

TENDER NOTICE

Bids are hereby invited from suitable service providers of the following
Zululand District Municipality project:

Tender Ref. No.	Tender Name and Details	CIDB Grading Requirement
ZDM 029/ 2021	A PANEL OF SERVICE PROVIDERS FOR SUPPLY AND DELIVERY FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT SOUTH Tenders are hereby invited from suitably qualified service providers to submit rates for the emergency water repairs and maintenance within Zululand District North for a 3-year period	Minimum 4CE 3ME 3EP or Higher
ZDM 030/ 2021	A PANEL OF SERVICE PROVIDERS FOR SUPPLY AND DELIVERY FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT SOUTH Tenders are hereby invited from suitably qualified service providers to submit rates for the emergency water repairs and maintenance within Zululand District South for a 3-year period	Minimum 4CE 3ME 3EP or Higher

NOTE: THERE WILL BE COMPULSORY TENDER BRIEFING. MUNICIPALITY WILL ONLY ALLOW ONLY 1 REPRESENTATIVE OF EACH TENDERER FOR TENDER COLLECTION.

All those requiring tender documents must e-mail the **relevant tender number, their company details and contact number** to vhd tenders@ecaconsult.co.za **BEFORE 12h00 on Monday, 07 February 2022.**

Tender documents will then be handed out at the **Compulsory Clarification Meeting, which will take place on 10 February 2022 at 10h00.** Prospective tenderers are required to collect tender documents from **08h00 prior the meeting at 10h00 (No documents will be sold after 10h00)** at Zululand District Municipality, Lot B-400 Gagane Street, Ulundi, 3838.

Tenderers are to strictly adhere to the following procedure which have been put in place in response to the current COVID-19 pandemic: • Tenders are to use the Tender number and the Company name as the reference. E.g., ZDM 029/2021 - Company X and forward proof of payment to vhd tenders@ecaconsult.co.za & kthusi@zululand.org.za NO CASH WILL BE ACCEPTED • Documents will be issued upon presentation of a valid proof of payment which will be crossed checked against the list of cleared payments • All personnel will be screened, must wear a mask, and are to adhere to strict social distancing measures.

A **R500.00** non-refundable deposit (Cash only) is required for each tender document drawn.

Enquiries may be directed to: The Consultants: Mr L. Fourie on tel: (034) 983 2825 during office hours and the **Supply Chain Management enquiries can be directed to:** The Supply Chain Manager: Mr K. Thusi. on tel: (035) 874 5557 during office hours.

TENDER CLOSING DATE: 12H00 ON THURSDAY, 3 MARCH 2022.

Duly completed tender documents sealed in an envelope marked with the tender number and the closing date are to be deposited into the **tender box at Zululand District Municipality, Lot B-400 Gagane Street, Ulundi, 3838 by no later than 12h00 on the closing date** where they will be opened in public. Telegraphic, telefaxed or posted tenders will not be accepted.

Tenders may only be submitted on the tender documentation that is issued. Requirements for sealing, addressing, delivering, opening and assessment of tenders are stated in the Tender Data.

The following criteria in **"Functional Evaluation Criteria"**, will be applicable for the functionality and compliance and maximum weight of each criterion is indicated in the table and any tenderer who scores less than **70**, in respect of "functionality" will be regarded as submitting a non-responsive tender and will be disqualified. This tender will be evaluated on the **80/20** preferential point system.

The stipulated minimum threshold for local production and content for this bid is **80%**.

The Bid Committee of Zululand District Municipality does not bind itself to accept the lowest or any tender.

MR P.M. MANQELE: MUNICIPAL MANAGER

Zululand
District Municipality



ZULULAND DISTRICT MUNICIPALITY

CONTRACT NO. ZDM 029/2021

PANEL OF CONTRACTORS FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT NORTH

PROCUREMENT DOCUMENT

FEBRUARY 2022

NAME OF TENDER	
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ISSUED BY:

Zululand District Municipality
Private Bag X76
ULUNDI
3838

Tel: (035) 874 5500
Fax: (035) 874 5589

SUMMARY FOR TENDER OPENING PURPOSES	
<i>(To facilitate the reading out of tender parameters at the opening of tenders, the tenderer shall complete this form and submit it with his/her tender)</i>	
Name of Contractor submitting the tender:	
CSD NUMBER:	
Tender Amount: <i>(as stated in the Form of Offer)</i>	<i>R</i>
Alternative Tender offer:	<i>(Yes /No)</i>
If "Yes" state amount:	<i>R</i>
Time for Completion:	<i>months</i>
Maximum time for Completion:	<i>36 months</i>
Details of contact person:	
Name <i>(Print)</i> :	
Telephone No:	
Fax No:	
E-mail address <i>(if available)</i> :	
<i>(Note: In the event of conflict between the data provided in this summary and that given in the tender, the latter shall prevail.)</i>	
SIGNATURE: _____ DATE: _____ <i>(of person authorised to sign the tender)</i>	

PANEL OF CONTRACTORS FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT NORTH

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Number	Heading	Page Number	Page Colour
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T1.2	Tender Data	T.7 - T.28	Pink
Part T2: Returnable Documents		T.29 - T.100	
T2.1	List of Returnable Documents	T.29	Yellow
T2.2	Returnable Schedules	T.30 - T.100	Yellow
The Contract (Volume 2)			
Part C1: Agreement and Contract Data		C.1 - C.12	
C1.1	Form of Offer and Acceptance	C.2 - C.6	Yellow
C1.2	Contract Data	C.7 - C.12	Yellow
Part C2: Pricing Data		C.13 - C.29	
C2.1	Pricing Instructions	C.13 - C.15	Yellow
C2.2	Bills of Quantities	C.16 - C.29	Yellow
Part C3: Scope of Work			
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Part C4: Site Information			
C4	Annexures	C.112	Green
Part C5: Annexures			
C5	Annexures	C.113-115	White

The Tenderer shall also satisfy himself that this document is complete in accordance with the above contents and if any pages are found to be missing, or duplicated, shall immediately request the Engineer to rectify the discrepancy. No liability will be admitted by the Employer in respect of errors in the Tenderer's Offer due to the foregoing.

TENDER

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T1 TENDERING PROCEDURES**T1.1 TENDER NOTICE AND INVITATION TO TENDER**

<u>TENDER NOTICE</u> The ZULULAND DISTRICT MUNICIPALITY hereby invites tenders for:		
Tender Ref. No	Tender Name & Details	CIDB Grading Requirement
ZDM 029/2021	PANEL OF CONTRACTORS FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT NORTH Tenders are hereby invited from suitably qualified service providers to submit rates for the panel of contractors for emergency water repairs and maintenance within Zululand District North for a 3-year period.	Minimum 4CE 3ME 3EP or higher

NOTE: THERE WILL BE COMPULSORY TENDER BRIEFING. MUNICIPALITY WILL ONLY ALLOW ONLY 1 REPRESENTATIVE OF EACH TENDERER FOR TENDER COLLECTION.

Prospective tenderers are required to start DOWNLOADING tender document from municipal website (www.zululand.org.za) as from **Wednesday, 09 March 2022**.

Tenderers are to attend the Compulsory Clarification Meeting, which will take place on **10 March 2022 at 10h00**. Prospective tenderers are required to download the tender documents **prior the meeting at 10h00 (No documents will be sold)** at **Zululand District Municipality, Lot B-400 Gagane Street, Ulundi, 3838**.

Tenderers are to strictly adhere to the current COVID-19 pandemic procedures:

Tender Closing Date: 12h00 on Thursday, 7 April 2022.

Duly completed tender documents sealed in an envelope marked with the tender number and the closing date are to be deposited into the **tender box at Zululand District Municipality, Lot B-400 Gagane Street, Ulundi, 3838 by no later than 12h00 on the closing date** where they will be opened in public. Telegraphic, telefaxed or posted tenders will not be accepted.

Tenders may only be submitted on the tender documentation that is downloaded on the municipal website. Requirements for sealing, addressing, delivering, opening and assessment of tenders are stated in the Tender Data.

The following criteria in “**Functional Evaluation Criteria**”, will be applicable for the functionality and compliance and maximum weight of each criterion is indicated in the table and any tenderer who scores less than **70 percent**, in respect of “functionality” will be regarded as submitting a non-responsive tender and will be disqualified. **This tender will be evaluated on the 80/20 preferential point system.**

The stipulated minimum threshold for local production and content for this bid is 80%.

The Bid Committee of Zululand District Municipality does not bind itself to accept the lowest or any tender.

Mr. P.M Manqele: Municipal Manager

T1.2 TENDER DATA

1. GENERAL

The Conditions of Tender reproduced in Section 3 are the Standard Conditions of Tender as contained in Annex F of SANS 294 – *Construction Procurement Processes, Methods and Procedures* which contain references to the Tender Data for details that apply specifically to this tender.

The Tender Data shall be read with the Standard Conditions of Tender in order to expand on the Tenderer's obligations and the Employer's undertakings in administering the tender process in respect of the project under consideration.

The Tender Data contained hereafter in Section 2 shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of Tender Data given below is cross-referenced to the relevant clause in the standard Conditions of Tender.

2. TENDER DATA APPLICABLE TO THIS TENDER

F.1.1 The Employer for this Contract is: **Zululand District Municipality**

F.1.2 Tender Documents

(a) **The Tender Document** consists of the following:

TENDER

T1: Tendering Procedures

T1.1: Tender Notice and Invitation to Tender

T1.2: Tender Data

T2: Returnable Documents

T2.1: List of Returnable Documents

T2.2: Returnable schedules and forms

CONTRACT

Part 1: Agreements and Contract Data

C1.1: Form of Offer and Acceptance

C1.2: Contract Data

Part 2: Pricing Data

C2.1: Pricing Instructions

C2.2: Bill of Quantities

Part 3: Scope of Work

C3: Scope of Work

Part 4: Site Information

C4: Site information

The Tender Document shall be obtained from the Employer or his authorized representative at the physical addresses stated in the Tender Notice, upon payment of the deposit stated in the Tender Notice.

F.1.4 The Employer's agent is:

Name : Not applicable
Address : Not applicable
Telephone : Not applicable
Fax : Not applicable
E-Mail : Not applicable

F.1.5 The Employer's right to accept or reject any tender offer

The Employer is not obliged to accept the lowest or any tender offer.

F.2.1 Eligibility

A Tenderer will not be eligible to submit a tender if:

- (a) the contractor submitting the tender is under restrictions or has principals who are under restriction to participate in the Employer's procurement due to corrupt or fraudulent practices;
- (b) the Tenderer does not have the legal capacity to enter into the contract;
- (c) the contractor submitting the tender is insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of the foregoing;
- (d) The Tenderer does not comply with the legal requirements stated in the Employer's procurement policy;
- (e) The Tenderer cannot demonstrate that he possesses the necessary technical qualifications and competencies, financial resources, equipment and other physical facilities, managerial capability, personnel, experience and reputation to perform the contract; or
- (f) The Tenderer cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract.

TENDERERS TO TAKE PARTICULAR NOTICE OF THIS CLAUSE AS TENDERERS WHO DO NOT COMPLY HERewith WILL NOT BE CONSIDERED ELIGIBLE.

TENDER QUALIFICATION: LABOUR INTENSIVE CONTRACTS

Only those tenderers who can demonstrate that they will have in their employ, management and supervisory staff satisfying the requirements of the scope of work for labour-intensive competencies for supervisory and management staff during the validity of the contract are eligible to submit tenders.

To qualify for award of the Contract, tenderers shall meet the following minimum qualifying criteria:

- (a) Having participated in and graduated with fully satisfactory results from the relevant national qualification framework training organized under EPWP (or other similar project) and applying trained supervisory staff on a full-time basis for the execution of the works. LIC NQF Level 5.
- (b) Liquid assets/or credit facilities covering the expected expenditures for two full work months
- (c) Proposals for timely acquisition (own, lease, hire, etc.) of the essential minimum equipment
- (d) The contractor will carry out the works using labour-based work methods as described in the Special Conditions of Contract

The tenderer must submit to the Employer, names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirement. The contractor shall ensure that the minimum supervisor to worker ratio of 1:20 for effective supervision of Labour-intensive works for all LI activities.

