.2	AIR BRICKS		
R.40.1	(a)	Supply and build in external airbricks as specified	No.	
R.40.2	(b)	Supply and build in internal airbricks as specified	No.	
R.41	8.2.4	WINDOW SILLS		
R.41.1	(a)	Brick on edge on external side of window including (DPC) (refer to detail on drawing of Emergency Overflow Dam	m	
R.41.2	(b)	Quarry tile, 110mm wide, on internal side of window (refer to detail on drawing of Emergency Overflow Dam)	m	
R.42	8.2.6	PLASTER WORK		
R.42.1		10mm thick to internal walls	m ²	
R.42.2		10 mm thick internally to external walls	m ²	
R.42.3		10 mm thick internally to external walls to be bricked up after MCC installation	m ²	
R.43	8.2.7	FLOOR SCREED		
R.43.1		Normal	m ²	
R.43.2		Drainage channel	m ²	
R.44	8.2.9	WATERPROOFING		
R.44.1		Waterproofing of concrete roofs with approved synthetic	m ²	
R.44.2	(a)	Damp proof course between brick wall and concrete 230mm wide	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
R.44.3	(a)	Supply and place damp proof course (DPC) under 230mm thick walls	m	
R.44.4	(a)	Supply and place damp proof course (DPC) around doors, windows and openings	m	
R.45	8.2.14	RAINWATER OUTLETS		
R.45.1	(b)	Supply and installation of 80mm diameter "Eze-flo" or similar approved cast iron rainwater outlet in roof slab	No.	
R.45.2	(b)	80mm diameter medium quality galvanised screwed and socketed pipes including galvanised holding brackets	m	
R.45.3		80mm diameter medium quality galvanised 45 degree bends	No.	
R.46	8.2.17	JOINERY		
R.46.1		Supply and install door D1 (1700mm wide x 3000mm high) iroko door, ledged, braced and framed and notched for crawl beam (Refer to door and window schedule on drawing of Emergency Overflow Dam	No.	
R.46.2		Supply and install 45mm standard single inward opening hardwood door D2 (815mmx2000mm) ledged, braced and framed to suit standard steel door frame, three lever mortice lock with keys, door stop, brass hinges (refer to door and window schedule on drawing of Emergency Overflow Dam	No.	
R.47		METAL WORK		
R.47.1	8.2.18	Supply and install dark bronze anodized aluminium louvre window 700mm wide x 1000mm high (refer to door and window schedule on drawing of Emergency Overflow Dam	No.	
R.47.2		Supply and install dark bronze anodized aluminium window 2500mm wide x 1000mm high with two off 600mm wide sections with adjustable louvres (Refer to door and window schedule on drawing of Emergency Overflow Dam	No.	
R.48	8.2.20	PAINTING		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
S	SANS 1200D	SCHEDULE S: INLET WORKS - SCREENING AND DRYING SLABS		
S.1	PS D 8.3.3	EARTHWORKS MISCELLANEOUS RESTRICTED EXCAVATION		
S.1.2		Extra over items for 5% soil cement backfilling where instructed by the engineer	m ³	
S.1.4		Dewatering of foundation excavations	Sum	
S.1.5		Trimming area to falls to receive concrete slabs	m ²	
S.2		HARDCORE FILLING		
S.2.1		Supplying, placing and compacting selected hardcore material under floor slabs	m ³	
S.2.2		Surface bed lining with 250 micron medium density green polyethylene sheeting	m ²	
S.3	1200L	PIPE SPECIALS		
S.3.1	PSL 8.2.5	Supplying, installation and testing of pipes, fittings and specials	Sum	
S.4		PIPE SUPPLIED AND INSTALLED (IRRESPECTIVE OF TYPE)		
S.4.1		1050mm nominal diameter concrete pipe class T4 pressure pipe	m	
S.4.2		750mm nominal diameter concrete pipe class T4 pressure pipe	m	
	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
S.5	8,2	FORMWORK:		
S.5.1	8.2.5	Rough formwork to edge of concrete floors not higher than 250mm on outer perimeter	m	
S.5.2		Rough formwork to edge of concrete floors not higher than 500mm on outer perimeter	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
S.5.3	8.2.5	Rough formwork to sides of inner channel floors and earthface wall with total height not exceeding 500mm	m	
S.5.4	8.2.4	Special formwork to outside of perimeter walls not higher than 900mm	m	
S.5.5		Special formwork to outside of perimeter walls not higher than 1500mm	m	
S.5.6	8.2.4	Special formwork to inside wall faces of channels not higher than 900mm	m	
S.5.7		Special formwork to inside wall faces of channels not higher than 1500mm	m	
S.5.8	8.2.5	Special vertical formwork to edges of slabs not higher than 250mm	m	
S.5.9	8.2.5	Special vertical to outside of roof slab, 500mm high, including forming of drip groove	m	
S.5.10	8.2.5	Rough to inside of roof upstand, 300mm high	m	
S.5.11	8.2.4	Special formwork to sides of stairs	m ²	
S.5.12	8.2.5	Special formwork for stair treads 1000mm wide x 175mm high	No.	
S.5.13	8.2.4	Forming of edges of depression in drying slab not exceeding 75mm high	m	
S.5.14	8.2.4	Forming of edges of cable channel in slab not exceeding 100mm high	m	
S.5.15		Forming of 100mm step in channel	m	
S.5.16	8.2.5	Forming of edges of openings of slabs 250mm deep	m	
S.5.17	8.2.1	Rough horizontal formwork to soffits of channel slabs with restricted access	m ²	
S.5.18	8.2.4	Special smooth horizontal formwork to soffit of roof slab	m ²	
S.5.19	8.2.4	Special smooth to columns of size 250 x 400mm for the following height categories:		
S.5.20		0 - 1.5m	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
S.5.21		1.5 - 2.7m	m ²	
S.5.22	8.2.4	Forming of 600 h x 2200mm long side inlets to central channel through wall of channel in components not deeper or thicker than 500mm	No.	
S.5.23	8.2.6	Cutting of holes in shuttering and casting in of 1000mm diameter pipe through walls in components not deeper or thicker than 500mm	No.	
S.5.24		Cutting of holes in shuttering and casting in of 50mm diameter HDPe cable sleeves through walls in components not deeper or thicker than 500mm	No.	
S.5.25		Forming of holes in drying slabs by casting in 20mm diameter PVC pipes in components not deeper or thicker than 500mm	No.	
S.6	8.3 & PSG 8.2.1	REINFORCING:		
S.6.1	8.3.1	High yield bars	kg	
S.6.2		Mild steel bars	kg	
S.7	8.4, PSG, PSGP	CONCRETE:		
S.7.1	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and side shuttering	m ³	
S.7.2	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete floors	m ³	
S.7.3	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete walls	m ³	
S.7.4	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete slabs	m ³	
S.7.5	8.4.3	Class 30/19 concrete in reinforced concrete stairs	m ³	
S.7.6	8.4.3	Class 30/19 concrete in reinforced concrete columns	m ³	
S.7.7	8.4.3	Class 30/19 concrete in reinforced concrete roof slab	m ³	
S.8		SULPHIDE RESISTANT SCREEDS AND BENCHING, INCLUDING SURFACE FINISH:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
S.8.1		Benching in channels	m ³	
S.9		SCREED TO CONCRETE FLOORS AND SLABS, INCLUDING SURFACE FINISHES:		
S.9.1		Screed to falls on roof slabs ready to receive waterproofing with thickness between 30 and 65mm, including coves to upstands	m ³	
S.10	8.4.4	UNFORMED SURFACE FINISHES:		
S.10.1		Steel floated to concrete floors	m ²	
S.10.2		Steel floated to top of walls	m ²	
S.10.3		Steel floated to slabs	m ²	
S.10.4		Steel floated to roof slabs ready to receive screed to falls	m ²	
S.10.5		Forming of roof upstand 150mm wide, slanted	m	
S.10.6		Forming of drying slab depression to detail, Steel floated	m	
S.10.7		Forming of emergency overflow channel edge detail to Detail O	m	
S.11		WATERPROOFING OF CONCRETE ROOF SLABS:		
S.11.1		"Derbigum SP4" or similar approved torch on waterproofing membrane to roof sceed, including priming of screed, turn ups onto parapet, with 75mm side laps and 100mm end laps, sealed to primed surface to falls and crossfalls by 'torch-fusion' finished with one coat of acrylic primer followed by two coats acrylic paint.	m ²	
S.11.2		Extra over for counter flashing to parapets	m	
S.12		RAINWATER GOODS:		
S.12.1		80ø Cast Iron Full bore outlet with dome and threaded	No.	
S.12.2		80ø nominal bore galvanized mild steel downpipes fixed to walls with holder bats	m	
S.12.3		Outlet shoes	No.	
S.13		METAL WORK:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
S.13.1		3CR12 raking screen, 935 wide x 1500 long, consisting of 10x50 flat bar frame and 10x50mm flat bars, spaced at 50mm c/c	No.	
S.13.2		3CR12 100x10 flat bar cross supports cast into concrete	m	
S.13.3		Grade 304 stainless steel 80x80x8mm angle with R10 anchors 150mm long cast into concrete @ 300mm c/c	m	
S.13.4		"Rectagrid" or similar 25 x 4.5mm RS40 of 3CR12 floor gratings of size 1200 x 675 mm	No.	
S.13.5		Grade 304 stainless steel 50x50x5mm angle with R10 anchors 100mm long cast into concrete @ 300mm c/c	m	
S.14		HANDRAILS		
		<i>"Maclock" or similar medium duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 µm galvanized, complete with all anchors</i>		
S.14.1	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type B 90° stanchions	No.	
S.14.2	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type BTA 35 stanchions	No.	
S.14.3	SABS 1200 HA 8.3.2	Handrailings consisting of 2No 38 x 2.5 rails, straight	m	
S.14.4	SABS 1200 HA 8.3.2	Extra over for 35° bends	No.	
S.14.5		Extra over for 90° consisting of two bends each	No.	
S.14.6		Extra over for end closures	No.	
S.15	PSG 8.11	BUILDING PIPES INTO CONCRETE WORK (IRRESPECTIVE OF TYPE)		
		pipes supplied by the civil contractor		
S.15.1		Up to 300mm diameter (in walls up to 300mm thick)	No.	
S.15.2		750mm diameter (in walls up to 300mm thick)	No.	
S.15.3		1050mm diameter (in walls up to 300mm thick)	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
2S		SCHEDULE 2S: INLET WORKS - VORTEX DEGRITTER		
2S.1	SABS 1200G, PSG, PSGP	CONCRETE (STRUCTURAL)		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
2S.2	8,2	FORMWORK:		
2S.2.1	8.2.5	Rough formwork to edge of concrete floors of hopper pits, not higher than 250mm on outer perimeter	m	
2S.2.2		Rough formwork to edge of concrete floors not higher than 250mm on outer perimeter	m	
2S.2.3		Rough formwork to outside walls of hopper pits, not higher than 1000mm	m ²	
2S.2.4	8.2.4	Special vertical formwork to insides of hopper pits	m ²	
2S.2.5	8.2.1	Rough formwork to outsides of soffits of hoppers at 45° incline	m ²	
2S.2.6	8.2.4	Special formwork to insides of hoppers at 45° incline	m ²	
2S1,7	8.2.4	Special formwork to outside of perimeter walls not higher than 1300mm	m ²	
2S.2.8	8.2.4	Special formwork to insides of walls not higher than 1300mm	m ²	
2S.2.9	8.2.1	Rough formwork to insides of walls of hoppers not higher than 1500mm	m ²	