Schedule of Labour Content

The minimum Labour Content for this Project shall be 15% calculated as the amount spend on labour wage divided by the total value of the project. The minimum job creation targets on the project shall be:

	Total	Women	Youth	Disabled
Work Opportunities	35	10	10	1
Person Days	3 500	1 000	1 000	150
Training Days	3	3	3	3

F.2.7 Site visit and clarification meeting

The arrangements for the compulsory clarification meeting are as follows:

Location: ZDM offices at B-400 Gagane Street Ulundi
 Date : 10 MARCH 2022
 Starting time : 10:00

Enquiries and confirmation of attendance at least one full working day in advance regarding the meeting and site inspection may be directed to:

ECA Consulting (Pty) Ltd

Tel : 034 983 2825
 e-Mail: vhd tenders@ecaconsult.co.za

F.2.12 Alternative tenders

If a Tenderer wishes to submit an alternative tender offer, the only criteria permitted for such an alternative tender offer are:

(a) Individual items

Individual items offered as alternatives to items in the Bill of Quantities will only be considered if listed and priced in Form S: *Amendments, Qualifications and Alternatives* in Part 2 of the Contract Document, accompanied by a detailed statement as necessary.

(b) Alternative designs

Where a Tenderer desires to submit an alternative tender involving modifications to the design or method of construction that would alter the character of the tender, the following procedure must be observed:

- (i) The alternative offer must be accompanied by supporting information, drawings, calculations and a priced alternative Bill of Quantities to enable its technical acceptability, construction time and price to be fully assessed. Such information, drawings and Bill of Quantities must be sufficient for the proper evaluation of the tendered alternative, otherwise the offer will not be considered;
- (ii) Any alternative tender involving modifications to the design will be assessed on its merits and may be accepted. An accepted alternative design will become the design for the purpose of the contract.

- (iii) If an alternative design with its priced Bill of Quantities has been accepted, the sum thus tendered for the alternative will not be subject to re-measurement and will be the final amount payable to the Contractor, except only for variations arising from:
- Changes in design parameters ordered by the Engineer;
 - Changes not arising from any failure or fault of the Contractor, but from modifications requested by the Engineer.
- (iv) A decision whether or not to adopt a technically acceptable modified design will be governed by the amount of the overall saving and the advantages to the Employer which the modified design can be reliably expected to achieve. Matters to be considered in arriving at the overall saving will include the effect of any deferment in starting date arising from extra time needed for the preparation of an amended contract for signature.
- (v) The priced alternative Bill of Quantities must include an amount equal to 5% of the amount tendered therein to cover the Employer's costs of checking the alternative design offered.

F.2.13 Submitting a Tender Offer

F.2.13.5 Tender offers shall be submitted as an original only.

Under no circumstances whatsoever may the tender forms be retyped or redrafted.

F.2.13.6 A two-envelope procedure will **not** be followed.

The Employer's address and identification details are as follows:

Location of Tender box:		Zululand District Municipality Offices in Ulundi
Physical address:		Lot B-400 Gagane Street, Ulundi, 3838
Identification details	Reference Number	ZDM029/2021
	Title of Tender	PANEL OF CONTRACTORS FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT NORTH
	Closing Date	07 APRIL 2022
	Time	12H00
Postal address:		Private Bag X76, Ulundi, 3838

F.2.15 Closing Time

The closing time for submission of Tender Offers is 12h00 on **Thursday, 07 April 2022**. Telephonic, telegraphic, facsimile, telex, electronic or e-mailed tenders will not be accepted.

F.2.16 Tender Validity

All tenders shall remain valid for a period of ninety (90) days after the time and date set for the opening of tenders, or until the Tenderer is relieved of this obligation by the Employer, in writing, at an earlier date. However, the Tenderer may be requested in writing, not later than fourteen (14) days before this validity period will lapse, to extend the validity of this tender for a specific period. The written approval of the Tenderer must then be received before the lapsing of the original validity period, in order to remain valid.

Should a Tenderer –

- Withdraw his tender during the period of its validity; or
- give notice of his inability to execute the contract or fail to execute the contract; or
- fail to sign the contract agreement or furnish the required security within the period fixed in the Contract Data or any extended time agreed to by the Employer;

Then he shall be liable for and pay to the Employer –

- all expenses incurred in calling for fresh tenders, if it should be necessary;
- the difference between his tender and any less favourable tender accepted either by fresh tenders being called or by another tender being accepted from those already received;
- any escalation of the final contract price resulting from any delay caused in calling for fresh tenders:

Provided always that the Employer may exempt a Tenderer from the provisions here of, if it is of the opinion that the circumstances justify such exemption.

F.2.19 Access

Access shall be provided for inspections and testing by personnel acting on behalf of the Employer.

F.2.22 Return of Tender Documents

Not applicable.

F.2.23 Certificates

The following certificates must be provided with the tender:

- Tax Clearance Certificate or electronic access PIN obtained from SARS's new Tax Compliance Status (TCS) system.
- Valid and original (or a certified copy) proof of Bidder's compliance to B-BBEE requirements stipulated in Section G (MBD 6.1) [Consortia / Joint Ventures must submit a separate Tax Clearance Certificate/PIN for each party]
- Joint Venture Agreement and Power of Attorney in case of Joint Ventures;
- VAT Registration Certificate from the South African Revenue Services (SARS);
- Workman's Compensation Registration Certificate (or proof of payment of contributions in terms of the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993);
- Company / CC / Trust / Partnership registration certificates;
- Proof that payment for municipal services is up to date; and
- Certified Copies of Identity Document in the case of one-man concerns.

F.3.4 Opening of Tender Submissions

The time, date and location for the opening of the tender offers is as follows:

Time: **12h00**

Date: **07 APRIL 2022**

Location / Venue: **Zululand District Municipal Offices, B-400 Gagane Street, Ulundi**

F.3.5 The two-envelope system will not apply to this tender.

F.3.11 Evaluation of Tender Offers`

F.3.11.1 The ZULULAND DISTRICT MUNICIPALITY has adopted a policy in supporting the legislation applicable to procurement of tenders and management of Construction Contracts. To achieve the RDP principles, an environment conducive to emerging and SMME's Contractors has to be created. Therefore, the procurement policy adopted by ZULULAND DISTRICT MUNICIPALITY will be implemented in this contract to give effect to Section 217(2) of the Constitution and as published in Government Gazette no 16085, dated 23 November 1994.

F.3.11.2 Tenders will be evaluated in two stages in accordance with the standard tender evaluation Method 2: Financial Offer and Preferences as follows:

STAGE 1: TEST FOR RESPONSIVENESS/ELIGIBILITY

In order for a tender to be considered responsive, it must comply with **ALL** of the following criteria:

- a) The tender documentation must be completed and signed in all respects;
The Contractor must have the required CIDB grading;
- b) The tender documentation must include all necessary and applicable documentation as listed in F.2.23 above; and
- c) The tender must comply with the eligibility criteria noted in F.2.1; and
In terms of F.2.1 (e), the following specific criteria must be proven by the tenderer:
 - i) **That the tenderer possesses the necessary on-site, management expertise and capability to carry out the contract**
 - ii) **That the tenderer has the financial capacity to carry out the contract; and**
 - iii) **That the tenderer has ready access to the plant and equipment required to carry out the contract**

The responsiveness of a tender will be assessed by scoring the bid according to the criteria detailed in the table overleaf.

It is incumbent on the Tenderer to ensure that the returnable documents in T2 are completed in sufficient detail to enable the score to be properly assessed. If the information provided renders a specific criterion not being fully complied with, then the bid will be scored on the next criterion down.

TENDERER'S MUST SCORE A MINIMUM OF 70 POINTS FOR THE BID TO BE ELIGIBLE IN TERMS OF F.2.1 (e).

ELIGIBILITY CRITERIA

Criterion	Assessment	Points Awarded	Max Score
EMERGENCY WATER REPAIRS AND MAINTENANCE			
Experience of similar work and environment (Attach Appointment / Order or Quotation approval indicating scope of work also attach client reference letter for each project / order or quotation- refer to template attached)	The contractor has successfully completed at least 7 work orders on repairs and maintenance of water and sanitation related contracts.	30	30
	The contractor has successfully completed at least 4-6 work orders on repairs and maintenance of water and sanitation related contracts.	20	
	The contractor has successfully completed at least 1-3 work orders on repairs and maintenance of water and sanitation related contracts.	10	
	The contractor has completed less than 1 work orders on repairs and maintenance of water and sanitation related contracts.	0	
Experience of part time, site agent (Attach CV)	Site Agent with at least 5 years' experience in managing construction of water projects.	20	20
	Site Agent with at least 3-4 years' experience in managing construction of water projects.	12	
	Site Agent with at least 1-2 years' experience in managing construction of water projects.	8	
	No Experience	0	
Project Key Personnel (Attach Individual CV's)	Foreman with at least 5 years' experience in managing construction of water projects.	30	30
	Foreman with at least 3-4 years' experience in managing construction of water projects.	20	
	Foreman with at least 1-2 years' experience in managing construction of water projects.	10	
Plant and Equipment	Well detailed and indicates key plant and equipment required to execute the works.	10	10
	Not Well detailed and does not indicate key plant and equipment required to execute the works.	5	
	Not detailed at all/not convincing in terms of detailing key plant and equipment required to execute the works.	0	
Locality	Contractor has office within boundaries of ZDM	10	10
	Contractor has office within boundaries of KZN	5	
	Contractor has no office within boundaries of KZN	0	
MAXIMUM SCORE:			100

Section 4 of MBD 6.1 will be applied to Tenderers who receive 70 points or more on the above.

STAGE 2: FINANCIAL OFFER AND PREFERENCES

All tenders that meet the stage 1 criteria for responsiveness will progress through to the evaluation phase as set out in Returnable F (MBD 5).

F.3.11.3 Points scored for price (Contract Value more than R 50 000 000)

The 90/10 preference point system will be used to allocate points for tenders in this category.

F.3.11.4 Points scored for price (Contract Value less than R 50 000 000)

The 80/20 preference point system will be used to allocate points for tenders in this category.

It is estimated that tenders on this contract will be evaluated on the 80/20 preference point system

Annex F: Standard Conditions of Tender

(As contained in Annexure F of Board Notice 12 of 2009: Standards for Uniformity in Construction Procurement)

F.1 General

F.1.1 Actions

F.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in [F.2](#) and [F.3](#), timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

F.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict, and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note: 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.

2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.

F.1.1.3 The employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.

F.1.2 Tender Documents

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

F.1.3 Interpretation

F.1.3.1 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 conditions of tender.

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

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

a) **conflict of interest** means any situation in which:

- i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;
- ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
- iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.

- b) **comparative offer** means the tenderer's financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis;
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
- e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body
- f) **quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs

F.1.4 Communication and employer's agent

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

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

F.1.5.1 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 tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

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

F.1.6 Procurement procedures

F.1.6.1 General

Unless otherwise stated in the tender data, a contract will, subject to F.3.13, be concluded with the tenderer who in terms of F.3.11 is the highest ranked or the tenderer scoring the highest number of tender evaluation points, as relevant, based on the tender submission that are received at the closing time for tenders.

F.1.6.2 Competitive negotiation procedure

F.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of F.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of F.3.8 relating to the material deviations or qualifications which affect the competitive position of tenders shall not apply.

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

F.1.6.2.3 At the conclusion of each round of negotiations, tenderers shall be invited by the employer to make a fresh tender offer, based on the same evaluation criteria, with or without adjusted weightings. Tenderers shall be advised when they are to submit their best and final offer.

F.1.6.2.4 The contract shall be awarded in accordance with the provisions of F.3.11 and F.3.13 after tenderers have been requested to submit their best and final offer.

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 Option 1

Tenderers shall in the first stage submit technical proposals and, if required, cost parameters around which a contract may be negotiated. The employer shall evaluate each responsive submission in terms of the method of evaluation stated in the tender data, and in the second stage negotiate a contract with the tenderer scoring the highest number of evaluation points and award the contract in terms of these conditions of tender.

F.1.6.3.2 Option 2

F.1.6.3.2.1 Tenderers shall submit in the first stage only technical proposals. The employer shall invite all responsive tenderers to submit tender offers in the second stage, following the issuing of procurement documents.

F.1.6.3.2.2 The employer shall evaluate tenders received during the second stage in terms of the method of evaluation stated in the tender data, and award the contract in terms of these conditions of tender.

F.2 Tenderer's obligations

F.2.1 Eligibility

F.2.1.1 Submit a tender offer only if the tenderer complies with the criteria stated in the tender data and the tenderer, or any of his principals, is not under any restriction to do business with employer.

F.2.1.2 Notify the employer of any proposed material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used by the employer as the basis in a prior process to invite the tenderer to submit a tender offer and obtain the employer's written approval to do so prior to the closing time for tenders.

F.2.2 Cost of tendering

Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer 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 complies with the requirements.

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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.

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting

Attend, where required, a clarification meeting at which tenderers may familiarize themselves with aspects of the proposed work, services or supply and raise questions. Details of the meeting(s) are stated in the tender data.

F.2.8 Seek clarification

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

F.2.9 Insurance

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

F.2.10 Pricing the tender offer

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

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

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

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

F.2.11 Alterations to documents

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

F.2.12 Alternative tender offers

F.2.12.1 Unless stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.

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

F.2.13 Submitting a tender offer

F.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.

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

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

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

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

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

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

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

F.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

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

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

F.2.15 Closing time

F.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.

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

F.2.16 Tender offer validity

- F.2.16.1** Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.
- F.2.16.2** If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.
- F.2.16.3** Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.
- F.2.16.4** Where a tender submission is to be substituted, submit a substitute tender in accordance with the requirements of F.2.13 with packages clearly marked as "SUBSTITUTE".

F.2.17 Clarification of tender offer after submission

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

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

F.2.18 Provide other material

- F.2.18.1** Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.
- F.2.18.2** Dispose of samples of materials provided for evaluation by the employer, where required.

F.2.19 Inspections, tests and analysis

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

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

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

F.2.21 Check final draft

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

F.2.22 Return of other tender documents

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

F.2.23 Certificates

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

F.3 The Employer's undertakings**F.3.1 Respond to requests from the tenderer**

F.3.1.1 Unless otherwise stated in the tender data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

F.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to pre-qualify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:

- a) an individual firm, or joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
- b) the new partners to a joint venture were not pre-qualified in the first instance, either as individual firms or as another joint venture; or
- c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

F.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date of the Tender Notice until three days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who drew documents.

F.3.3 Return late tender offers

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

F.3.4 Opening of tender submissions

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

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

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

F.3.5 Two-envelope system

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

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

F.3.6 Non-disclosure

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

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

F.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:

- a) complies with the requirements of these Conditions of Tender,
- b) has been properly and fully completed and signed, and
- c) is responsive to the other requirements of the tender documents.

F.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:

- d) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- e) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- f) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

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

F.3.9 Arithmetical errors, omissions or discrepancies

F.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is discrepancy between the amounts in figures and the amount in words, the amount in words shall govern.

F.3.9.2 Check the highest ranked tender or tenderer with the highest number of tender evaluation points after the evaluation of tender offers in accordance with F.3.11 for:

- a) the gross misplacement of the decimal point in any unit rate;
- b) omissions made in completing the pricing schedule or bills of quantities; or
- c) arithmetic errors in:
 - i) line-item totals resulting from the product of a unit rate and a quantity in bills of quantities or schedules of prices; or
 - ii) the summation of the prices.

F.3.9.3 Notify the tenderer of all errors or omissions that are identified in the tender offer and either confirm the tender offer as tendered or accept the corrected total of prices.

F.3.9.4 Where the tenderer elects to confirm the tender offer as tendered, correct the errors as follows:

- a) 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.
- b) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

F.3.10 Clarification of a tender offer

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

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Financial offer

In the case of a financial offer:

- a) Rank tender offers from the most favourable to the least favourable comparative offer.
- b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in the subclause is repeated.

F.3.11.3 Method 2: Financial offer and preference

In the case of a financial offer and preferences:

- a) Score each tender in respect of the financial offer made and preferences claimed, if any, in accordance with the provisions of F.3.11.7 and F.3.11.8.
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_P$$

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.

- c) Rank tender offers from the highest number of evaluation points to the lowest.
- d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in the sub clause is repeated.

F.3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

- a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F.3.11.7 and F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_Q$$

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

- c) Rank tender offers from the highest number of evaluation points to the lowest.
- d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in the sub clause is repeated.

F.3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

- a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F.3.11.7 and F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_P + N_Q$$

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;

N_P is the number of tender evaluation points awarded for preference claimed in accordance with F.3.11.8.

N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

- c) Rank tender offers from the highest number of evaluation points to the lowest.
- d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in the sub-clause is repeated.

F.3.11.6 Decimal places

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

F.3.11.7 Scoring Financial Offers

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

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

Where: N_{FO} is the number of tender evaluation points awarded for the financial offer.

W_1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.

A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of A

Formula	Comparison aimed at achieving	Option 1 ^a	Option 2 ^a
1	Highest price or discount	$A = (1 + \frac{(P - P_m)}{P_m})$	$A = P / P_m$
2	Lowest price or percentage commission / fee	$A = (1 - \frac{(P - P_m)}{P_m})$	$A = P_m / P$
^a P_m is the comparative offer of the most favourable comparative offer. P is the comparative offer of the tender offer under consideration.			

F.3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences. Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring quality

Score each of the criteria and sub criteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$$N_Q = W_2 \times S_o / M_s$$

Where: S_o is the score for quality allocated to the submission under consideration;

M_s is the maximum possible score for quality in respect of a submission.

W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data

F.3.12 Insurance provided by the employer

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

F.3.13 Acceptance of tender offer

Accept the tender offer, if in the opinion of the employer, it does not present any unacceptable commercial risk and only if the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data, and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

F.3.14 Prepare contract documents

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

- a) addenda issued during the tender period,
- b) inclusion of some of the returnable documents, and
- c) other revisions agreed between the employer and the successful tenderer.

F.3.15 Complete adjudicator's contract

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

F.3.16 Notice to unsuccessful tenderers

F.3.16.1 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

F.3.16.2 After the successful tenderer has been notified of the employer's acceptance of the tender, notify other tenderers that their tender offers have not been accepted.

F.3.17 Provide copies of the contracts

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

F.3.18 Provide written reasons for actions taken

Provide upon request written reasons to tenderers for any action that is taken in applying these conditions of tender but withhold information which is not in the public interest to be divulged, which is considered to prejudice the legitimate commercial interests of tenderers or might prejudice fair competition between tenderers.

F4. JOB CREATION REPORTING FOR EPWP

In order to assist the Employer in complying with the goals of creating EPWP job opportunities, the Contractor must provide the following information for reporting purposes:

F4.1 Type of project data required per project

Every EPWP project shall collect and keep specific project data for the purpose of EPWP progress reporting. ***The data that is required to be kept and maintained for each project includes:***

F4.1.1 Beneficiary data

A beneficiary list must be maintained for every project. The data required in this beneficiary list is indicated below. This data shall be recorded, checked and signed off by the Contractor on a weekly basis, and shall be submitted to the Employer at each monthly site meeting. The beneficiary list shall contain the following data and shall be kept and maintained on site for audit purposes:

- (a) Beneficiary identity – name, surname, initials, date of birth and identity number (or other unique identifier) plus certified copy of ID book (or other unique identifier).
- (b) Beneficiary profiles – nationality, gender, age, education level and disability status.
- (c) Monthly work data for beneficiaries – daily wage to be received, number of calendar days training attended and number of calendar days worked.

F4.1.2 Project work data

This generally seeks to confirm the number of people at work daily on the project. The following data must be recorded and maintained on site by the Contractor, in order that it can be provided by the Employer to the National Department of Public Works upon request when the latter is undertaking sample auditing. The documentation that should be kept includes:

- (a) Daily attendance register – register for each day showing all the workers that were registered as being at work on that day. Attendance registers shall be completed on site on a daily basis and signed off by the Contractor on a weekly basis.
- (b) Summary of monthly attendance.

F4.1.3 Project payment data

This generally seeks to confirm what was paid, for how much work and to whom. It is required that the Contractor adopt one of the following methods as standard procedure for recording and maintaining this information:

- (a) Payment register – this is a list of the workers showing the wages paid to each worker, and signed off by each worker as proof of receipt and acceptance of payment. Information on this register must include the name of the worker, either an identity number or other unique identifier, the number of calendar days that the pay period covers, the wage rate and the total wages paid.

Alternatively,

- (b) Bank records showing the transfers to each worker account, signed off by the Contractor as proof of payment – these bank records must specifically show the name of the worker, either an identity number or other unique identifier, the period which the pay covers and the total wages paid.

The project payment data, as recorded and maintained by the Contractor in terms of either (a) or (b) above, must be available and applicable for the entire period for which the Employer claims an incentive reward for person-days of work created in terms of the project.

F4.1.4 Employment output data

The Contractor shall submit to the Employer at each monthly site meeting the data necessary to enable the Employer to calculate the following employment output data:

- (a) Number of work opportunities created (where one work opportunity = paid work created for one individual on an EPWP project, for any period of time).
- (b) Number of person-days of work created (where one person-day = one day of work carried out by one individual). The total number of person-days of work created on a particular EPWP project shall be obtained by summing the total number of person-days worked by each individual employed during the course of that EPWP project.
- (c) Number of Full Time Equivalents (FTEs) created (= total number of person-days of work created on the EPWP project divided by 230 working days). In terms of EPWP policy, one year of work created for one individual is assumed to comprise a total of 230 days of paid work carried out by that individual.
- (d) Average duration of work opportunities created (= total number of person-days of work created on the EPWP project divided by the number of work opportunities created on that EPWP project).
- (e) Average daily wage rates paid (= accumulated total of the wages paid to all individuals employed on an EPWP project divided by the total number of person-days of work created on that EPWP project).

T2 Returnable Documents

T2.1 List of Returnable Documents

The Tenderer must complete the following returnable documents:

1 Returnable documents required for tender evaluation purposes only:

REF	DESCRIPTION
MBD1	Bidder's questionnaire
MBD 4	Declaration of Interest
MBD 5	Declaration for Procurement above R10 mil
MBD 6.1	B-BBEE Preference Points Claim Form
MBD 6.2	Declaration Certificate for Local Production and Content For Designated Sectors
MBD 7.2	Contract form – rendering services
MBD 8	Declaration of bidder's past supply chain management practices
MBD 9	Certificate of Independent Bid Determination
A	Certificate of Attendance at a Tender Site Meeting
B	Record of Addenda to Tender Documents
C	Certificate of Authority of an Entity
D	Registration Certificates of an Entity
E	Affidavit of Good Standing
F	Schedule Of All Work Provided For An Organ Of The State Over The Last Five Years
G	Banking Details
G1	Declaration of Financial Capacity
H	Schedule of Tenderer's Experience
I	Curriculum Vitae Format of Key Personnel
J	Declaration of Available Plant and Equipment to Execute the Work
K	Schedule of Proposed Sub-Contractors
L	Provisional Programme
M	Schedule of labour content
N	Training schedule
O	Amendments, Qualifications and Alternatives
P	Copy Workmen's Compensation Registration Certificate (or proof of payment of contributions in terms of the Compensation for Occupational Injuries and Disease Act No. 130 of 1993)
Q	Tax Clearance Certificate
R	Declaration of Payment of Municipal Services

2 Other documents that will be incorporated into the contract:

S	Contractor's Health and Safety Declaration
T	Proforma Forms To Be Completed By Successful Tenderer
U	National Treasury's Central Supplier database
V	Declaration of Solvency or Liquidity

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

4 C1.2 Contract Data (Part 2)

5 C2.2 Bills of quantities

MBD 1

BIDDER'S QUESTIONNAIRE

PART A INVITATION TO BID

YOU ARE HEREBY INVITED TO BID FOR REQUIREMENTS OF THE ZULULAND DISTRICT MUNICIPALITY					
BID NUMBER:		CLOSING DATE:		CLOSING TIME:	
DESCRIPTION					
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (MBD7).					
BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT (STREET ADDRESS)					
Zululand District Municipality,					
Lot B-400 Gagane Street					
Ulundi,					
3838					
SUPPLIER INFORMATION					
NAME OF BIDDER					
POSTAL ADDRESS					
STREET ADDRESS					
TELEPHONE NUMBER	CODE		NUMBER		
CELLPHONE NUMBER					
FACSIMILE NUMBER	CODE		NUMBER		
E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
TAX COMPLIANCE STATUS	TCS PIN:		AND	CSD No:	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		☐ Yes ☐ No
[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/ SWORN AFFIDAVIT (FOR EMES & QSEs) MUST BE SUBMITTED IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]					
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]		ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?		☐ Yes ☐ No [IF YES, ANSWER PART B:3]
TOTAL NUMBER OF ITEMS OFFERED			TOTAL BID PRICE		R
SIGNATURE OF BIDDER			DATE		
CAPACITY UNDER WHICH THIS BID IS SIGNED					
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:			TECHNICAL INFORMATION MAY BE DIRECTED TO:		
DEPARTMENT			CONTACT PERSON		
CONTACT PERSON			TELEPHONE NUMBER		
TELEPHONE NUMBER			FACSIMILE NUMBER		
FACSIMILE NUMBER			E-MAIL ADDRESS		
E-MAIL ADDRESS					