2S.2.10	8.2.4	Special formwork to inside of benching in vortex hoppers, on radius not smaller than 1.6m and not higher than 1.5m	m ²	
2S.2.11	8.2.5	Form round nosings to end of 1.3m high 200mm thick wall ends	No.	
2S.2.12	8.2.5	Special vertical formwork to edges of slabs not higher than 250mm	m	
2S.2.13	8.2.4	Special formwork to sides of stairs	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
2S.2.14	8.2.5	Special formwork for stair treads 1000mm wide x 175mm high	No.	
2S.2.15	8.2.5	Forming of 400mm step in channel	m	
2S.2.16	8.2.5	Forming of 170mm step in channel into hoppers	m	
2S.2.17	8.2.1	Rough horizontal formwork to soffits of concrete walkway	m ²	
2S.2.18	8.2.6	Cutting of holes in shuttering for casting in of 110mm diameter HDPe cable sleeves formed in components not deeper or thicker than 500mm	No.	
2S.2.19	8.2.6	Forming of 300ø holes in 250mm walkways formed in components not deeper or thicker than 500mm	No.	
2S.3	8.3 & PSG 8.2.1	REINFORCING:		
2S.3.1	8.3.1	High yield bars	kg	
2S.3.2		Mild steel bars	kg	
2S.4	8.4, PSG, PSGP	CONCRETE:		
2S.4.1	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and side shuttering	m ³	
2S.4.2	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete floors	m ³	
2S.4.3	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete walls	m ³	
2S.4.4	8.4.3	Class 30/19 concrete in reinforced concrete stairs	m ³	
2S.4.5	8.4.3	Class 30/19 concrete in reinforced concrete walkways	m ³	
2S.5		SULPHIDE RESISTANT SCREEDS AND BENCHING, INCLUDING SURFACE FINISH:		
2S.5.1		Benching to channels and vortex walls	m ³	
2S.6	8.4.4	UNFORMED SURFACE FINISHES:		
2S.6.1		Steel floated to concrete floors	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
2S.6.2		Steel floated to top of walls	m ²	
2S.6.3		Steel floated to walkway	m ²	
2S.6.4		Forming of vortex hopper outflow lip to Detail P	m	
2S.7	PSG 8.5, PSGP5	JOINTS: "The rates below must be fully inclusive for the construction of the complete joint, including labour, materials, formwork, sealants, waterstops, including the effect on programming and limitations as described in PSGP5, especially for Continuously Reinforced Construction Joints), complete." <i>Note: All external waterstops are installed under floors and bases</i>		
2S.7.1		Joint Type 1 in floors	m	
2S.7.2		Joint Type 5, vertical, between wall panels (internal waterstop)	m	
2S.7.3		Extra over for T-junctions	No.	
2S.8		METAL WORK: All mild steel components to be hot dip galvanized to 85µm		
2S.9	SABS 1200 HA 8.3.2	HANDRAILS <i>"Maclock" or similar medium duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 µm galvanized, complete with all anchors</i>		
2S.9.1	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type B 90° stanchions	No.	
2S.9.2	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type BTA 35 stanchions	No.	
2S.9.3	SABS 1200 HA 8.3.2	Handrailings consisting of 2No 38 x 2.5 rails, straight	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
3S		SCHEDULE 3S: INLET WORKS - DIVISION CHAMBER		
3S.1	SABS 1200G, PSG, PSGP	CONCRETE STRUCTURAL		
		<i>All rates must be fully inclusive to complete the structures including 20 x 20mm chamfers to all visible corners</i>		
3S.2	8,2	FORMWORK:		
3S.2.1	8.2.5	Rough formwork to edges of concrete floors not higher than 250mm	m	
3S.2.2	8.2.4	Special vertical formwork to outside concrete walls not higher than 2.4m	m ²	
3S.2.3	8.2.4	Special vertical formwork to concrete walls not higher than 2.4m	m ²	
3S.2.4	8.2.1	Rough horizontal formwork to soffit of slab	m ²	
3S.2.5	8.2.5	Forming of overflow threshold for weir plates to Detail Q	m	
	8.2.6	Forming of rectangular openings in in shuttering for walls for the following sizes formed in components not deeper or thicker than 500mm		
3S.2.6		150 x 250mm	No.	
3S.2.7		400 x 400mm	No.	
3S.2.8		600 x 800mm	No.	
3S.2.9	8.2.6	Cutting of holes in shuttering and casting in of 450mm diameter pipe through wall	No.	
3S.2.10		Cutting of holes in shuttering and casting in of 750mm diameter pipes through wall	No.	
3S.3	8.3 & PSG 8.2.1	REINFORCING:		
3S.3.1	8.3.1	High yield bars	kg	
3S.3.2		Mild steel bars	kg	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
3S.4	8.4, PSG, PSGP	CONCRETE:		
3S.4.1	8.4.2	Class 15/13 in 50mm blinding under reinforced concrete structures, including surface finish and side shuttering	m ³	
3S.4.2	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete floors	m ³	
3S.4.3	PSGP3.4(c)	Class 35/19 sulphide resistant concrete in reinforced concrete walls	m ³	
3S.5		SULPHIDE RESISTANT SCREEDS AND BENCHING, INCLUDING SURFACE FINISH:		
3S.5.1		Benching to channels	m ³	
3S.6	8.4.4	UNFORMED SURFACE FINISHES:		
3S.6.1		Steel floated to concrete floors	m ²	
3S.6.2		Steel floated to top of walls	m ²	
3S.7	PSG 8.5, PSGP5	JOINTS: “The rates below must be fully inclusive for the construction of the complete joint, including labour, materials, formwork, sealants, waterstops, including the effect on programming and limitations as described in PSGP5, especially for Continuously Reinforced Construction Joints), complete.”		
		<i>Note: All external waterstops are installed under floors and bases</i>		
3S.7.1		Joint Type 1 in floors	m	
3S.7.2		Joint Type 5, vertical, between wall panels (internal waterstop)	m	
3S.7.3		Extra over for T-junctions	No.	
3S.8		METAL WORK: <i>All mild steel components to be hot dip galvanized to 85µm</i>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
3S.8.1		"Rectagrid" or similar 25 x 4.5mm galvanized mild steel RS40 floor grating spanning 900mm cut to max 1.2m sections complete to suit platform, including saddle clamp fittings.	m ²	
3S.8.2		50x50x5mm Galvanized Angle with R8 anchors at max 250 c/c 100mm long cast into concrete.	m	
3S.9		WEIR PLATES:		
		3CR12 Weir plates 4,5mm thick, including seals and fixing into walls:		
3S.9.1		Weir Plate Type 2 (600h x 790w)	No.	
3S.9.2		Weir Plate Type 3 (600h x 1765w)	No.	
3S.9.3		Weir Plate Type 4 (600h x 1165w)	No.	
3S.9.4		Weir Plate Type 2 (600h x 1465w)	No.	
3S.10	SABS 1200 HA 8.3.2	HANDRAILS:		
		<i>"Macklock" or similar medium duty Industrial handrail system with stanchions at maximum 1200 c/c, 85 µm galvanized, complete with bolts</i>		
3S.10.1	SABS 1200 HA 8.3.2	1000mm, 48 x 4.0 top mounted type B 90° stanchions.	No.	
3S.10.2	SABS 1200 HA 8.3.2	Handrailing consisting of 2No 38 x 2.5 hand rails, straight	m	
3S.10.3	SABS 1200 HA 8.3.2	Extra over for 90° consisting of two bends each	No.	
3S.10.4	SABS 1200 HA 8.3.2	Extra over for end closures	No.	
3S.11	SABS 1200 A	PROVISIONAL SUMS :		
	8,5	The sums below are allowed for the expenditure on instruction by the Engineer		
3S.11.1		Procure and install GRP Parshall Flumes	Sum	R 150 000,00
3S.11.2		Overheads, charges, profit and attendance on Item 7.1	%	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
U		SCHEDULE U: STRUCTURAL STEELWORKS		
U.1	SANS 1200H	STRUCTURAL STEELWORK - RESERVOIR AND TOWER		
U.2	PSHA 8.3.2	HANDRAILS		
U.2.1		Top-Fixed Handrails around access openings on reservoir roof complete	t	
U.2.2		Top-Fixed Handrails on tower roof	t	
U.2.3		Handrails on tower shaft access staircase	t	
U.3	PSHA 8.3.7	ACCESS COVERS		
U.3.1		a) Access cover on reservoir roof for 1200x1200mm clear opening complete with base frames, brackets, locking device etc.	No.	
U.3.2		b) Access cover on tower roof for 1200x1200mm clear opening complete with base frames, brackets, locking device etc.	No.	
U.3.3		c) Frames, brackets, locking device etc. on access manhole cover type 2A for chambers	No.	
U.4		LADDERS		
	PSHA 8.3.3	a) Stainless steel ladders		
U.4.1		i) Stainless steel cat ladder complete with safety cage inside reservoir tank	No.	
U.4.2		ii) Stainless steel cat ladder complete with safety cage inside elevated tank	No.	
U.4.3		iii) Stainless steel cat ladder complete with safety cage outside reservoir tank	No.	
	PSHA 8.3.3	b) Galvanized Steel		
U.4.4		i) Complete galvanized steel cat ladder for valve chambers not deeper than 3m fixed to wall	No.	
U.4.5	8.3.3	ii) Supply and fabricate tower shaft access ladder complete with columns, stringers, brackets, end, wall and floor plates, bolts etc.	t	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
W	SANS 1200F	SCHEDULE W: PILING		
W.1		PRELIMINARY OPERATIONS		
W.1.1	8.2.1	Establishment on Site for piling	Sum	
W.1.2	8.2.2	Move equipment to and set up at each pile position	No.	
W.2		PILING		
		Auger or bore holes for 500 mm dia. piles through material in the following successive depth ranges:		
W.2.1	8.2.4	a) Over - and up to 10 m	m	
W.2.2	8.2.4	b) Over 10 m and up to 15 m	m	
W.2.3	8.2.4	c) Over 15 m and up to 20 m	m	
	8.2.6	Drive temporary casing to form holes for 500 mm dia. piles through material in the following successive depth ranges:		
W.2.4		Over - and up to 10 m	m	
W.2.5		Over 10 m and up to 15 m	m	
W.2.6		Over 15 m and up to 20 m	m	
W.2.7	8.2.12	Form bulbous bases for 500 mm dia. piles	No.	
W.2.8	8.2.14	Temporary Cased Auger 600kN - 500mm Ø	m	
W.2.9	8.2.15	Install permanent pile casing for 500 mm dia. piles as directed	m	
	8.2.4	Auger or bore holes for 700 mm dia. piles through material in the following successive depth ranges:		
W.2.10		Over - and up to 10 m	m	
W.2.11		Over 10 m and up to 15 m	m	
W.2.12		Over 15 m and up to 20 m	m	
	8.2.6	Drive temporary casing to form holes for 700 mm dia. piles through material in the following successive depth ranges:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
X		SCHEDULE X: STORMWATER DRAINAGE CLEARANCE AND EXCAVATION		
X.1	SANS 1200 LE	STORMWATER DRAINAGE SITE CLEARANCE AND EXCAVATION		
X.2		PIPES		
	8.2.1	Supply and Lay Concrete Pipe Culverts		
		On Class B Bedding		
X.2.1		300 mm diameter Class 100D	m	
X.2.2		450 mm diameter Class 100D	m	
X.2.3		600 mm diameter Class 100D	m	
X.2.4		750 mm diameter Class 100D	m	
	8.2.4	Extra-over Item for cutting end units for culvert on site		
X.2.5		Straight cut	No.	
X.2.6		Skew cut	No.	
X.3	SANS 1200 G 8.2.5	FIELD INLET		
X.3.1	8.2.1	Formwork - Vertical, straight and curved	m ²	
		High Tensile Steel Bars		
X.3.2	8.1.2.3	a) Y25mm die.: Basic Price	t	
	8.1.2.3	b) Extra Over Item 15.3.2 (Provisional Quantities) for bars of Diameter		
X.3.3		Y12mm	t	
X.3.4		Y16mm	t	
X.3.5		Y20mm	t	
	8.1.2.3	a) Mild Steel Bars		
X.3.6		R25mm die.: Basic Price	t	

<p style="text-align: center;">ERWAT CONTRACT NO: ERW2211/01 THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN AS AND WHEN REQUIRED BASIS FOR A PERIOD OF THIRTY-SIX (36 NO.) MONTHS</p>				
ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	8.1.2.3	b) Extra Over Item 15.3.6 (Provisional Quantities) for bars of Diameter		
X.3.7		R8mm	t	
X.3.8		R10mm	t	
X.3.9		R12mm	t	
	8.3.2	High Tensile Welded Mesh		
X.3.10		Ref No. 395	m ²	
X.3.11	8.4.2	Concrete Class 25/19	m ³	
X.3.12	8.4.4	Wood-floated finishes to top of inlet	m ²	
X.4	8.2.8	SUPPLY AND INSTALL MANHOLES		
X.4.1		Precats 1 250 mm diameter and 1,5 m deep	No.	
	8.2.9	Junction Box 1.5m deep		
		a) Brick		
X.4.2		2) 230mm	m ²	
X.4.3		b) Plaster	m ²	
X.4.4		c) Benching	m ²	
X.5	8.2.10	ACCESSORIES		
X.5.1		a) Type 2A Manhole cover including frame	No.	
X.5.2		c) Step Irons	No.	
X.5.3	PS LE 8.2.14	Connect to existing manhole	Sum	
X.6	PS LE	SUB-SOIL DRAINS		
X.6.1	PS LE 8.2.15	a) Excavate subsoil pipe trenches	m ³	
X.6.2	PS LE 8.2.15	b) Supply and place Bidim A2 filter cloth, or similar geotextile	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Y		SCHEDULE Y: CONCRETE REPAIR		
Y.1	SANS 1200G	CONCRETE (STRUCTURAL)		
Y.2	PQA	SURFACE CLEANING AND PREPARATION OF CONCRETE WATER RETAINING STRUCTURES FOR REPAIR WORK		
		Water jet cleaning for all spaces and surfaces to expose the surface for initial inspection and remove dirt or surface defects before undertaking the specified concrete repair work surface preparation as follows:		
Y.2.1		a) High pressure pressure jet cleaning	m ²	
Y.2.2		b) High pressure pressure wet grit blast cleaning	m ²	
Y.2.3		c) Extra-over on 12.2.1 or 12.2.2 for working overhead	m ²	
Y.2.4		Removal of debris after water jet cleaning including disposal at an approved waste disposal site	m ³	
Y.2.5		Clean joints from any debris and obstructing material to open their full width	m	
Y.3	PQB	CONCRETE AND REINFORCED CONCRETE REPAIRS		
		Formed joints in concrete or mortars:		
Y.3.1		a) Diamond blade cutting to form vertical cut edge joints 20mm deep to repaired areas	m	
Y.3.2		b) Formed expansion or contraction joints, repaired with mortar or concrete measured elsewhere, including each side cast separately and the insertion joint material, joint sealant measured elsewhere, each side measured separately	m	
Y.3.3		c) Formed joints with water bars inserted, repaired with mortar or concrete measured elsewhere, including each side cast separately and the insertion joint material, joint sealant measured elsewhere, each side measured separately	m	
		Welding of mild or high yield reinforcement into place to existing reinforcement to replace lap length:		
Y.3.4		a) 10mm diameters	No.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Y.3.5		b) 12mm diameters	No.	
Y.3.6		c) 16mm diameters	No.	
Y.3.7		d) 20mm diameters	No.	
Y.3.8		e) 25mm diameters	No.	
Y.3.9		f) 32mm diameters	No.	
		Special repair mortars and grouts as placed,mixed in small batches and including strength cube tests:		
Y.3.10		a) Fibre reinforced polymer modified cement based repair mortar for patching	ℓ	
Y.3.11		b) High build polymer modified cement based repair mortar for patching	ℓ	
Y.3.12		c) Shrinkage compensated grout	ℓ	
Y.3.13		d) Quick setting waterproof leak plugging admixture and portland cement compound	ℓ	
Y.3.14		e) Quick setting waterproof leak plugging polymer modified cement based mortar	ℓ	
Y.3.15		f) Epoxy modified cement mortar	ℓ	
		Surface priming to concrete for bonding of new concrete repairs to existing:		
Y.3.16		i) Wet to dry epoxy	m ²	
Y.3.17		ii) Cement polymer modified bonding agent	m ²	
		Reinforcement corrosion inhibiting protective coating applied to reinforcement or concrete surfaces:		
Y.3.18		a) Cement based polymer modified compound	ℓ	
Y.3.19		b) Zinc rich polymer compound	ℓ	
Y.3.20		c) Surface penetration compound , application by spray or brush including pre- and post- application cleaning	ℓ	
		Cleaning and preparation for concrete repairs:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Y.3.21		a) High pressure water jet cleaning and removal of loose aggregate, mortar and debris	m ²	
Y.3.22		b) High pressure wet grit blasting to remove loose or deteriorated concrete material and to derust reinforcement	m ²	
Y.3.23		c) Extra-over for application to overhead areas	m ²	
		Crack filling, injection and grouting:		
Y.3.24		a) Filling of minor or fine cracks and surface blowholes over areas with a render coat in preparation for over coating with a protective coating, priming , rubbing back and making good	m	
Y.3.25		b) Filling wide cracks opened up with single width saw cuts, including saw cutting to depth, cleaning out dust, priming crack, grinding surface to even profile and making good	ℓ	
Y.3.26		c) Filling flat areas or dammed areas by flooding with penetrating low viscosity resin, including special preparation work, cleaning up of excess resin, grinding back and making good	ℓ	
Y.3.27		d) Crack injection with resin under pressure through pipes or nipples inserted into cracks prepared by surface sealing, including preparation work, cleaning up excess resin, removal of pipes or nipples and making good	ℓ	
Y.3.28		e) Grouting with cement based mortar into prepared spaces in concrete structures or plinths, including preparation work, cleaning up excess grout and making good (shutters measured elsewhere)	ℓ	
Y.3.29		f) Extra-over for application to overhead areas	m ²	
Y.4	PQC	CONCRETE WATERPROOFING AND PROTECTIVE COATINGS		
		Bitumen based waterproofing products applied to surfaces vertical to horizontal (not overhead), other concrete repairs (elsewhere measured).		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Y.4.1		a) 3mm fibre reinforcement based torch-on sheet membrane with plain surface, including priming compound and all laps	m ²	
Y.4.2		b) 4mm Fibre reinforcement based torch-on sheet membrane with plain surface, including priming compound and all laps	m ²	
Y.4.3		c) Self -adhesive rubber bitumen backed-woven polypropylene membrane, including priming compound and all laps	m ²	
Y.4.4		d) Self -adhesive rubber bitumen backed indented profile aluminium foil membrane, including priming compound and all laps	m ²	
Y.4.5		e) Solvent based bitumen aluminium powder pigmented paint, applied in two coats	m ²	
		Cement based waterproofing products applied to surfaces vertical to horizontal (other concrete repairs elsewhere measured.):		
Y.4.6		a) Polypropylene fibre geotextile reinforced membrane impregnated with polymer modified portland cement based waterproof slurry, including slurry priming coat, impregnated fibre coat and slurry top coat and protective curing	m ²	
Y.4.7		b) Cement based thixotropic surface applied capillary penetrating waterproofing mortar or slurry, including priming and protective curing applied to areas	m ²	
Y.4.8		c) Cement based surface applied capillary penetrating waterproofing & leak plugging mortar, including opening the leak area, drilling out, priming and protective curing applied to small areas and holes	ℓ	
Y.4.9		d) Cement based polymer modified waterproofing slurry, hand or mortar spray applied two coat application, including priming and protective curing	m ²	
Y.4.10		e) Cement based fibre reinforced elastic polymer flexible waterproofing coating, hand or mortar spray applied two coat application, including priming and protective curing	m ²	
Y.4.11		f) Extra-over for application to overhead areas	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		Polymer based waterproofing products applied to surfaces vertical to horizontal (other concrete repairs elsewhere measured.):		
Y.4.12		a) Moisture cured urethane based flexible waterproofing coating applied by brush, roller or airless spray, including priming and 2 coat application	m ²	
Y.4.13		b) Extra-over for application to overhead areas	m ²	
		Protective coatings applied to provide a barrier to environmental chemical components on the wet or dry side surfaces vertical to horizontal (other concrete repairs elsewhere measured.):		
Y.4.14		a) Polymer based flexible water vapour permeable crack bridging coating, suitable for protection against chloride ingress and limiting carbon dioxide diffusion, including priming coat and two coat application (not for immersion service).	m ²	
Y.4.15		b) Extra-over for application to overhead areas	m ²	
		Protective hydrophobic impregnation compounds applied to surfaces vertical to horizontal (other concrete repairs elsewhere measured.):		
Y.4.16		a) Silane based solvent free surface penetration and impregnation reactive coating, hand or spray applied in 3 coats, including specific safety precautions, special surface preparation and curing	m ²	
Y.4.17		b) Silane based thixotropic grade solvent free surface penetration and impregnation reactive coating, hand or spray applied in 3 coats to all surfaces including , specific safety precautions, including special surface preparation and curing	m ²	
Y.4.18		c) Extra-over for application to overhead areas	m ²	
		Protective reaction inhibiting impregnation compounds applied to surfaces vertical to horizontal (other concrete repairs elsewhere measured.):		
Y.4.19		a) Lithium based (or other approved) compounds applied to inhibit the ASR or AAR reactions with the concrete structure, including specific safety precautions, special surface preparation and curing	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Y.4.20		b) Silane based (or other approved) compounds applied to inhibit reinforcement corrosion within the concrete structure, including specific safety precautions, special surface preparation and curing	m ²	
Y.4.21		c) Extra-over for application to overhead areas	m ²	
		Protective waterproofing and chemical resistant floor coatings (other concrete repairs elsewhere measured.):		
Y.4.22		a) Catalysed polymer primer and levelling mortar screed, including special preparation and blow hole filling as required.	m ²	
Y.4.23		b) Catalysed polyurethane based elastic abrasion resistant coating, applied over a suitable priming or intermediate surface coat	m ²	
Y.4.24		c) Catalysed polyurethane based heavy duty jointless flooring screed and coating system applied to primed surface, including coving formed in place and seal coat	m ²	
Y.4.25		d) Extra -over for non-slip top coating to finish	m ²	
Y.4.26		e) Extra-over for application to overhead areas	m ²	
Y.5	PQD	CONCRETE JOINT AND SEAL REPAIRS		
		Joint filling material and sealant cold applied:		
		a) Replacement compressible foam plastic closed cell polyethylene joint separator sheet application into cleaned formed joint as follows:		
Y.5.1		i) 10mm thick per 50mm wide	m	
Y.5.2		ii) 15mm thick per 50mm wide	m	
Y.5.3		iii) 20mm thick per 50mm wide	m	
Y.5.4		iv) 25mm thick per 50mm wide	m	
		b) Compressible foam plastic closed cell polyethylene joint sealant bead separator cord as follows:		
Y.5.5		i) 10mm wide joint	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Y.5.6		ii) 15mm wide joint	m	
Y.5.7		iii) 20mm wide joint	m	
Y.5.8		iv) 25mm wide joint	m	
		Joint surface preparation and priming:		
Y.5.9		a) Removal of previously applied joint surface materials, cement or bitumen or polymer based, by a combination of water jet or wet blasting, on vertical to horizontal surfaces	m ²	
Y.5.10		b) Removal of previously applied joint surface materials, cement or bitumen or polymer based, by hand raking out, grinding and other mechanical means, on vertical to horizontal surfaces	m ²	
Y.5.11		c) Extra-over for removal of previously applied joint surface materials, cement or bitumen or polymer based, in confined areas or overhead Joint sealant bead application, including priming of side surfaces as follows:	m ²	
Y.5.12		i) 10mm wide joint	m	
Y.5.13		ii) 15mm wide joint	m	
Y.5.14		iii) 20mm wide joint	m	
Y.5.15		iv) 25mm wide joint	m	
		Joints surface repaired with bandage seals:		
		a) Installing bridging plate across the joint, including preparation work, cutting and fitting and adhesives applied as follows:		
Y.5.16		i) 60mm wide by 2mm thick stainless steel bridge plate Grade 304 for straight sections(sloping or flat)	m	
Y.5.17		ii) 60mm wide by 4mm thick GRP hand layup bridge plate for circular sections(sloping or flat)	m	
		b) Installing adhesive bonded elastomeric membrane bridging over the joint and any bridging plate, including special preparation of the joint area, adhesive priming and making good as follows:		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
Z		SCHEDULE Z: DOLOMITE INVESTIGATIONS		
Z.1		INVESTIGATION		
Z.1.1	PDA 13.1	Site establishment	Sum	
Z.1.2	PDA 13.2	Dismantling and re-erection for movement on the site under own power	No.	
Z.1.3	PDA 13.3	Dismantling and re-erection for movement on the site per truck	No.	
Z.1.4	PDA 13.4	Movement on the site under own power	km	
Z.1.5	PDA 13.5	Protection to paved surfaces	m	
Z.1.6	PDA 13.6	Movement on the site per truck	No.	
Z.1.7	PDA 13.7	Dynamic compaction	m ²	
Z.1.8	PDA 13.8	Plate load testing	No.	
Z.2		EXPLORATORY DRILLING		
Z.2.1	PDD 5	Setting out of the works	Prov Sum	R 300 000,00
Z.2.2	PDD 9.1	Site establishment	No.	
Z.2.3	PDD 9.2	Setting up and removal of drilling rig	No.	
	PDD 10.2	Rotary percussion drilling for depths:		
Z.2.4		i) 0-30m	m	
Z.2.5		ii) 30-60m	m	
Z.2.6		iii) 60-100m	m	
		Extra-over item 7.2.4 to 7.2.6 in:		
Z.2.7		Hard material	m	
Z.2.8		Soft material	m	
Z.2.9		Cavity	m	
Z.2.10	PDD 10.3	Drilling at inclination	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
AA		SCHEDULE AA: FENCING		
		CLEARING AND GRUBBING		
AA1		All rubble and spoil to be removed and disposed at an approved Waste disposal site or Land Fill site Transport and dumping costs for the disposal of rubble and spoil to be included in the clearance rates.		
AA.1.1		Clearing and Grubbing (6metre wide strip)	Ha	