PART B TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:
1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION. 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED– (NOT TO BE RE-TYPED) OR ONLINE 1.3. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER SPECIAL CONDITIONS OF CONTRACT.
2. TAX COMPLIANCE REQUIREMENTS
2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS. 2.2 BIDDERS ARE REQUIRED TO SUBMIT THEIR UNIQUE PERSONAL IDENTIFICATION NUMBER (PIN) ISSUED BY SARS TO ENABLE THE ORGAN OF STATE TO VIEW THE TAXPAYER'S PROFILE AND TAX STATUS. 2.3 APPLICATION FOR THE TAX COMPLIANCE STATUS (TCS) CERTIFICATE OR PIN MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILERS THROUGH THE WEBSITE WWW.SARS.GOV.ZA. 2.4 FOREIGN SUPPLIERS MUST COMPLETE THE PRE-AWARD QUESTIONNAIRE IN PART B:3. 2.5 BIDDERS MAY ALSO SUBMIT A PRINTED TCS CERTIFICATE TOGETHER WITH THE BID. 2.6 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED; EACH PARTY MUST SUBMIT A SEPARATE TCS CERTIFICATE / PIN / CSD NUMBER. 2.7 WHERE NO TCS IS AVAILABLE BUT THE BIDDER IS REGISTERED ON THE CENTRAL SUPPLIER DATABASE (CSD), A CSD NUMBER MUST BE PROVIDED.
3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS
3.1. IS THE ENTITY A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO 3.2. DOES THE ENTITY HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO 3.3. DOES THE ENTITY HAVE A PERMANENT ESTABLISHMENT IN THE RSA? ☐ YES ☐ NO 3.4. DOES THE ENTITY HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO 3.5. IS THE ENTITY LIABLE IN THE RSA FOR ANY FORM OF TAXATION? ☐ YES ☐ NO 3.6. IS THE ENTITY OR ANY OF ITS DIRECTORS UNDER ANY FORM OF LIQUIDATION OR SEQUESTRATION, INSOLVENT OR IN PROCESS THEREOF? ☐ YES ☐ NO IF THE ANSWER IS "NO" TO ALL OF THE ABOVE, THEN IT IS NOT A REQUIREMENT TO REGISTER FOR A TAX COMPLIANCE STATUS SYSTEM PIN CODE FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) AND IF NOT REGISTER AS PER 2.3 ABOVE.

NB: FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.
NO BIDS WILL BE CONSIDERED FROM PERSONS IN THE SERVICE OF THE STATE.

SIGNATURE OF BIDDER:

CAPACITY UNDER WHICH THIS BID IS SIGNED:

DATE:

MBD 4**DECLARATION OF INTEREST**

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

- o No bid will be accepted from persons in the service of the state*.
- o 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 authorized representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

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

3.1 Full Name:

3.2 Identity Number:

3.3 Company Registration Number:

3.4 Tax Reference Number:

3.5 VAT Registration Number:

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

3.6.1 If so, furnish particulars

.....
.....

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

3.7.1 If so, furnish particulars

.....
.....

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

3.8.1 If so, furnish particulars

.....

3.9 Are you, aware of any relationship (family, friend, other) between a bidder and any person in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES/NO**

3.9.1 If so, furnish particulars

.....

3.10 Are any of the company's Directors, Managers, Principle Shareholders or Stakeholders in service of the State? **YES/NO**

3.10.1 If so, furnish particulars

.....

3.11 Are any spouse, child or parent of the company's Directors, Managers, Principle Shareholders or Stakeholders in service of the State? **YES/NO**

3.11.1 If so, furnish particulars

.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT. I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THE DECLARATION PROVE TO BE FALSE.

.....
SIGNATURE

.....
DATE

.....
POSITION

.....
NAME OF TENDERER

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

- (a) a member of –
 - (i) any Municipal Council;
 - (ii) any Provincial Legislature; or
 - (iii) the National Assembly or the National Council of Provinces;
- (b) a member of the Board of Directors of any municipal entity;
- (c) an official of any municipality or municipal entity;
- (d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act 1999 (Act No. 1 of 1999);
- (e) a member of the accounting authority of any National or Provincial Public Entity; or
- (f) an employee of Parliament or a Provincial Legislature.

MBD 5**DECLARATION FOR PROCUREMENT ABOVE R10 MILLION
(ALL APPLICABLE TAXES INCLUDED)**

**This form shall only be completed if the Tender Sum exceeds R10 million
(all applicable taxes included).**

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

YES / NO (Delete whichever is not applicable)

- 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 (Delete whichever is not applicable)

- 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 (Delete whichever is not applicable)

- 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 (Delete whichever is not applicable)

4.1 If yes, furnish particulars

.....

.....

CERTIFICATION

I, THE UNDERSIGNED (NAME)

CERTIFY THAT THE INFORMATION FURNISHED ON THIS DECLARATION FORM IS CORRECT. I ACCEPT THAT THE STATE MAY ACT AGAINST ME SHOULD THE DECLARATION PROVE TO BE FALSE.

.....
SIGNATURE

.....
DATE

.....
POSITION

.....
NAME OF TENDERER

MBD 6.1**PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2017**

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

NB: BEFORE COMPLETING THIS FORM, BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2011.

1. GENERAL CONDITIONS

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

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

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

1.3 Preference points for this bid shall be awarded for:

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

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

	POINTS
PRICE	80
B-BBEE STATUS LEVEL OF CONTRIBUTOR	20
Total points for Price and B-BBEE must not exceed	100

1.5 Failure on the part of a bidder to submit proof of B-BBEE Status level of contributor together with the bid, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.

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

2. DEFINITIONS

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

3. POINTS AWARDED FOR PRICE

3.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

A maximum of 80 or 90 points is allocated for price on the following basis:

$$\begin{array}{ccc}
 \mathbf{80/20} & \mathbf{or} & \mathbf{90/10} \\
 P_s = 80 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right) & \text{or} & P_s = 90 \left(1 - \frac{P_t - P_{\min}}{P_{\min}} \right)
 \end{array}$$

Where:

P_s = Points scored for comparative price of bid under consideration

P_t = Comparative price of bid under consideration

$P_{\min}$ = Comparative price of lowest acceptable bid

5. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

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

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	8	16
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

5. BID DECLARATION

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

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

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

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

7 SUB-CONTRACTING

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

(Tick applicable box)

Yes		NO	
-----	--	----	--

- 7.1.1 If yes, indicate:

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

(ii) the name of the sub-contractor?

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

(iv) whether the sub-contractor is an EME or QSE?

(Tick applicable box)

Yes		NO	
-----	--	----	--

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

Designated Group: An EME or QSE which is at last 51% owned by:	EME √	QSE √
Black people		
Black people who are youth		
Black people who are women		
Black people with disabilities		
Black people living in rural or underdeveloped areas or townships		
Cooperative owned by black people		
Black people who are military veterans		
OR		
Any EME		
Any QSE		

8. DECLARATION WITH REGARD TO COMPANY/FIRM

8.1 Name of company /firm

8.2 VAT registration number :

8.3 Company registration number :

8.4 TYPE OF COMPANY/ FIRM

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

[TICK APPLICABLE BOX]

8.5 DESCRIBE PRINCIPAL BUSINESS ACTIVITIES

.....

.....

.....

.....

8.6 COMPANY CLASSIFICATION

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

[TICK APPLICABLE BOX]

8.7 MUNICIPAL INFORMATION**Municipality where business is situated****Registered Account Number****Stand Number**

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

9.9 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBEE status level of contribution indicated in paragraph 4.1 and 6.1 of the foregoing certificate, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

- (i) The information furnished is true and correct;
- (ii) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
- (iii) In the event of a contract being awarded as a result of points claimed as shown in paragraph 1.4 and 1.6, the contractor may be required to furnish documentary proof to the satisfaction of the purchaser that the claims are correct.
- (iv) If the B-BBEE status level of contribution has been claimed or obtained on a fraudulent basis or any of the conditions of contract have not been fulfilled, the purchaser may, in addition to any other remedy it may have –
 - (a) disqualify the person from the bidding process;
 - (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation;
 - (d) restrict the bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied; and
 - (e) forward the matter for criminal prosecution.

WITNESSES

1.

2.

.....
SIGNATURE(S) OF BIDDERS(S)

DATE:

ADDRESS

.....

.....

MBD 6.2**DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS**

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

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

1. General Conditions

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

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

Where

is the imported content in Rand

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

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

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

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

2. Definitions

- 3 **“bid”** includes written price quotations, advertised competitive bids or proposals;
- 4 **“bid price”** price offered by the bidder, excluding value added tax (VAT);
- 5 **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- 6 **“designated sector”** means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
- 7 **“duly sign”** means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility (close corporation, partnership or individual).
- 8 **“imported content”** means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour and intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
- 9 **“local content”** means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
- 10 **“stipulated minimum threshold”** means that portion of local production and content as determined by the Department of Trade and Industry; and
- 11 **“sub-contract”** means the primary contractor's assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.

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

Description of services, works or goods Stipulated minimum threshold

_____	%
_____	%
_____	%

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

(Tick applicable box)

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

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

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

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

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	
Yen	
Other	

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

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

(Tick applicable box)

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

- 5.1 If yes, provide the following particulars:

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

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

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

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

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

IN RESPECT OF BID NO.

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

..... NB

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

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

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

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

(b) I have satisfied myself that

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

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

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

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

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

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

SIGNATURE:_____

DATE: _____

WITNESS No. 1: _____

DATE: _____

WITNESS No. 2: _____

DATE: _____

MBD 7.2**CONTRACT FORM - RENDERING OF SERVICES**

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

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

1. I hereby undertake to render services described in the attached bidding documents to **ZULULAND DISTRICT MUNICIPALITY** in accordance with the requirements and task directives / proposals specifications stipulated in Bid Number Error! Reference source not found. at the price/s quoted. My offer/s remain binding upon me and open for acceptance by the Purchaser during the validity period indicated and calculated from the closing date of the bid.
2. The following documents shall be deemed to form and be read and construed as part of this agreement:
 - (i) Bidding documents, viz
 - Invitation to bid;
 - Tax clearance certificate;
 - Pricing schedule(s);
 - Filled in task directive/proposal;
 - Preference claims for Broad Based Black Economic Empowerment Status Level of Contribution in terms of the Preferential Procurement Regulations 2017;
 - Declaration of interest;
 - Declaration of Bidder's past SCM practices;
 - Certificate of Independent Bid Determination;
 - Special Conditions of Contract;
 - (ii) General Conditions of Contract; and
 - (iii) Other (specify)
3. I confirm that I have satisfied myself as to the correctness and validity of my bid; that the price(s) and rate(s) quoted cover all the services specified in the bidding documents; that the price(s) and rate(s) cover all my obligations and I accept that any mistakes regarding price(s) and rate(s) and calculations will be at my own risk.
4. I accept full responsibility for the proper execution and fulfilment of all obligations and conditions devolving on me under this agreement as the principal liable for the due fulfillment 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

DATE:

CONTRACT FORM - RENDERING OF SERVICES**PART 2 (TO BE FILLED IN BY THE PURCHASER)**

1. I..... in my capacity as.....
accept your bid under reference numberdated.....for the rendering of services indicated hereunder and/or further specified in the annexure(s).
2. An official order indicating service delivery instructions is forthcoming.
3. I undertake to make payment for the services rendered in accordance with the terms and conditions of the contract, within 30 (thirty) days after receipt of an invoice.

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

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

SIGNED AT ON

NAME (PRINT)

SIGNATURE

OFFICIAL STAMP

WITNESSES

1

2

DATE:

MBD 8

DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

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

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

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

CERTIFICATION

I, THE UNDERSIGNED (FULL NAME)

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

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

.....
Signature

.....
Date

.....
Position

.....
Name of Bidder

MBD 9**CERTIFICATE OF INDEPENDENT BID DETERMINATION**

- 1 This Municipal Bidding Document (MBD) must form part of all 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 *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. take all reasonable steps to prevent such abuse;
 - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid rigging.
- 5 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid.