AA.1.2		Removal and grubbing of large trees and tree stumps:		
AA.1.2.1		Girth exceeding 0.25 m up to and including 0.5 m	Prov. Sum	R 60 000,00
AA1.3		Breakages_ Repairing of existing underground services	Prov. Sum	R 100 000,00
AA.1.4		Soil poisoning on the cleared area	Ha	
AA2		REMOVAL OF EXISTING PERIMETER FENCE		
AA.2.1		Removal of the existing palisade wall *All removed components of the palisade to be stored on site. *All rubble and spoil to be removed and disposed at an approved waste disposal Site or Land Fill site Transport and dumping costs for the disposal of rubble and spoil to be included in the removal rates.	m	
AA3		BULK EARTHWORKS		
AA.3.1		Cut and removal of unstable material · Cost for transport and dumping costs for the disposal of rubble and spoil to be included in the removal rates. · All rubble and spoil to be removed and disposed at an approved landfill site	m ³	
AA.3.2		Import, laying and compaction of G5 (Suitable) material for fill purposes	m ³	
AA4		SUPPLY, DELIVERY & INSTALLATION PERIMETER FENCE		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
AA.4.1		<u>Posts:</u>		
		Supply, delivery and erection of Posts:		
AA.4.1.1		<ul style="list-style-type: none"> The cost for the excavation and preparation (compaction) of the 400 x 400 x 800mm deep foundation to be included in the erection of posts rates Post to be encased into foundation of 400 x 400 x 800mm Cost for installation of posts to be included in the post rates 	No	
AA.4.1.2		Concrete <ul style="list-style-type: none"> Supply, cast and float 15MPa concrete to the post foundation of 400 x 400 x 800mm 	m ³	
AA.4.1.3		Mechanical excavation i.e. hard rock excavation	m	
AA.4.2		<u>Anti-Burrow:</u>		
AA.4.2.1		The supply and casting of 500mm deep concrete anti-burrow at the bottom for the entire perimeter of the securing fence. <ul style="list-style-type: none"> Supply, cast and float 15MPa concrete for the anti-burrow trench of 0.3 x 0.2 x 2200m The cost for the excavation and preparation (compaction) of trench bed for the 300mm wide, 500mm deep and 1500m trench to be included in the provision of anti-burrow rates All spoil to be removed and disposed at an approved Waste disposal site or Land Fill site. Transport and dumping costs for the disposal of rubble and spoil to be included in the clearance rates. 	m ³	
AA.4.3		<u>Panels:</u>		
AA.4.3.1		Supply, delivery and installation of Panels <ul style="list-style-type: none"> Cost for installation of panels to be included in the panels rates 	No	
AA.4.3.2		Supply, delivery and installation of Top Rail	No	
AA.4.3.3		Supply, delivery and installation of Bottom Rail	No	
AB.4.4		<u>Sliding gate:</u>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
AB.4.4.1		<p>Supply, delivery and installation of two (2) x Sliding Gates conforming to design of fence measuring 6 m each and 2.4 m in height.</p> <ul style="list-style-type: none"> • The sliding gate rate to include installation of the gate supporting posts (pillars) • Gates will be fitted with industrial heavy duty gate motor. (With anti-theft bracket with padlock and 3 sets of keys) with 3 remote controls and battery back-up. • All fittings, brackets and ear wheel tracks shall be standard manufactured products for the intended application. • All connections and joints shall be welded from rigid frames or assembled with corner fittings • Arrangement shall be that the closed gate cannot be lifted off the hinges to obtain entry. • Minimum of 1 overhead portal and 1 pinch locking post. • The cost for provision of motor, motor electrical connection and programming, provision of motor remotes & remote programming and gate brush installation to be included in the supply, delivery and installation of sliding gate rates. 	No	
AB.4.4.2		<p>Gate rails</p> <p>Heavy duty sliding gate rail – Counter sunk into 35 MPA concrete plinth.</p> <ul style="list-style-type: none"> • The cost for 500mm deep excavation, casting of concrete and installation of gate rail to be included in the gate rails rates 	No	
AB.4.4.3		A notice prohibiting unauthorized persons from entering at all entrances (locked gates)	No	
AB.4.5		<u>Pedestrian gate:</u>		
AB.4.5.1		<p>Supply, delivery and installation of one (1) x Lockable pedestrian gate conforming to design of fence measuring 1.2m wide each and 2.4m in height.</p> <ul style="list-style-type: none"> • All connections and joints shall be welded from rigid frames or assembled with corner fittings • Hinges shall not twist or turn under the action gate, shall be so arranged that a closed gate cannot be lifted off the hinges to obtain entry. 	No	
AB.4.6		<u>Gate Monitoring System</u>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
AB.4.6.1		<p>Supply, delivery and Installation of Gate Status Transmitter; Including long range VHF transmitter, Solar Panel, Battery and Industrial roller shutter contact and Mounting Post for transmitter</p> <p>The following to be included in the gate monitoring system;</p> <ul style="list-style-type: none"> • The cost for all the required connections i.e. Perimeter Patrol Software license update • General Purpose Input Output Board (GPIO) Board_ 4 input, 4 output • Desktop Port Network Switch • Channel Receiver • Code hopping, 12VDC/24VAC • Max 16 transmitters per channel • Category 5 Patch Lead • Twisted Mylar Screened Cable (Copper) • 6metre Aluminium Pole, 6mm Side Wall 	Sum	
AB.4.7		<u>Electrical Fence:</u>		
AB.4.7.1		<p>Supply, delivery and installation twelve (12) strand Electrical fence on top of fencing including sliding gate and all other gates. (eight (8) strands above fence line and four (4) strands below fence line on rear section of fence) including fittings and;</p> <ul style="list-style-type: none"> • S Hooks • Gate contactor • Electrical fence warning signs at every 200m 	m	
AB.4.7.2		<p>Electrical wiring connection for the twelve (12) strands in (1.5.7.1)</p> <p>The rate for the wiring to include the following;</p> <ul style="list-style-type: none"> • HT cable • Provision of PVC conduit for underground cables • Provision of sleeves for underground cables at all road crossings, minimum sleeve size 110mm. • Fence lightning protection unit • Earth rods • Excavation and backfilling 	Sum	
AB.4.7.3		Connection to the Distribution Box	Sum	
AB.4.7.4		Provision and installation of Panel for the alarm and Siren	Sum	
AB.4.7.5		Provision and installation of Strobe light	Sum	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		SECTION 8: SUM STATED PROVISIONALLY BY THE ENGINEER		
		Existing Services		
AB1		Materials to be used during execution of dayworks	Prov-sum	R 100 000,00
AB2		Provisional sum for Community appointed Labour Desk	Prov-sum	R 78 000,00
AB3		Provisional sum of acceptance control testing ordered by the engineer by an approved independent laboratory including travel expenses and supply test results	Prov-sum	R 120 000,00
AB4		Provisional Sum for removal of trees by the client's nominated local SMME sub-contractor	Prov-sum	R 600 000,00
AB5	COLTO 5800 (58.09 (i))	Re-planting of Acacia Trees with a 2m min height for the entire length of the access road	Prov-sum	R 400 000,00
AB6		Provisional Sum for the removal and reinstating of the kraals by the client's nominated local SMME sub-contractor	Prov-sum	R 50 000,00
AB7		Provisional Sum for the dismantling, safe storage and re-instatement of the Clearview Fence, gate and motor including the rail and associated concrete works	Prov-sum	R 120 000,00
AB8		Relocation of existing services	Prov-sum	R 300 000,00
AB9		Breakages_Repairing of existing underground services	Prov-sum	R 300 000,00
AB10		Dealing with water	Prov-sum	R 50 000,00
AB11		Provisional sum for surveying conducted during the Construction stage of the project (ordered by the engineer).	Prov-sum	R 50 000,00
AB12		Provisional Sum for the Environmental Management.	Prov-sum	R 120 000,00
AB13		Provisional Sum for the Geotechnical investigation conducted	Prov-sum	R 200 000,00
AB14		Security Services	Prov-sum	R 300 000,00
AB15		Percentage for the contractors handling fee with respect to items 1 up to item 14 limited to 15%	%	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	COLTO 1400	HOUSING, OFFICES AND LABORATORIES FOR ENGINEER'S SITE PERSONNEL		
AB14.01		<u>Office and laboratory accommodation :</u>		
		the provision of accommodation as specified, including roof, external and internal walls, windows complete with glazing, doors with locks and fittings, burgular proofing, painting, floors, fencing, the provision of a 220/230 volt electric switchboards, etc, water and sewerage installation , and stores		
		(a) Office floor space (interior floor space only)	m ²	
		(b) Ablution blocks	m ²	
		(c) Stores	m ²	
AB14.02		<u>Office and Laboratory Furniture</u>		
		(a) Chairs	no.	
		(b) Draughtsman's stool	no.	
		(c) High chair for laboratory	no.	
		(d) Desks, complete with drawers and locks	no.	
		(e) Drawing tables	no.	
		(f) Conference tables	no.	
AB14.03		<u>Office and laboratory fittings, installations and equipment:</u>		
		(a) Items measured by number:		
		(i) 220/250 volt power point	no.	
		(ii) 400/231 volt 3-phase power point	no.	
		(iii) Double 80 watt flourescent-light fittings complete with ballast and tubes	no.	
		(iv) Double 55 watt flourescent-light fittings complete with ballast and tubes	no.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		(v) Single incandescent-light fittings complete with 100 watt globes	no.	
		(vi) Wash-hand basins complete with taps and drains	no.	
		(xi) Air-conditioning unit with, 2.2 kW minimum capacity, and with own power connection	no.	
		(xii) Heater, space-heating type, minimum capacity 1.5 kW	no.	
		(xvi) Refrigerators	no.	
		(xvii) Bookcases	no.	
		(xviii) Voltage Stabilizers	no.	
		(x) Fire extinguishers, 9,0kg, all purpose dry powder type, complete, mounted on wall with brackets inclusive of signs	no.	
		(xv) Steel filing cabinets with drawers	no.	
		(b) Prime cost items and items paid for in lump sum:		
		(i) The provision of telephone service, including the cost of calls in connection with the contract administration and telephone rental	P.Sum	R 60 000,00
		(ii) Handling costs and profit in respect of subitem 14.03(b)(i) above	%	
		(viii) Notice boards as per drawings	no.	
		(ix) White board	no.	
Z14.04		<u>Car ports</u>		
		Car ports, as specified, at offices and laboratory buildings	no.	
Z14.05		<u>Housing for labourers</u>		
		(a) Housing as specified, including beds, mattresses, bedside chests, chairs, tables, lockers, electricity, plug points, electrical light fittings and burglar proofing	no. of persons	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		(b) Ablution unit, as specified, including latrines, wash basins, showers and taps	no.	
		(c) Cooking unit, complete with stove, basin, concrete working table, shelving, sink and fuel (where applicable)	no.	
		(d) Latrine unit as specified	no.	
Z14.06		<u>Prefabricated houses:</u>		
		Prefabricated houses with outbuildings as specified in subclauses 1403(a) and 1403(b)	no.	
Z14.07		<u>Rented, hotel and other accommodation:</u>		
		(a) Provisional sum for providing rented housing, hotel or other accommodation as described in subsubclause 1403(c)(ii)	Prov-Sum	R 80 000,00
		(b) Handling costs and profit in respect of subitem 14.07(a)	%	
Z14.08		<u>Services:</u>		
		The provision of water, electricity, low-pressure gas, sewerage, septic tanks, sewage, and rubbish removal, cleaning services, maintenance and repairs, all as specified in clause 1404, including the construction and maintenance of the access roads, footpaths, etc:		
		(a) Services at offices and laboratories:		
		(i) Fixed costs	Sum	
		(ii) Running costs	Sum	
		(b) Services for labourer's accommodation on the site:		
		(i) Fixed costs	Sum	
		(ii) Running costs	Sum	
Z14.03		<u>Office and laboratory fittings, installations and equipment:</u>		
		(xix) Automatic level with tripot including marking pegs	no.	
		(xx) 100m "stylon" steel tape	no.	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	COLTO 1500	ACCOMMODATION OF TRAFFIC		
AB15.01		Accommodating traffic and maintaining temporary deviations	km	
AB15.02		<u>Earthworks for temporary deviations:</u>		
		(b) Cut and borrow to fill	m ³	
		(c) Cut to spoil	m ³	
AB15.03		<u>Temporary traffic-control facilities:</u>		
		(a) Flagmen	man-day	
		(b) Portable STOP and GO-RY signs	no.	
		(c) Temporary traffic-control signals as specified or as shown on drawings	no.	
		(d) Amber flicker lights	no.	
		(e) Road signs, R- and TR-series (size indicated)	no.	
		(f) Road signs, TW-series (size indicated)	no.	
		(g) Road signs, STW-, DTG-, TGS-, AND TG-series (excluding delineators and barricades)	no.	
		(h) Delineators (DTG50J) (size indicated):		
		(i) Single	no.	
		(ii) Mounted back to back	no.	
		(i) Movable barricade/road sign combination (size indicated)	no.	
		(j) Traffic cones	no.	
AB15.05		<u>Gravelling and repair of temporary deviations and existing gravel shoulders used as temporary deviations :</u>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	COLTO 1800	DAYWORKS		
AB18.01		<u>Personnel during normal working hours</u>		
		a) Unskilled labour	h	
		b) Semi-skilled labour	h	
		c) Skilled labour	h	
		d) Ganger	h	
		e) Flagmen	h	
AB18.02		<u>Personnel outside normal working hours</u>		
		a) Outside normal working hours and Saturdays (i) Unskilled labour	h	
		b) Sundays and public holidays (i) Unskilled labour	h	
AB18.03		<u>Plant</u>		
		a) Cat D7H Dozer or equivalent	h	
		b) Cat 350 Excavator or equivalent	h	
		c) Cat 428 TLB or equivalent	h	
		d) Cat 140G or equivalent	h	
		e) Cat 930 Loader or equivalent	h	
		f) Bomag BW90 Pedestrian roller or equivalent	h	
		g) Watercart 5 000l	h	
		h) 5 m ³ Tippers	h	
		i) 10 m ³ Tippers	h	
		j) Chainsaw	h	
AB18.04		<u>Transport</u>		

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
		a) LDV	Km	
		b) Flatbed truck	Km	
AB21.01		<u>Excavation for open drains:</u>		
		(a) Excavating soft material situated within the following depth ranges below the surface level:		
		(i) 0 m up to 1.5 m	m ³	
		(ii) Exceeding 1.5 m and up to 3.0 m	m ³	
		(b) Extra over subitem 21.01(a) for excavation in hard material, irrespective of depth	m ³	
AB21.02		Clearing and shaping existing open drains	m ³	
AB21.03		<u>Excavation for subsoil drainage systems:</u>		
		(a) Excavating soft material situated within the following depth ranges:		
		(i) 0 m up to 1.5 m	m ³	
		(ii) Exceeding 1.5 m and up to 3.0 m	m ³	
		(b) Extra over subitem 21.03(a) for excavation in hard material, irrespective of depth	m ³	
AB21.04		<u>Excavation for the clearing of existing drainage systems:</u>		
		(a) Manholes and inlet and outlet structures	m ³	
AB21.06		<u>Natural permeable material in subsoil drainage system (crushed stone):</u>		
		(b) Crushed stone obtained from commercial sources (9.5mm minimum size grade)	m ³	
AB21.08		<u>Pipes in subsoil drainage systems:</u>		
		(a) High-density type polyethylene pressure pipes and fittings, normal duty, complete with couplings (160mm perforated pipes)	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	COLTO 2300	CONCRETE KERBING, CONCRETE CHANNELLING, CHUTES AND DOWNPIPES, AND CONCRETE LININGS FOR OPEN DRAINS		
AB23.01		<u>Trimming of excavations for concrete-lined open drains:</u>		
		(a) In soft material	m ²	
		(b) In hard material	m ²	
AB23.02		<u>Concrete lining for open drains:</u>		
		(a) Cast in situ concrete lining (class of concrete 35MPa for the V-drain and the tankers waste deposit point platfofrm)	m ³	
		(b) Class U2 surface finnish to cast in situ concrete (V-drain Channel and the tankers waste deposit point platform)	m ²	
AB23.03		<u>Formwork to cast in situ concrete lining for open drains (class F2 surface finish):</u>		
		(a) To sides with formwork on the internal face only	m	
AB23.04		Sealed joints in concrete linings of open drains and concrete apron	m	
AB23.05		<u>Steel reinforcement:</u>		
		(a) Mild steel	t	
		(b) High-tensile steel bars	t	
AB23.06		<u>Concrete kerbing (Un-mountable kerb):</u>		
		(a) Figure 5 Pre-cast Concrete kerb	m	
AB23.05		<u>Inlet, outlet, transition and similar structures (Side Inlet):</u>		
		(a) Side Inlet	no	
		(a) Side Outlet	no	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	COLTO 3300	MASS EARTHWORKS		
AB33.01		<u>Cut and borrow to fill, including free-haul up to 0.5 km:</u>		
		(ii) Compacted to 90% modified AASHTO density	m ³	
		(iii) Eight roller passes compaction	m ³	
AB33.04		<u>Cut to spoil, including free-haul up to 0.5 km. Material obtained from:</u>		
		(a) Soft excavation	m ³	
		(b) Intermediate excavation	m ³	
		(c) Hard excavation	m ³	
		(d) Boulder excavation class A	m ³	
AB33.06		<u>Variations in the number of roller passes (applicable to subitems 33.01(a)(iii) and 33.01(b)(iii) and item 33.11:</u>		
		(a) Vibratory rollers	m ² -pass	
		(b) Grid rollers	m ² -pass	
AB33.07		<u>Removal of unsuitable material (including free-haul of 0.5 km)</u>		
		(a) In layer thicknesses of 200 mm and less:		
		(ii) Unstable material	m ³	
AB33.10		<u>Roadbed preparation and the compaction of material:</u>		
		(a) Compaction to 90% of modified AASHTO density	m ³	
AB33.13		<u>Finishing-off cut and fill slopes, medians and interchange areas:</u>		
		(a) Cut slopes	m ²	
		(b) Fill slopes	m ²	