¹ Includes price quotations, advertised competitive bids, limited bids and proposals.

² Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

MBD9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

CONTRACT NO. ZDM 029/2021 : PANEL OF CONTRACTORS FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT NORTH

in response to the invitation for the bid made by:

ZULULAND DISTRICT MUNICIPALITY

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

I certify, on behalf of: _____ that:

(Name of Bidder)

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;
 - (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.

³ **Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.**

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:
(of person authorised to sign on behalf of the Tenderer)

DATE:

A: CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING

This is to certify that (*Tenderer*)

of (*address*).....

..... was represented by the person(s)
named below at the compulsory meeting held for all tenderers

We acknowledge that the purpose of the meeting was to acquaint myself / ourselves with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for me / us to take account of everything necessary when compiling our rates and prices included in the tender.

Particulars of person(s) attending the meeting:

Name: Signature:

Capacity:

Name: Signature:

Capacity:

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

Name: Signature:

Capacity: Date and Time:

B: RECORD OF ADDENDA TO TENDER DOCUMENTS

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

ADD. No.	DATE	TITLE OR DETAILS
1		
2		
3		
4		
5		

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

C: CERTIFICATE OF AUTHORITY OF AN ENTITY

Indicate the status of the tenderer by ticking the appropriate box hereunder. The tenderer must complete the certificate set out below for the relevant category.

(I) Company	(II) Close Corporation	(III) Partnership	(IV) Joint Venture	(V) Sole Proprietor

(I) CERTIFICATE FOR COMPANY

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

Signature of Chairman:

Signature of Signatory:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

(II) CERTIFICATE FOR CLOSE CORPORATION

We, the undersigned, being the key members in the business trading as

.....hereby authorise Mr/Ms.....

acting in the capacity of, to sign all documents

in connection with the tender for Contract No and any contract resulting from it on our behalf.

Signature of Signatory:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

NAME	ADDRESS	SIGNATURE	DATE

Note: *This certificate is to be completed and signed by all of the key members upon whom rests the direction of the affairs of the Close Corporation as a whole.*

(III) CERTIFICATE FOR PARTNERSHIP

We, the undersigned, being the key members in the business trading as

.....hereby authorise Mr/Ms.....

acting in the capacity of, to sign all documents

in connection with the tender for Contract No and any contract resulting from it on our behalf.

Signature of Signatory:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

NAME	ADDRESS	SIGNATURE	DATE

Note: *This certificate is to be completed and signed by all of the key partners upon who rests the direction of the affairs of the Partnership as a whole.*

(IV) CERTIFICATE FOR JOINT VENTURE

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorize

Mr/Ms....., authorized signatory of the company,

.....acting in the capacity of lead partner, to sign all documents in

connection with the tender offer for Contract Noand any contract resulting from it on our behalf.

This authorization is evidenced by the attached power of attorney signed by legally authorized signatories of all the partners to the Joint Venture.

Signature of Signatory:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

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

Note: *This certificate is to be completed and signed by all of the key partners upon who rests the direction of the affairs of the Partnership as a whole.*

(V) CERTIFICATE FOR SOLE PROPRIETOR

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

Signature of Sole owner:

As Witnesses:

1..... Name in Block Letters.....

2..... Name in Block Letters.....

Date:

D: REGISTRATION CERTIFICATES OF AN ENTITY**ENTITY REGISTRATION:**

[Important note to Tenderer: Registration Certificates for Companies, Close Corporations and Partnerships and ID documents for Sole Proprietors, must be inserted here. In the case of a Joint Venture, a copy of a duly signed Joint Venture Agreement clearly setting out the roles and responsibilities of the parties must be included with particular reference to the guarantees required in terms of the Contract Data. The Joint Venture Agreement must also clearly indicate how payment is to be affected to the entity and distributed to the parties].

CIDB REGISTRATION:

Tenderers must also indicate their CIDB registration details in the space provided.
(If not registered, attach proof that the enterprise can be registered with the CIDB within 10 days).

Registered Name	Registration Number

BBBEE CERTIFICATION:

The Tenderer must also attach hereto a certified copy of their B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS), or a sworn affidavit confirming annual turnover and level of black ownership in case of all EMEs and QSEs.

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

E: AFFIDAVIT OF GOOD STANDING THAT WILL BE INCORPORATED INTO THE CONTRACT

The Tenderer hereby certifies that neither it nor any of the principals of the enterprise is listed on the register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector. The Tenderer further certifies that none of its principals have ever been convicted of fraud.

DECLARATION *(to be signed in the presence of a Commissioner of Oaths)*

The undersigned, who warrants that he / she is duly authorised to do so on behalf of the firm, confirms that the contents of this Affidavit are within my personal knowledge, and save where stated otherwise to the best of my belief both true and correct.

Signature:

Duly authorized to sign on behalf:

Address:

.....

.....

Telephone:

Signed and sworn to before me at..... on

this theday ofby the Deponent, who

has acknowledged that he/she knows and understands the contents of this Affidavit, that its true and correct to the best of his/her knowledge and that he/she has no objection to taking the prescribed oath, and that the prescribed oath will be binding on his/her conscience.

Commissioner of oaths

NOTE: This affidavit comprises one (1) page all of which must be initialled by both the Deponent and the Commissioner of Oaths

F: SCHEDULE OF ALL WORK PROVIDED FOR AN ORGAN OF THE STATE OVER THE LAST FIVE YEARS

[Tenderers are to attach a schedule detailing the name of each project, the organ of state for which the project was undertaken and the date the project was completed. If not complete list the project as "current"]

G: BANKING DETAILS

Tenderers financial capacity to finance and undertake a contract of this nature will also be checked and consequently it is a requirement that the details below be provided.

NAME OF TENDERER						
NAME OF ACCOUNT HOLDER AT BANK						
TYPE OF ACCOUNT (Please tick)	CURRENT/CHEQUE	☐	SAVINGS	☐	TRANSMISSION	☐
BANK						
BRANCH NAME						
ACCOUNT NUMBER						
BRANCH CODE						
BANK TELEPHONE NO						
BANK ADDRESS						
NAME OF BANK MANAGER						
TELEPHONE NUMBER						
FAX NUMBER						
NO OF YEARS ABOVE ACCOUNT HAS BEEN WITH BANK						
CREDIT FACILITIES AVAILABLE (State Amount)						

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

G1: DECLARATION OF FINANCIAL CAPACITY

The following particulars must be furnished in support of the preceding returnable to test financial capacity.

- No bid will be accepted from persons who cannot prove adequate financial capacity to execute the contract according to the specifications and scope of work and withing the stipulated timeframe.
- In order to prove financial capacity, the tenderer must attach the following:
 - a) A letter from the bank with bank stamp confirming that the tenderer has an active bank account.
 - b) Proof of bank account and letter of good standing with a credit rating.
 - c) If the tenderer is unable to demonstrate sufficient credit facility available, the tenderer must at least provide written undertaking/proof of guarantee or financial capacity from a reputable and accredited financial service provider/lender.

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 THE DECLARATION PROVE TO
BE FALSE.**

.....
SIGNATURE
(of person authorised to sign on behalf of the Tenderer)

.....
DATE

.....
POSITION

.....
NAME OF TENDERER

H: SCHEDULE OF THE TENDERER'S EXPERIENCE

Tenderers are to provide references for **FIVE (5)** other recent projects (last five years) of a similar nature with which the company has been involved.

The information provided here will be used to evaluate the Tenderer's eligibility to undertake the contract. It is important that the Tenderer ensure that sufficient and legible information is provided to enable the Employer to evaluate the criteria noted in the table in F.3.11.2.

Name and Telephone Number of Client	Project	Name and Telephone Number of Consulting Engineer / Implementing Agent	Details of service provided

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

Failure to provide proof of a suitable candidate with the correct qualification to manage the work on a permanent basis on site during the currency of the contract will result in dis-qualification in terms of Clause F2.1.

[illegible]

DATE:

J: DECLARATION OF AVAILABLE PLANT AND EQUIPMENT TO EXECUTE THE WORK

The bid of any bidder may be rejected if that bidder fails to provide surety within 14 days of intention to award, either owned or hired plant and equipment as may be required to fully execute the works:

This Clause is applicable even after the bid is awarded.

The undersigned bidder, declare that they will fully provide all plant and equipment as may be required before the work can be awarded to them, failing within the contract intention or after award may be terminated.

No	Name of Available Plant & Equipment	Owned by the Bidder	Hired by the Bidder
		(Tick appropriate column)	

DECLARATION

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the enterprise and hereby declare that, the bidder of this bid ZDM/....., will make all necessary plant and equipment available within 14 days of intention to award of this contract, failing within the contract intention or after award, this contract may be terminated.

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the firm, confirms that the contents of this Declaration are within my personal knowledge, and save where stated otherwise to the best of my belief both true and correct.

NAME:.....

SIGNATURE: DATE:

Duly authorized to sign on behalf of (Bidder Name):.....

NOTE: This declaration comprises one (1) page all of which must be also initialed.

K: SCHEDULE OF PROPOSED SUB-CONTRACTORS

We notify you that it is our intention to employ the following Sub-Contractors for work on this Tender.

	Name and Address of Proposed Sub-Contractor	Nature and Extent of Work	CIDB Grading	Previous Experience working with this Sub-Contractor
1.				
2.				
3.				
4.				
5.				

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

L: PROVISIONAL PROGRAMME

The Tenderer shall detail below or attach a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this tender in **Gantt Chart** or similar format.

The programme must indicate all key activities, time frames and must clearly demonstrate the Tenderer's understanding of the scope of works.

The competency and clarity of the programme will help to inform the Employer's assessment of the Tenderer's eligibility to execute the contract.

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

M: SCHEDULE OF LABOUR CONTENT

The tenderer must complete a standard table reflecting the labour force anticipated to be employed on this contract, including labour employed by sub-contractors. The Specified target value is 15%

Type of Labour	Man-Days	Minimum Wage Rate per unit	Total Wage Cost (Excl. VAT)
Permanent Staff			
Temporary Staff			
SMME/HDEs Labour			
		Total	
		Percentage	

Notes to Tenderer:

Labour is defined as hourly paid personal

The penalty for non-compliance during the contract or fraudulent disclosure is discussed in contract data (item 5.13.2) .

The minimum Labour Content for this Project shall be 15 % calculated as the amount spend on labour wage divided by the total value of the project. The minimum job creation targets on the project shall be:

	Total	Women	Youth	Disabled
Work Opportunities	35	10	10	1
Person Days	3 500	1 000	1 000	150
Training Days	3	3	3	3

N: TRAINING SCHEDULE

Name of Training Institution :

Name of Programme :

Trainers Name	Qualification	Subject

Note to tenderer:

Provide details here, or attached hereto, the subjects to be covered and the manner in which training is to be delivered.

O: AMENDMENTS, QUALIFICATIONS AND ALTERNATIVES

(This is not an invitation for amendments, deviations or alternatives but should the Tenderer desire to make any departures from the provisions of this contract he shall set out his/her proposals clearly hereunder. The Employer will not consider any amendment, alternative offers or discounts unless forms (a), (b) and (c) have been completed to the satisfaction of the Employer).

I / We herewith propose the amendments, alternatives and discounts as set out in the tables below:

(a) AMENDMENTS

PAGE, CLAUSE OR ITEM NO	PROPOSED AMENDMENT

Notes: (1) Amendments to the General and Special Conditions of Contract are not acceptable;

(2) The Tenderer must give full details of all the financial implications of the amendments and qualifications in a covering letter attached to his/her tender.

(b) ALTERNATIVES

PROPOSED ALTERNATIVE	DESCRIPTION OF ALTERNATIVE

Notes: (1) Individual alternative items that do not justify an alternative tender, and an alternative offer for time for completion should be listed here.

(2) In the case of a major alternative to any part of the work, a separate Bill of Quantities, programme, etc, and a detailed statement setting out the salient features of the proposed alternatives must accompany the tender.

(3) Alternative tenders involving technical modifications to the design of the works and methods of construction shall be treated separately from the main tender offer.