CONTRACT NO: ERW2211/01

ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	COLTO 3400	PAVEMENT LAYERS OF GRAVEL MATERIAL		
AB34.01		<u>In situ reconstruction of existing pavement layers:</u>		
		(a) Gravel selected layer compacted to 93 % of modified AASHTO density, using:		
		(i) Non-cemented material (150mm thick layer)	m ³	
		(f) Gravel base (chemically stabilized material) compacted to 95 % of modified AASHTO density, using:		
		(i) Non-cemented material (150mm thick layer)	m ³	
AB34.02		<u>Extra over item 34.01 for adding extra material as specified in subclause 3207(b)(iii):</u>		
		(a) Gravel shoulder wearing course	m ³	
		(b) Gravel subbase	m ³	
AB34.03		<u>Compacting the floors of pavement excavations (5 roller passes) with:</u>		
		(a) Vibratory rollers	m ²	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
AB36.01	COLTO 3600	CRUSHED-STONE BASE		
		<u>Crushed-stone base:</u>		
		(e) Constructed from G5 natural material obtained from commercial sources and compacted to:		
		(i) 98 % of modified AASHTO density (150mm thick layer)	m³	

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[illegible]

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	COLTO 5600	ROAD SIGNS		
AB56.01		Road sign boards with painted or coloured semi-matt background. Symbols, lettering and borders in semi-matt black or in Class I retro-reflective material, where the sign board is constructed from :		
		(a) Aluminium sheet (2.0 mm thick) :		
		(i) Area not exceeding 2 m ²	m ²	
		(ii) Area exceeding 2 m ² but not 10 m ²	m ²	
		(iii) Area exceeding 10 m ²	m ²	
		(a) Background of retro-reflective material :		
		(i) Class I	m ²	
		(b) Lettering, symbols, numbers, arrows, emblems and borders of retro-reflective material :		
		(i) Class II	m ²	
		(ii) Class III	m ²	
AB56.03		Road sign supports (overhead road sign structures excluded) :		
		(a) Steel tubing (100mm diameter)	m	

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ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
AB1000		ENVIRONMENTAL MANAGEMENT PLAN		
AB100.01		Penalty for unnecessary removal or damage to trees for the following diameter siABes:		
		(a) 2 600mm girth or less	No	
		(b) Greater than 2 600mm, but less than 6 180mm girth	No	
		(c) Greater than 6 180mm girth	No	
AB100.02		Penalty for serious violations:		
		(a) HaABardous chemical/oil spill and/or dumping in non-approved sites	No	
		(b) General damage to sensitive environments	No	
		(c) Damage to cultural and historical sites	No	
		(d) Pollution of water sources	No	
		(e) Unauthorised blasting activities	No	
		(f) Uncontrolled/unmanaged erosion per incident, depending on environment impacts, plus rehabilitation at contractor's cost	No	
		(g) Damage to sensitive vegetation within "no-go" areas of vegetation damaged, plus rehabilitation thereof at contractors cost	No	
AB100.03		Penalty for less serious violations:		
		(a) Littering on site	No	
		(b) Lighting of illegal fires on site	No	
		(c) Persistent or un-repaired fuel and oil leaks	No	
		(d) Any person related to the contractor's operations found within the designated "no-go" areas	No	
		(e) Any vehicles or equipment related to the Contractor's operations found within the		

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[illegible]

I, the undersigned, the authorised designated signatory, undertake to carry out the works in accordance with the conditions of contract, the specifications for the tender sum as indicated and within the time for completion as specified in the Contract.

BIDDER'S name: _____

BIDDER'S signature: _____ Date: _____

Name of Firm: _____

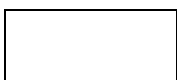
Address _____

Telephone number: _____

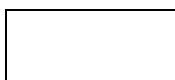
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Cellular number: _____

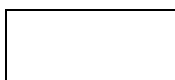
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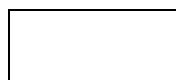
Contractor



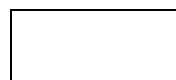
Witness 1



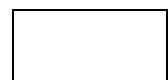
Witness 2



Employer



Witness 1



Witness 2

LIST OF IMPORTED ITEMS

Contractors to list all items which are not solely South African manufactured.

ITEM	DESCRIPTION	R VALUE	ROE
1			
2			
3			
4			
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18			
19			
20			

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2



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(36) MONTHS**

C3 SCOPE OF WORK

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 Employers Objective
- C3.1.2 Overview of the Works
- C3.1.3 Staff Complement
- C3.1.4 Extent of the Works
- C3.1.5 Location of the Works
- C3.1.6 Temporary Works

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 EMPLOYER'S OBJECTIVE

The Ekurhuleni Water Care Company (ERWAT) is currently on a drive to improve their wastewater treatment infrastructure for their nineteen (19) water care works in order to meet the growing capacity need for the City of Ekurhuleni.