(c) DISCOUNTS

ITEM ON WHICH DISCOUNT IS OFFERED	DESCRIPTION OF DISCOUNT OFFERED

Note: The tenderer must give full details of the discounts offered in a covering letter attached to his/her tender, failing which, the offer will be prejudiced

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

P: WORKMANS' COMPENSATION REGISTRATION CERTIFICATE (OR PROOF OF PAYMENT OF CONTRIBUTIONS IN TERMS OF THE COMPENSATION FOR OCCUPATIONAL INJURIES AND DISEASES ACT NO. 130 OF 1993)

[Certified Copy of the Certificate or Proof of Payment thereof obtained from the Workmen's Compensation Commissioner to be inserted here]

Q: TAX CLEARANCE CERTIFICATE**IMPORTANT NOTES:**

1. The following is an abstract from the Preferential Procurement Regulations 2001 promulgated with the Preferential Policy Framework Act No 5 of 2000:

"Tax clearance certificate

16. No contract may be awarded to a person who has failed to submit an original Tax Clearance Certificate from the South African Revenue Service ("SARS") certifying the taxes of that person to be in order or that suitable arrangement have been made with SARS."

SARS has implemented a new Tax Compliance Status (TCS) system in terms of which a taxpayer is now able to authorise any 3rd party to verify its compliance status in one of two ways: either through the use of an electronic access PIN, or through the use of a Tax Clearance Certificate obtained from the new TCS system. Respondents are required to provide the following to ZDM in order to enable it to verify their tax compliance status:

Tax reference number: _____

Tax Clearance Certificate & TCC Number: _____ **and PIN:** _____

Each party to a Consortium/Joint Venture/Sub-contractors must complete a separate Tax Clearance Certificate information form.

TAX CLEARANCE CERTIFICATE

[Tax Clearance Certificate obtained from SARS to be attached to this page]

R: DECLARATION OF PAYMENT OF MUNICIPAL SERVICES**DECLARATION TO CERTIFY THAT:**

THE TENDERER HAS NO UNDISPUTED COMMITMENTS FOR MUNICIPAL SERVICES TOWARDS A MUNICIPALITY OF WHICH PAYMENT IS OVERDUE FOR MORE THAN 30 DAYS.

DECLARATION

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the firm, confirms that there are no undisputed commitments for municipal services towards a municipality of which payment is overdue for more than 30 days to my personal knowledge, and save where stated otherwise to the best of my belief both true and correct.

Signature:

Duly authorized to sign on behalf of:

Address:

.....

.....

Telephone:

Date:

Municipal rates statement must be attached to this page. Proof of payment may be attached only in the event that the Tenderer has recently paid the outstanding balance but it has not reflected on the municipality's records.

R1: AFFIDAVIT OF TENDERER THAT DOES NOT HAVE A MUNICIPAL RATES ACCOUNT BUT IS WORKING FROM A RESIDENTIAL ADDRESS

The purpose of this affidavit is to declare that the Tenderer is

- o working from a residential address or
- o any other means

to declare that neither it nor any of the principals of the enterprise has any existing municipal accounts in any municipal area in the republic of South Africa that have not been disclosed in this tender and that failure to disclose such will lead to disqualification or cancellation of the Tender.

DECLARATION *(to be signed in the presence of a Commissioner of Oaths)*

The undersigned, who warrants that he / she is duly authorized to do so on behalf of the firm, confirms that the contents of this Affidavit are within my personal knowledge, and save where stated otherwise to the best of my belief both true and correct.

Signature:

Duly authorized to sign on behalf:

Address:

.....

.....

Telephone:.....

Signed and sworn to before me at.....on

this theday ofby the Deponent, who

has acknowledged that he/she knows and understands the contents of this Affidavit, that its true and correct to the best of his/her knowledge and that he/she has no objection to taking the prescribed oath, and that the prescribed oath will be binding on his/her conscience.

Commissioner of oaths

NOTE: This affidavit comprises one (1) page all of which must be initialed by both the Deponent and the Commissioner of Oaths.

NOTE: A letter from a Councillor or Tribal Authority must be attached in support of the address disclosed above.

R2: DECLARATION OF TENDERER WHO DOES NOT HAVE A MUNICIPAL RATES ACCOUNT BUT IS RENTING OR LEASING AN OFFICE

This is a declaration that:

THE TENDERER DOES NOT HAVE A MUNICIPAL RATES ACCOUNT BUT IS LEASING OR RENTING OFFICE SPACE FROM A LANDLORD.

DECLARATION

The undersigned, who warrants that he/she is duly authorized to do so on behalf of the firm, confirms that the Tenderer does not have a municipal rates account but is leasing or renting office space from a Landlord.

Signature:

Duly authorized to sign on behalf of:

Lease Address:

.....

.....

Telephone:

Date:

NOTE: Lease Agreement to be attached to this page.

S: CONTRACTOR'S HEALTH AND SAFETY DECLARATION

In terms of the Occupational Health and Safety Act No 85 of 1993 a Contractor may only be appointed to perform key services if the *Purchaser* is satisfied that the Contractor has the necessary competencies and resources to carry out the work safely in accordance with the provisions of the Act.

To that effect a person duly authorised by the tenderer must complete and sign the declaration hereafter in detail.

Declaration by Tenderer

1. I the undersigned hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993) herein after referred to as the "Act"
2. I hereby declare that my company has the competence and the necessary resources to safely carry out the services specified under this contract in compliance with the Employer's Health and Safety Specifications.
3. I propose to achieve compliance with the Regulations by one of the following:

(a)	From my own competent resources	*Yes / No
(b)	From my own resources still to be appointed or trained until competency is achieved	*Yes / No
(c)	From outside sources by appointment of competent specialist subcontractors	*Yes / No

(* = delete whatever is not applicable)

4. I confirm that copies of my company's approved Health and Safety Plan, will at all times be available for inspection by the *Purchaser's* personnel, ZDM officials and inspectors of the Department of Labour.
5. I hereby confirm that adequate provision has been made in my tendered rates and prices in the schedule of quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the Act and that I will be liable for any penalties that may be applied for failure to comply with the provisions of the Act.
6. I agree that my failure to complete and execute this declaration to the satisfaction of the *Purchaser* will mean that I am unable to comply with the requirements of the Act and accept that my tender will be prejudiced and may as a result be rejected at the discretion of the *Purchaser*.

SIGNATURE:
(of person authorised to sign on behalf of the Tenderer)

DATE:

T: PROFORMA FORMS TO BE COMPLETED BY SUCCESSFUL TENDERER

- PERFORMANCE GUARANTEE
- DISCLOSURE STATEMENT
- ADJUDICATION BOARD MEMBER AGREEMENT
- PRO FORMA NOTIFICATION FORM IN TERMS OF OHSA 1993 CONSTRUCTION REGULATIONS 2014
- INSURANCE APPLICATION IF TO BE COVERED BY ZDM INSURANCE POLICY AS PROVIDED FOR IN THE CONDITIONS OF CONTRACT

PRO FORMA PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Construction Works, Third Edition, 2015.

GUARANTOR DETAILS AND DEFINITIONS

“Guarantor” means:

Physical address:

“Employer” means:

“Contractor” means:

“Engineer” means:

“Works” means:

“Site” means:

“Contract” means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contracts as may be agreed in writing between the parties.

“Contract Sum” means: The accepted amount inclusive of tax of R

Amount in words:

“Guaranteed Sum” means: The maximum aggregate of R

Amount in words:

“Expiry Date” means:

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Certificate Completion of the Works as defined in the Contract.

PERFORMANCE GUARANTEE

1. The Guarantor’s liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor’s period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of issue by the Engineer of the Certificate of Completion of the Works or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Certificate of Completion of the Works has been issued.
3. The Guarantor hereby acknowledges that:
 - 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
 - 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor’s maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:

- 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
- 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
- 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
 - 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
 - 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
10. The Employer shall have the absolute right to arrange his/her affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his/her release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
11. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
13. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

14. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

PRO FORMA DISCLOSURE STATEMENT

(Please note that words in italics within brackets are items which should be stated)

Date:

Contract: **ZDM 029/2021: PANEL OF CONTRACTORS FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT NORTH**

Contractor:

Employer: **Zululand District Municipality**

Engineer: ECA Consulting (Pty) Ltd

Dear Sirs

I am willing and available to serve as ad-hoc Adjudication Board Member in the abovementioned Contract. In accordance with the General Conditions of Contract for Construction Works Adjudication Board Rules relating to disclosure statements by selected or nominated persons to the adjudication, I hereby state that:

- I shall act with complete impartiality and know of nothing at this time, which could affect my impartiality.
- I have had no previous involvement with this project.
- I do not have any financial interest in this project.
- I am not currently employed by the Contractor, Employer or Engineer.
- I do not have any financial connections with the Contractor, Employer or Engineer.
- I do not have or have had a personal relationship with any authoritative member of the Contractor, Employer or the Engineer which could affect my impartiality.
- I undertake to immediately disclose to the parties any changes in the above position which could affect my impartiality or be perceived to affect same.

Should there be any deviation from the foregoing statements, details shall be given.

I further declare that I am experienced in the work which is carried out under the Contract and in interpreting contract documentation.

Name in full:

Signature:

PRO FORMA ADJUDICATION BOARD MEMBER AGREEMENT

(Please note that words in italics within brackets are items which should be stated)

This Agreement is entered into between:

Adjudication Board Member: *(Name, physical address, postal address, email address, fax number, telephone number and mobile number)*.

Contractor: *(Name, physical address, postal address, email address, fax number, telephone number and mobile number)*.

Employer: *(Name, physical address, postal address, email address, fax number, telephone number and mobile number)*.

The Contractor and the Employer will hereinafter be collectively referred to as the Parties.

The Parties entered into a Contract for *(name of project)* which provides that a dispute under or in connection with the General Conditions of Contract for Construction Works, Third Edition, 2015, must be referred to *(ad-hoc adjudication/standing adjudication)*.

The undersigned natural person has been appointed to serve as Adjudication Board Member and together with the undersigned Parties agree as follows:

1. The Adjudication Board Member accepts to perform his/her duties in accordance with the terms of the Contract, the General Conditions of Contract for Construction Works Adjudication Board Rules and this Agreement.
2. The Adjudicator undertakes to remain independent and impartial of the Contractor, Employer and Engineer for the duration of the Adjudication Board proceedings.
3. The Adjudication Board Member agrees to serve for the duration of the Adjudication Board proceedings.
4. The Parties may at any time, without cause and with immediate effect, jointly terminate this Agreement.
5. Unless the Parties agree, the Adjudication Board Member shall not act as arbitrator or representative of either Party in any subsequent proceedings between the Parties under the Contract. No Party may call the Adjudication Board Members as a witness in any such subsequent proceedings.
6. The standing Adjudication Board's duties shall end upon the Adjudication Board Member(s) receiving notice from the Parties of their joint decision to disband the Adjudication Board.
7. The Adjudication Board Member shall be paid in respect of time spent upon or in connection with the adjudication including time spent travelling:
 - a. A monthly retainer of *(amount)* for *(number)* of months, and /or
 - b. A daily fee of *(amount)* based on a *(number)* hour day, and/or
 - c. A hourly fee of *(amount)*, and/or
 - d. A non-recurrent appointment fee of *(amount)* which shall be accounted for in the final sums payable.
8. The Adjudication Board Member's expenses incurred in adjudication work shall be reimbursed at cost.

Upon submission of an invoice for fees and expenses to the Parties, the *(Contractor/Employer*)* shall pay the full amount within 28 days of receipt of the invoice and he shall be reimbursed by the other party by half the amounts so that the fees and expenses are borne equally by the Parties. Late payment of such invoice shall attract interest at prime plus 3% points compounded monthly at the prime rate charged by the Adjudication Board Member's bank.