C3.1.2 OVERVIEW OF THE WORKS

The improvement of the infrastructure includes the construction, upgrading, refurbishment, extension, decommissioning and operational optimization of new and existing ERWAT wastewater infrastructure within the entity. This database of contractors shall be utilised to assist with the implementations of contract works using labour intensive methods.

Labour-intensive works comprise the activities described in SANS 1921-5/Earthworks activities which are to be performed by hand/Labour-Intensive Specification and its associated specification data. Such works shall be constructed using local workers who are temporarily employed in terms of this scope of work.

The description of the project contained in the Scope of Work is merely an outline of the Contract Work and shall not limit the work to be carried out by the Contractor under this Contract.

The work that is to be carried out under this contract is as provided for in the SCHEDULE OF RATES.

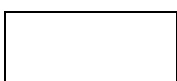
Should it be found out that, during the course of construction, the conditions differ from those anticipated, the Employer's Agent reserve the right to modify the scope of the work to suit the prevailing conditions and circumstances.

The Employer's objective is to construct, upgrade, refurbish, extend and decommission new and existing ERWAT sanitation infrastructure projects by acquiring the services of database contractors to assist with implementations of contract works using labour intensive methods.

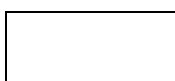
C3.1.3 GENERAL AND MANDATORY REQUIREMENTS

C3.1.3.1 General Requirements

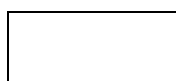
- a. Site induction training has to be completed before any work can be undertaken. (both general and site specific)
- b. The contractor must comply with the ERWAT Permit to Work and Safe operation procedures.
- c. All the relevant work permits and authorization has to be obtained before any work can be undertaken.
- d. All work done and equipment supplied has to be in accordance with the applicable standards as listed in this document.
- e. No work shall be undertaken without an official purchase order or written confirmation via e-mail in case of an emergency from the designated ERWAT representative.
- f. No equipment may be removed from site without written permission from the relevant plant manager.
- g. The installation of any equipment shall include the putting back into operation, testing, special testing (if required) and adjustments on the equipment.
- h. A project and quality control plan will be required for any installation of equipment.



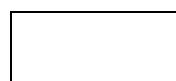
Contractor



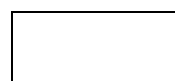
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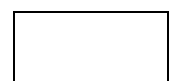
Witness 2



Employer



Witness 1



Witness 2

- i. All the required tools, consumables, testing facilities, and other requirements to perform the work as per the Contract shall be provided by the contractor.
- j. ERWAT reserves the right to hold the contractor responsible for any equipment that will be damaged due to the contractor's negligence or poor workmanship.
- k. ERWAT intend to appoint **ONE (01)** or more **BIDDER** to a maximum of **EIGHT (8) BIDDERS**.
- l. The Contract is for a duration of **Thirty-Six 36 (No.) Calendar Months**.
- m. Prices shall be **FIXED** and **FIRM** for the first 12 months of the **Contract**. **Price increments will be based on CPI annually on the anniversary of this tender**
- n. ALL new Equipment and newly supplied parts shall carry A MINIMUM twelve (12 No.) calendar months WARRANTY from date of acceptance by ERWAT representative

C3.1.3.2 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 7CE OR HIGHER Bidders shall submit proof of Current Registration.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C3.1.3.3 Staff Complement

Bidding companies are required to have the following staff complement available for the duration of this contract with a minimum experience per staff member as per technical mandatory requirements. Any changes of staff members during the execution of the contract must be communicated to ERWAT and also meet the minimum requirements. Refer to technical mandatory requirements table.

NO	STAFF MEMBER	MINIMUM QUALIFICATION
1.	Contract Project Manager	BSc/BEng/B-Tech Degree: Civil Engineering with SACPCMP
2.	Site Agent	National Diploma: Civil Engineering and Labour-Intensive Construction (LIC) certificate: NQF Level 5
3.	General Foreman	National Diploma: Civil Engineering
4.	Health and Safety Officer	National Diploma: Safety Management or Environmental Studies and Professional registration with SACPCMP

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C3.1.4 Extent of the Works

The primary activities of the project entail the following:

- Compliance with contractual requirements for insurance and guarantee;
- Site establishment;
- Clearing and grubbing of areas where infrastructure shall be constructed
- Construction of an access road
- Site clearance
- Location, exposing and protection of existing services
- Platform & general site work
- Earth work for structures
- Biological reactor
- Settling tank
- Ras & Was pumpstation
- Interconnecting pipework & manholes
- Supernatant pumpstation
- Chlorine contact channel
- Chlorine building
- Drying beds
- Main outfall sewer
- Was sludge thickener
- Aerobic digester
- Industrial sewer line
- Inlet work equipment building
- Admin & workshop building
- Overflow emergency dam
- Inlet works
- Ancillary works
- Structural steel
- Piling
- Stormwater
- Concrete repairs
- Dolomite
- Fencing
- Roads
- Bulk earthworks and trenching
- Cleaning of inlet works, sumps, pumphouses etc
- Refurbishment and upgrade of the existing inlet works
- Construction emergency storage dam
- Refurbishment and upgrade of the existing pump station
- Refurbishment of the existing emergency storage dam
- Connections to existing infrastructure
- Construction of guard house
- Augmentation of existing downstream collector sewer
- Optimization of inlet/outlet structures. This may include upgrading or reconfiguration of the station inlet and outlet structures
- Reinstatement of all disturbed areas
- Preparation of As-built drawings and removal of site establishment

On an as-when required basis, the Contractor will be required to attend to work on the scope of work as described in the Scope of Works. Work will inevitably be on existing water care works, hence reasonable care will be required to assure the absolute minimum disruption to services.

The above description of Works is not necessarily complete and shall in no way limit the work to be carried out by the Contractor under this Contract. Approximate quantities of works required are given in the SCHEDULE OF RATES. Final quantities are site specific and shall be ascertained upon finalisation of project designs by the Employers Agent.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

C3.1.5 LOCATION OF THE WORKS

ERWAT WCW	Stand/ Farm Positioned	Street Name	Co-ordinates
Drainage District 3			
Esther Park	Park 753, Ester Park, Extension	R25	S 26°05'58" E28°11'02"
Hartebeestfontein	Portion 20 & Remaining of Portion 4 of farm Hartebeestfontein 17	Bapsfontein Road, Norkem Park, Kempton Park	S 26°01'11" E 28°17'1"
Olifantsfontein	Olifantsfontein 402 IR	Ceramic Road, Olifantsfontein	S 26°56'26" E 28°12'56"
Rynfield	Portion 75 of Vlakfontein 161	Sarel Cilliers, Rynfield	S 26°09'37" E 28°21'30"
Benoni	Remaining Portion 6 of Rietfontein	Lancaster Road, Benoni	S 26°12'30" E 28°19'01"
Drainage District 4			
Ancor	Remaining Extension of Portion 151 farm Daggafontein 125	Ermelo Road, Springs	S 26°16'11" E 28°28'56"
Daveyton	Daveyton	Holfontein Road, Etwatwa	S 26°12'30" E 28°19'01"
Jan Smuts	Portion 73 of farm Weltevreden 118	Wanderers Street Extension, Brakpan	S 25°57'43" E 28°12'49"
JP Marais	Portion 70 of farm Modderfontein 76	Cnr N12 / Kingsway Road	S 25°57'43" E 28°12'49"
Welgedacht	Portion 81 & 82 of farm Welgedacht	1 Carnation Road Welgedacht AH, Springs	S 26°12'30" E 28°19'01"
Drainage District 5			
Carl Grundling	Portion 58 of farm Varkenfontein 169	Vorsterkroon, Nigel	S 26°12'30" E 28°19'01"
Herbert Bickley	Portion 13 of farm Maraisdrift 190	Heidelberg Road, Maraisdrift, Nigel	S 26°12'30" E 28°19'01"
Heidelberg	Portion 28 of farm Boschhoek 385	Vaaldam Road, Heidelberg	S 25°57'43" E 28°12'49"
Ratanda	Nooitegedacht 390	Vaaldam Road, Ratanda	S 26°12'30" E 28°19'01"
Tsakani	Portion 22 of farm Vlakfontein 161	Cnr Modjadji and khama Streets	S 26°12'30" E 28°19'01"

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ERWAT WCW	Stand/ Farm Positioned	Street Name	Co-ordinates
Drainage District 6			
Dekema	Portion 10 of Ktlehong 151	Brickfield Road, Motsamai Section	S 26°12'30" E 28°19'01"
Rondebult	Remaining Portion 27 Rondebult 136	Cnr Kalk/ Van dyk Road, Rondebult	S 26°12'30" E 28°19'01"
Vlakplaats	Portion 191 farm of Vlakplaats 138	Cnr Brickfield / Bierman Street, Vosloorus	S 26°12'30" E 28°19'01"
Waterval	Portion 50,62,12 and 1 of farm Waterval 150 and Remaining portion 3 of the farm Witkop	Waterfal Farm, Meadow Road, kliprivier	S 26°12'30" E 28°19'01"

C3.1.6 TEMPORARY WORKS

The temporary works required under this project may be as follows:

- Supply, installation and maintenance of barricading / fencing around the construction site, including the pipeline trenches;
- Design, supply and installation of shoring and / or bracing of trenches and excavation, where applicable, especially for existing structures;
- Dewatering of trenches and excavations, if required;
- Design, supply and installation of access scaffolding and lifting equipment, where applicable;
- Design, supply and installation of formwork and support work;
- Protection of existing services;
- Temporary supply power, lighting and water as needed
- Forced ventilation in confined spaces;
- Any other temporary works as required from time to time in order to complete the Works

The above summary is not necessarily complete and shall not limit the work to be carried out.

C3.1.6.1 Excavation Support/Shoring Systems

Trenches and other excavations need to be barricaded in order to safeguard workers and to prevent unauthorised persons from entering or falling into them.

Excavations and trenches must be shored sufficiently to prevent persons being buried or trapped by a fall or dislodgement of material. Excavations adjacent to existing structures must be sufficiently shored to prevent any damage to such structures.

The Contractor must ensure that the necessary steps are taken to ensure the stability of any structure, pipeline, road or other service that is likely to be affected by his activities.

Barricading and shoring of excavations shall be the responsibility of the Contractor and for the purposes of this contract these measures are considered to be temporary works.

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

These requirements list below will be implemented as part of the service level agreement (SLA)

The following must be provided by the Contractor

VENDOR INFORMATION AND DOCUMENT REQUIREMENT LIST	
DESCRIPTION	WHEN REQUIRED
Project Programme	Order + 1 Week
GA drawings	Order + 3 weeks and data book
Schematic diagrams	Order + 3 weeks and 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
- 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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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.

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 to all items supplied and does not form part of the evaluation process:

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

SANS 1200 A : Preliminary and general
SANS 1200 AA : General (small works)
SANS 1200 AB : Engineer's office
SANS 1200 AD : General (small dams)
SANS 1200 AH : General (structural)
SANS 1200 C : Site Clearance
SANS 1200 D : Earthworks
SANS 1200 DA : Earthworks (small works)
SANS 1200 DB : Earthworks (pipe trenches)
SANS 1200 DE: Earthworks (Small Dams)
SANS 1200 DM : Earthworks (Roads Subgrade)
SANS 1200 F : Piling
SANS 1200 G : Concrete (structural)
SANS 1200 GA : Concrete (small Works)
SANS 1200 GB : Concrete (Ordinary buildings)
SANS 1200 GE : Precast Concrete
SANS 1200 H : Structural Steel Work
SANS 1200 L : Medium-pressure pipelines
SANS 1200 LB : Bedding (pipes)
SANS 1200 LD : Sewers
SANS 1200 LE : Stormwater drainage
SANS 1200 LF : Erf connections (water)
SANS 1200 LG : Pipe jacking
SANS 1200 M : Roads (General)
SANS 1200 ME : Subbase
SANS 1200 MF : Base
SANS 1200 MH : Asphalt Base & Surfacing

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

SANS 1200 MF : Base
SANS 1200 MH : Asphalt base & surfacing
SANS 1200 MJ : Segment Paving
SANS 1200 MK : Kerbing & Channeling
SANS 1200 MM : Ancillary Works

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

The term "project specification" must be replaced by "scope of works" wherever it appears in these standardized specifications

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.

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:
 - (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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

3.5 HEALTH AND SAFETY SPECIFICATIONS

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Contractor




Witness 1




Witness 2



Employer



Witness 1



Witness 2

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- 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 **ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS** 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 be included.




Contractor




Witness 1




Witness 2



Employer



Witness 1



Witness 2

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
- 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)

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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.

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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.**

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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;

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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 lying of pipes.
- 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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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)

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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 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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

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

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

HEALTH AND SAFETY SPECIFICATIONS (HSS)

PROJECT: ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

Annexure A

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

HSS Item no.	REQUIREMENT	OHS REQUIREMENT	SUBMISSION DATE
2.3.1	Assignment of Responsible Persons to supervise Construction work	OHS Act (section 16.2) & Construction Regulation 6	Before commencement on site
2.3.2	Competence of Responsible Persons	OHS Act (section 16.2) & Construction Regulation 6	Together with H & S plan
2.3.3	Compensation of Occupational Injuries and Diseases - Proof of Registration- FEM or CC	COIDA	Together with H & S plan
2.3.4	Occupational Health and Safety Policy	OHS Act	Together with H & S plan
2.3.5	Health and Safety Organogram	Client Requirement	Together with H & S plan
2.3.6	Initial Hazard Identification and Risk Assessment based on the Client/s assessment	Construction Regulations.	Together with H & S plan
2.3.7	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: ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS

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.

APPOINTMENT	OHS REFERENCE	REQUIREMENT
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 10085-1:2004	A competent person to supervise scaffolding

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

APPOINTMENT	OHSa REFERENCE	REQUIREMENT
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: ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS****Annexure C**

The Principal Contractor shall comply but not be limited to the following requirements: Reports on these to be 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	
General Inspections	6 - Monthly	* Lifting machines	
Workman's Compensation	Updated Weekly	Table list of Principal Contractors' workman's compensation proof of good standing	

Contractor

Witness 1

Witness 2

Employer

Witness 1

Witness 2

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: ERW2211/01: THE APPOINTMENT OF CONTRACTORS FOR THE
CONSTRUCTION, UPGRADING, REFURBISHMENT, EXTENSION AND
DECOMMISSIONING OF NEW AND EXISTING ERWAT INFRASTRUCTURE ON AN 'AS
AND WHEN REQUIRED' BASIS FOR A PERIOD OF THIRTY-SIX (36) MONTHS**

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:

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

Contractor

Witness 1

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

Contractor

Witness 1

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.

Contractor

Witness 1

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.

Contractor

Witness 1

Witness 2

Employer

Witness 1

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.

Contractor

Witness 1

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

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resource for the rehabilitation and re-vegetation of disturbed areas.

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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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.

C3.6.7 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

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.

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C3.6.7.3 Water

Water containing waste shall be prevented from entering the rivers closer to the plants either by seepage or natural flow. Oil absorbent fibers 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.

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.

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The Contractor shall provide suitable retention and filtration structures (which shall be properly maintained) for the collection of wastewaters.

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

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

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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.

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

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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 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.

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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 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,

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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

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

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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.

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.

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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.
- 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.

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C3.7 TECHNICAL SPECIFICATIONS

TECHNICAL DATA SHEET

****Failure to complete the Data Sheet below shall lead to disqualification. Contractor must fully stipulate the proposed material/ equipment including section not specified by the Engineer, no ticking (√) or Crossing (x). Contract shall adhere to these specifications. YES/NO will not be accepted in relation to completion of the bidder/contractor offer.***

Brochure must be submitted by bidder and will be used to verify technical data listed below, non-compliance to that as specified by the engineer will lead to disqualification. In the event that the information completed by the bidder below differs from the brochure submitted, the brochure will take precedence and will be used to verify compliance to the mandatory requirements. No brochures required for fabricated items.

ITEM NO.	ITEM DESCRIPTION	SPECIFIED: ENGINEER	OFFERED: CONTRACTOR
(FENCE PARTS): SUPPLY, DELIVERY & INSTALLATION OF PERIMETER FENCE			
POSTS			
1.	Type	Fix secure post	
2.	Manufacturer	--	
3.	Supplier	--	
4.	Length	3000mm - 3200mm	
5.	Thickness	H-Shaped profile 100mm x 55mm x 2mm Or IPE 100mm x 55mm x 5mm (Post to allow the panel to fit inside the lip of the post)	
6.	Coating	Hot-Dip Galvanized with additional PVC coating	
		Black	
7.	Post and panel fitting	Spider fixators with bolt through post & tamper proof shear nuts.	
		Posts to be pre-drilled for fixing panels	
PANELS			
1.	Type	Mesh	
2.	Manufacturer	---	
3.	Supplier	---	

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ITEM NO.	ITEM DESCRIPTION	SPECIFIED: ENGINEER	OFFERED: CONTRACTOR
PANELS (CONTINUES)			
1.	Width Size	3000mm – 3400 mm	
2.	Height Size (above ground)	2400mm-2450mm	
3.	Aperture size (centres)	76.2mm x 12.7mm	
4.	Panel Reinforcing Panel Rigidity	Mesh Panels to be manufactured with Zincalu Or Steel bar cage.	
		- 4mm double wires (Horizontal) welded at 152.4mm Centre to centre Intervals on the inside of the fence panel (or equivalent) to provide extra rigidity and security.	
5.	Panel Wire Diameter Size	Horizontal 4mm	
	Panel Climb ability	Vertical 5mm- 6mm.	
		Flat panel post finish with no climbing ability	
6.	Panels and fixtures Coating types.	Galvanized coating	
		Or Panel manufactured with Zincalu with additional PVC coating	
7.	Coating thickness	Min : 200 µm	
8.	Coating Colour	Black	
9.	Width Size	3000mm – 3400 mm	
HEAVY INDUSTRIAL DUTY GATE MOTOR			
1.	Manufacturer	--	
2.	Supplier	--	
3.	Type	Industrial	
4.	Motor speed	22-26m/min	
5.	Motor size	800kg Gate	
6.	Motor Push force	Push force- 30kgf	
7.	Sensor: Opening and Closing	Proximity sensors (Beam Infrared Set)	
8.	Motor Supply Capacity	Battery driven 24 VDC	
9.	Gate Motor Security	Anti-theft bracket with padlock and 3 sets of keys) with 3 remote controls and battery back-up.	

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ITEM NO.	ITEM DESCRIPTION	SPECIFIED: ENGINEER	OFFERED: CONTRACTOR
SLIDING GATE :			
1.	Supplier	--	
2.	Manufacturer	--	
3.	Proximity sensors	--	
4.	Width Size	6000 mm	
5.	Height Size	2400 mm	
ELECTRONICALLY CONTROLLED (MOTORIZED) BOOM GATE			
1.	Manufacturer	--	
2.	Supplier	--	
3.	Type	--	
4.	Input voltage	220 - 240V AC +/- 10% @ 50Hz	
5.	Motor voltage	12 or 24 VDC	
6.	Motor Power Supply	Battery-driven (standard capacity - 7Ah)	
7.	Current consumption (mains)	170mA	
8.	Barrier housing Specification: Main housing surface protection	Pre-galvanised plate with powder coating	
9.	Barrier housing Specification: Base frame surface protection	Mild steel, hot dip galvanised	
10.	Barrier housing Specification: Housing construction	Sheet metal housing, 1.6mm wall thickness with separate fabricated base frame to raise housing off ground	
11.	Barrier housing Specification: Colour	Red electronic cover with traffic yellow	
12.	Barrier housing Specification: Housing protection rating	Min: IP55	
13.	Boom pole length	5metre – 6metre	

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ITEM NO.	ITEM DESCRIPTION	SPECIFIED: ENGINEER	OFFERED: CONTRACTOR
14.	Barrier Pole Specification: Material and profile	Aluminium, round profile with plastic end cap	
15.	Barrier Pole Specification: Dimensions	Outside diameter: 76.2mm; Wall thickness: 1.27mm	
16.	Barrier Pole Specification: Weight	800g/metre	
17.	Barrier Pole Specification: Surface protection, colour and markings	Epoxy-coated white with red reflective tape	
18.	Barrier Pole Specification: Operation	Manual pushbutton with a supporting Gooseneck pole	
19.	Barrier Pole Specification: Pole tip support	Catch post	

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