This Agreement is entered into by:

Contractor's signature:
 Contractor's name:
 Place:
 Date:

Employer's signature:
 Employer's name:
 Place:
 Date:

Adjudication Board Member's signature:
Adjudication Board Member's name:
Place:
Date:

**Delete the inapplicable party*

PRO FORMA NOTIFICATION FORM IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT 1993, CONSTRUCTION REGULATIONS 2014

[This form must be completed and forwarded, prior to commencement of work on site, by all Contractors that qualify in terms of Regulation 4 of the Construction Regulations 2014, to the office of the Department of Labour]

NOTIFICATION OF CONSTRUCTION WORK

- 1(a) Name and address of Principal Contractor: _____
- 1(b) Name and telephone number of Principal Contractors contact person: _____
- 2 Principal Contractors compensation registration number: _____
- 3(a) Name and postal address of Client: _____
- 3(b) Name and telephone number of clients contact person or agent: _____
- 4(a) Name and postal address of Designer/s of this project: _____
- 4(b) Name and telephone number of the Designer/s contact person: _____
- 5 Name and tel. no. of Principal Contractor's Construction Manager on site appointed in terms of Construction Regulation 8(1): _____
- 6 Name/s of Principal Contractor's Construction Supervisor on site appointed in terms of Construction Regulations 8(7): _____
- 7 Exact physical address of construction site or site office: _____
- 8 Nature of construction work: _____
- 9 Expected commencement date: _____
- 10 Expected completion date: _____
- 11 Estimated maximum number of persons at the construction site:
Total: _____ Male: _____ Female: _____
- 12 Planned number of contractors on the construction site accountable to Principal Contractor: _____
- 13 Name/s of contractors already chosen: _____

Principal Contractor

Date

Client's Agent (where applicable)

Date

Client

Date

CONTRACT AWARD DECLARATION AND RISK/INSURANCE CHECKLIST**Aon South Africa (Pty) Ltd**

Tel 031 566 6000: Fax 031 566 6010

CONTRACTORS ALL RISK & LIABILITY
GENERAL QUESTIONNAIRE**A. BROKER DETAILS**

Name of Broker Company : Aon South Africa (Pty) Ltd, Durban Branch

Fax Number : (031) 566 6010

Telephone No. : (031) 566 6000

e-mail Address : carol_rapson@aon.co.za

Contact Person : Carol Rapson

B. GENERAL

Name of Insured : Zululand District Municipality and all contractors, sub-contractors responsible for the contract for their respective rights & interests.

Postal Address : Private Bag X 76, Ulundi, 3838

Insured's VAT Number : 4110168160

Telephone No. : (035) 874 5500

Name of Main Contractor :

Name of Principal/Employer : Zululand District Municipality and all contractors, sub-contractors responsible for the contract for their respective rights & interests.

Names of Sub Contractors :

Name of Consultants :

Tender No. :

C. ONCE OFF / SPECIFIC CONTRACTS POLICY

C1. Contract Value :

(Attach copy of Contract Cost Breakdown and Tender Details)

Note: The Contract Value must include the Total Cost of Materials, Labour, Free Issue Materials, P&G's and any other Contractual Income + V.A.T. Also, please stipulate the form of contract to be used (BIFSA 81/88, JBCC 91, GCC 2015, FIDIC etc). Any particular information regarding the insurance specification and or excesses applicable should be attached.

C2. Contract Title / Full Description of Contract:

C3. What work will be done by Sub Contractors:

N/A

C4. Site Location

Ulundi municipal area

C5. The Contract Site Details:

Level		Sloping		Rocky	
Sandy		Clay			
Built up Areas		Remote Area			

Close Proximity to:

Rivers, dams known watercourse

Yes

No

Highway motorways airport etc.

Yes

No

Security Precautions. Give Details

C6. Contract Period / Period of Insurance : From

To

C7. Maintenance Period Required : ? Months

C8. Surrounding Property / Property Under Custody Control (Not being Part of Contract Works) : N/A

Limit of Indemnity Required : R

C9. STRIKE RIOT INSURANCE (SASRIA)

Yes	

No	

D. CONTRACTORS PUBLIC LIABILITY

D1. Limit of Indemnity Required : R 2,000,000

D2. Public Liability:

Use of Explosives

Yes	

No	

Site Security

* Adequately Fenced Off

Yes	

No	

* Access Control to Site

Yes	

No	

Comment on density of pedestrian and vehicle traffic in the immediate vicinity of the site e.g. Busy shopping mall or isolated area:

Isolated area

D3. Removal of Support (Lateral Support)

If required please refer. : N/A

E. PREVIOUS INSURANCE

E1. Name of Previous Insurer :

E2. Claims Experience / Details :

E3. Supporting Business :

F. GENERAL COMMENTS

Please comment on "Removal of Support", limitations of liability if any, possible interference with existing structures and crack surveys if applicable.

Please comment on whether refurbished or used equipment is to be refurbished. Please state the testing and commissioning period of mechanical or electrical equipment.

Please advise as to whether any phased or progressive handover is anticipated or whether any part of the works will be given over to the Employer prior to the issue of a Certificate of Completion.

NOTE:

Self-Propelled Plant, Tools and Equipment are not covered under this specific Policy and should be insured separately i.e. under business all risks or plant all risks policies.

SIGNED FOR THE INSURED**DATE****Name of Signatory****:**

On award of contract, send to:
Aon South Africa
P O Box 5145
Sunbury
4019

From:

Attention: **Mrs. Carol Rapson**
 Fax No : **031 - 566-6010**

This form is to be accompanied by a copy of the ZDM letter of award or a copy of the signed Agreement

APPENDIX A: CONTRACTORS CLAIMS ADVICE FORM – PCI**SEND TO:**

Aon South Africa (Pty) Ltd
 Attention: Mrs. Carol Rapson
 P O Box 5145
 Sunbury
 4019
Fax No.: 031 – 566-6010

FROM: *(PLEASE PROVIDE NAME OF CONTRACTING COMPANY, SITE ADDRESS, TELEPHONE AND FAX NUMBER)

.....

REPRESENTED BY:

CONTRACT SITE:

CONTRACT VALUE:

DATE OF LOSS:

REPORTED TO SITE AGENT BY:

DATE:

REPORTED TO AON SOUTH AFRICA BY:

DATE:

Locality of Incident

How did the loss occur (cause)

Details and nature of loss or damage to Contract Works

Details of other property damaged

Name and address of witness

Estimated cost of repairs (Separate records of all costs must be kept)

Who or what appears to be responsible for the loss/damage

Person whom assessor should contact

Telephone

SIGNED BY:

COMPANY

SIGNATURE:

U: NATIONAL TREASURY'S CENTRAL SUPPLIER DATABASE

Tenderers are required to self-register on National Treasury's Central Supplier Database (CSD) which has been established to centrally administer supplier information for all organs of state and facilitate the verification of certain key supplier information. ZDM is required to ensure that price quotations are invited and accepted from prospective bidders listed on the CSD. Business may not be awarded to a Tenderer who has failed to register on the CSD. Only foreign suppliers with no local registered entity need not register on the CSD. The CSD can be accessed at <https://secure.csd.gov.za/>. Tenderers are required to provide the CSD summary form and the information below to ZDM in order to enable it to verify information on the CSD:

Supplier Number: _____ Unique registration reference number: _____.

V: DECLARATION OF SOLVENCY OR LIQUIDITY

The bid of any bidder may be rejected if that bidder, or any of its directors are:

- a. Under liquidation
- b. Sequestration
- c. Insolvency.

This Clause is applicable even after the bid is awarded.

We, the undersigned directors, declare that they are not under liquidation, sequestration or insolvent.

No	Name of Director	ID number	Signature

➤ **DECLARATION OF SOLVENCY/ LIQUIDITY**

- All tenderers attention is drawn to this Form (declaration of Solvency or Liquidity of the tenderer).
- All tenderers are therefore required to complete It.
- Failure to complete the form or attempt to falsify or hide this information may render the tender non-responsive.

W: CONTRACT PARTICIPATION GOALS

CONTRACT PARTICIPATION GOALS – CONSTRUCTION

1. Objective

The objective of Zululand District Municipality's B-BBEE policy is to bring about meaningful transformation in the built environment construction industry through the following:

- Meaningful economic participation;
- Local economic development;
- Transfer of technical, management and entrepreneurial skills; and
- Creation of sustainable large black owned enterprises

2. Contract Participation Goals

Contract Participation Goal (CPG) – the **final** value of services paid to the CPG Partner/s are based on the **Final Contract Value**.

At the time of awarding the contract the 30% minimum CPG amount will be based on the **Contract Award Value** exclusive of the following:

- VAT, CPA and Contingencies.

During contract implementation, adjustments relating to Provisional Sums and Contingencies linked to the CPG allocation will be agreed upon between the parties to the contract, as and when the need arises.

CPG Partner/s – Service provider/s are to be selected from Zululand District Municipalities Supply Chain Management (SCM) Enterprise Development Database (available upon request). However, should the database not contain suitable CPG Partner/s, the tenderer may propose suitable CPG Partner/s for consideration, the approval of which will be at the sole discretion of Zululand District Municipality.

A CPG Partner must be an EME or QSE which is at least 51% owned by black people.

Zululand District Municipality requires a minimum of 30% Contract Participation Goals (CPG) of the value of goods, services and works paid to one or more targeted enterprises to comply with the 2017 Regulations pertaining to the Preferential Procurement Policy Framework Act (PPPFA).

- 30% excludes VAT, CPA and Contingencies;
- The tenderer will be required to achieve the actual Rand value committed for CPG, adjusted according to the following:
 - o Variation Orders – Each VO will be evaluated by Zululand District Municipality and the Employer's Agent to determine whether it should be counted, in its entirety or partially, as part of the CPG or not.
 - o Provisional Items (including CPA, Contingencies, and provisional sums) – Each provisional item change will be evaluated by the Zululand District Municipality and the Employer's Agent to determine whether it should be counted as part of CPG or not.

Within 14 days of the award of contract, the tenderer will be required to submit a cash flow projection for the main contractor and the CPG Partner/s.

3. Applicability

The CPG target is applicable to all contracts over R10 million and will be adjudicated through Zululand District Municipalities procurement process and shall be achieved through the following mechanisms: CPG Partner/s selection is concluded **after** adjudication of tenders and **before** contract award is made.

- The CPG Partner/s shall be selected according to the following criteria:
 - o CPG Partner/s are to be obtained from Zululand District Municipalities Enterprise Development Database specifically earmarked for CPG purposes.

- o In the event of services where Zululand District Municipality does not have an applicable service provider on its database, the tenderer may propose a suitable CPG Partner/s for consideration, the approval of which will be at the sole discretion of Zululand District Municipality.
- The Tenderer may propose a suitable CPG Partner/s, but Zululand District Municipality reserves the right to provide or arrange a CPG Partner/s to work with the successful company.
- The Tenderer may propose suitable works for the CPG Partner/s, but Zululand District Municipality reserves the right to identify suitable works for the CPG Partner/s to be undertaken under the main Contract.
- The Tenderer will need to successfully complete CPG negotiations with Zululand District Municipality prior to the signing of the Contract.
- Value of the work to be undertaken by CPG Partner/s shall be a minimum of 30% (to a maximum of 40%) of the total contract value excluding VAT, CPA, and Contingencies.
- CPG Partner/s are to be assigned work in accordance with their particular CIDB Code and Grading. Works assigned may not exceed 20% of the maximum applicable CIDB grading without written approval from Zululand District Municipality. This is will aid in the sharing of the CPG works value in targeted areas.
- Sub-contracting works to the CPG Partner/s at least the same rate / price that the tenderer would have offered to Zululand District Municipality whilst making profit margins consistent to the profit margins that the main contractor would have made under normal trading processes.
- The main contractor is to pay applicable P&G's to the CPG Partner/s in proportion to the value of works executed by their CPG Partner/s consistent with the main contractors P&G's / rate pricing strategy.
- CPA is payable to the CPG Partner/s as per the indices stipulated in the contract document.
- The work allocated to the CPG Partner/s shall be performed by the CPG Partner/s directly and may not be allocated or sub-contracted out to other contractors/consultants/service providers.
- The main contractor shall not substitute any CPG Partner/s without the written approval of Zululand District Municipality.
- The working capital arrangements between the main contractor and the CPG Partner/s must be agreed upon between the two parties prior to commencement of works to ensure that the CPG Partner/s does not have cash flow challenges during contract implementation.
- The Main Contactor may free issue construction material to the CPG Partner/s at the same purchase price including all discounts as procured by the Main Contractor
- The Main Contactor may hire out plant and machinery to the CPG Partner/s at the same rate as tendered including all discounts.
- Skilled staff may be seconded by the Main Contractor to the CPG Partner/s at the same rate as tendered including associated overheads and discounts
- Enterprise Development Support, Mentoring and Skills Transfer to Targeted Enterprise/

It is envisaged that such mechanisms/approaches will involve two or more entities, one being an established or developed enterprise (or JV) and the other(s) being one or more targeted enterprise(s).

A Targeted enterprise is defined as an EME (Exempted Micro Enterprise) or QSE (Qualifying Small Business Enterprise) with at least 51% Black-ownership, selected from Zululand District Municipalities Enterprise Development Database. A targeted enterprise must be registered with the CIDB for the nature and value of construction works to be undertaken. Targeted enterprises, which will undertake construction works, are differentiated from other CPG Partner/s which may play more of a supportive role on the construction contract such as providing security, PPE or portable toilet hire etc. Both may still count towards the CPG target spend.

Eligibility criteria for Targeted Enterprise:

- Developed enterprise must not have equity holding exceeding 20%, either directly or through a flow-through principle
- CIDB registration ≥ 1 to ≤ 5

- SARS registration and tax clearance
- CIPC registration
- Registered on the CSD
- Must be at least 51% Black-owned as an EME (Exempted Micro Enterprise) or QSE (Qualifying Small Business Enterprise).

The intention is for skills to be transferred from the developed enterprise to the targeted enterprise hence joint ventures formed by two or more targeted enterprises are not desirable. Engaging sub-contractors will be a preferred method.

The contractor shall perform a needs analysis on all targeted enterprises and provide internal mentorship which improves the targeted enterprise's performance in at least two development areas. Such development areas should be guided by the requirements of the CIDB Best Practice Contractor Recognition Scheme as well as the NCDP exit requirements for accreditation contractors and may include but are not limited to:

- 1) Management of labour skills transfer
- 2) Establishment of administrative systems
- 3) Establishment of cost control systems
- 4) Establishment of construction management systems and plans (health and safety, quality and environmental)
- 5) Planning, tendering and programming skills transfer
- 6) Business skills transfer with emphasis on entrepreneurial and negotiation skills
- 7) Technical skills transfer with the emphasis on innovation
- 8) Legal compliance
- 9) Procurement skills transfer
- 10) Establish credit rating/history
- 11) Establish financial loan capacity/history
- 12) Contractual knowledge transfer

The needs analysis shall be mutually agreed upon between the contractor and the targeted enterprise.

4. Invoicing and Payment

The monthly measurement and payment to be submitted to the Employers Agent by the 25th of each month and shall will be according to the following guideline:

- The submission of payment certificate to the Employer's Agent by the Contractor shall include the signature of the CPG Partner/s indicating agreement with the measurements and rates applicable to the work undertaken by the CPG Partner/s.
- The CPG Partner/s must be paid within reasonable time but no later than 3 working days after the Main Contractor has been paid by Zululand District Municipality; and
- The submission from the Contractor must include a schedule in Zululand District Municipality standard format (available upon request) that clearly shows the following:
 - o Total Contract Sum
 - o Total amount payable to CPG Partner/s excluding current month
 - o Amount payable to CPG Partner/s for current month
 - o % split of Total amount payable to Main contractor and CPG Partner/s
- Zululand District Municipality reserves the right to request proof of payment to CPG Partner/s.

5. Monitoring and Reporting on CPG

- The agreement/s between the main contractor and CPG Partner/s to be submitted within 14 days from date of award, clearly detailing the work packages to be performed.
- Tracking of CPG targets including proof of payments, as described in section 5 above, is to be reported on monthly.
- The Contractor is to include in their monthly progress report updated information on enterprise development support, mentoring and skills transfer.
- Zululand District Municipality will monitor CPG implementation on site. This may include direct contact with CPG Partner/s on site for verification purposes.

- The CPG Partner/s shall be in agreement with the measurement and payment for work completed, for the purposes of submitting payment certificates, as determined by the Contractor. Should disagreements arise, Zululand District Municipality reserves the right to intervene to resolve the disagreement.
- CPG Partner/s shall attend all contractual meetings relevant to their scope of work including contract award negotiations, monthly contract site progress and technical meetings.

6. Penalties for not achieving the minimum CPG or finishing late

In the event that the principal contractor fails to substantiate that any failure to achieve the 30% Contract Participation Goal expenditure was due to reasons beyond the contractor's control which may be acceptable solely at the discretion of the employer, the following shall apply.

In the case where the minimum CPG expenditure of 30% is not achieved, the Contractor will be penalized as follows:

- The CPG expenditure amount not achieved in Rands will be multiplied by a factor of 0.7. The factored amount in Rands will be deducted from the Contractor's final payment certificate.

7. Eligibility Criteria

For tenders where the CPG target is applicable, those that do not offer a **minimum** CPG participation of **30%** according to the requirements mentioned above, will be deemed **ineligible**.

DECLARATION REGARDING CONTRACT PARTICIPATION GOALS

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by: **ZULULAND DISTRICT MUNICIPALITY** do hereby make the following declaration and certify the statements contained herein to be true and complete in every respect:

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

1. I have read and I understand the contents of this Declaration and the fully completed bid document accompanying this declaration;
2. I understand and declare that the accompanying bid will, and must, be disqualified if this Declaration is found not to be true and complete in every respect;
3. I understand and declare that in the event that this bid is successful, I will be required to, and shall, fully implement the commitments that are submitted with this bid, in particular regarding the Bidder's contract participation goals and commitments towards the allocation of certain portion of the contract to qualifying targeted enterprises. Failure to implement such commitments as outlined in the bid document and or failure to provide the relevant information within the prescribed period as determined in the Letter of Intention to Award the Bid, shall automatically disqualify this bid from further consideration and the Employer has the right to, and must, then award the bid to the next highest ranked bidder; and as a result I or the bidder or any of its directors shall have no recourse against Zululand District Municipality.
4. I am authorized by the bidder to sign this Declaration, and to submit the accompanying bid, on behalf of the bidder;
5. 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;
6. I understand and accept that although I may propose a suitable CPG Partner/s, Zululand District Municipality reserves the right to provide or arrange a CPG Partner/s to work with the successful company and I understand and accept that the signing of this Contract is contingent upon the completion of successful CPG negotiations with Zululand District Municipality.
7. I am aware that, and do consent to, the disqualification of my or the bidder's future bids with Zululand District Municipality in the event of the commitments made herein are not fulfilled and that such non-fulfilment amounts to abuse of Zululand District Municipality's supply chain policies and procedures and/or empowerment objectives, which must be penalized, over and above the contractual sanctions as agreed to in line with the contract signed with Zululand District Municipality, with a sanction of restricting me and or my company (the bidder) and or any of its directors from conducting business with Zululand District Municipality for a period not exceeding five (5) years.
8. I consent that should my company (the Bidder) deviate from the commitments and the spirit of the CPG objectives as agreed to, shall amount to a repudiation of the contractual arrangement between the two parties (Zululand District Municipality and the Bidder); and Zululand District Municipality has the right to terminate the contract following prior notice and reasonable time given to remedy the breach. Furthermore, should my company (the Bidder) fail to meet the CPG financial targets as agreed to, Zululand District Municipality has the right to institute penalties as set out in Section 7.

Full Names & Surname
(Duly Authorised)

Signature

Date

Position

Name of Bidder

Witness 1

Full Names & Surname

Signature

Date

Witness 2

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C1 AGREEMENTS AND CONTRACT DATA

C1.1 FORM OF OFFER AND ACCEPTANCE

OFFER

The Employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of the **ZDM 029/2021, PANEL OF CONTRACTORS FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT NORTH**

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

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this form of offer and acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

THE OFFERED TOTAL OF THE PRICES INCLUSIVE OF VALUE ADDED TAX IS:

.....
.....Rand (*In words*)

R..... (*in figures*)

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

Signature: (*of person authorized to sign the tender*):

Name: (*of signatory in capitals*):

Capacity: (*of Signatory*):

Name of Tenderer: (*organisation*):

Address:

.....

Telephone number: **Fax number:**

Witness:

Name / Signature:

Date:

ACCEPTANCE

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

The terms of the contract are contained in:

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

and drawings and documents or parts thereof, which may be incorporated by reference into the above listed parts.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the returnable schedules as well as any changes to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this form of offer and acceptance. No amendments to or deviations from said documents are valid unless contained in this schedule.

The Tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Employer's agent (whose details are given in the contract data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the Tenderer (now Contractor) within five working days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

For the Employer:

Signature:

Name: (in capitals)

Capacity:

Name of Employer: ZULULAND DISTRICT MUNICIPALITY

Address: B-400, Gagane Street, Ulundi

Witness:

Name / Signature:

Date:

SCHEDULE OF DEVIATIONS**Notes:**

1. The extent of deviations from the tender documents issued by the Employer before the tender closing date is limited to those permitted in terms of the conditions of tender.
2. A Tenderer's covering letter shall not be included in the final contract document. Should any matter in such letter, which constitutes a deviation as aforesaid 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:
.....

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

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

For the Tenderer:

For the Employer:

_____	Signature	_____
_____	Name	_____
_____	Capacity	_____

Name and address of organisation:

Name and address of organisation:

_____		_____
_____		_____
_____		_____
_____	Witness Signature	_____
_____	Witness Name	_____
_____	Date	_____

CONFIRMATION OF RECEIPT

The Tenderer, (now Contractor), identified in the Offer part of this Agreement hereby confirms receipt from the Employer, identified in the Acceptance part of this Agreement, of one fully completed original copy of this Agreement, including the Schedule of Deviations (if any) today:

the _____ (day)

of _____ (month)

20 _____ (year)

at _____ (place)

For the Contractor:

.....
Signature

.....
Name

.....
Capacity

**Signature and Name
of Witness:**

.....
Signature

.....
Name

C1.2 CONTRACT DATA

C1.2.1 CONDITIONS OF CONTRACT

C1.2.1.1 GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract for Construction Works Third Edition 2015 published by the South African Institution of Civil Engineering are applicable to this contract. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805 5947 and www.saice.org.za).

The General Conditions of Contract for Construction Works make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the general conditions of contract.

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

VARIATIONS TO THE GENERAL CONDITIONS OF CONTRACT

PART 1 : DATA TO BE PROVIDED BY THE EMPLOYER

REF. CLAUSE NO.	DATA BY EMPLOYER	
1.1.13	The Defects Liability Period is:	12 months
1.1.1.15	The name of the Employer is:	Zululand District Municipality
1.1.1.26	The Pricing Strategy is:	Re-measurement
1.2.1.2	The address of Employer:	
	<u>Physical:</u>	<u>Postal:</u>
	B-400 Gagane street, B-North	Private Bag X 76
	ULUNDI, 3838	ULUNDI, 3838
	Telephone No: (035) 874 5500	Fax No: (035) 874 5589
1.1.1.16	Name of Engineer:	To be confirmed
1.2.1.2	Address of Engineer:	
	<u>Physical:</u>	<u>Postal:</u>
	To be confirmed	To be confirmed
	Telephone No: e-mail:	Fax No:

REF. CLAUSE NO.	DATA BY EMPLOYER
5.3.1	The documentation required before commencement with Works execution are:
	- Initial programme (Refer to Clause 5.6) - Insurance (Refer to Clause 8.6)
5.3.2	The time to submit the documentation required before commencement with Works execution is: 14/7 Days
5.8.1	Non-working days are: Sundays
	The special non-working days are: Public holidays and the year-end break which commences on the first working day after 15 December and ends on the first Tuesday after 5 January of the next year.
5.13.1	The penalty for failing to complete the Works is: the lesser of R2500 or 1/20 of 1% of the offered total of prices excluding VAT per calendar day.
5.13.2	The penalty for non-compliance during the contract or fraudulent disclosure is: R500 excluding VAT per calendar day until the contractor becomes compliant.
5.16.3	The latent defect period is: 5 years
6.5.1.2.3	The percentage allowances to cover overhead charges: 10% of the gross remuneration of workmen and foremen actually engaged in the daywork; and 10% on the net cost of materials actually used
6.8.2	Contract Price Adjustment will be applicable. The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: The value of "x" is 0.1 The values of the coefficients are: A = 0.40 B = 0.10 C = 0.45 D = 0.05 Base Date = April 2022
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is: 80% provided a cession in favour of the Employer is provided from both the supplier and the Contractor.
6.10.3	The limit of retention money is: 10% of each payment certificate up to a maximum of 5% of the offered total of prices excluding VAT.
6.10.4	Payment period: The Employer shall pay the amount due to the Contractor within 30 days of receipt by the Employer of the payment certificate signed by the Employers Agent.
6.10.5	The defects Liability Period is specified as being 12 Months.
8.6.1	INSURANCE EFFECTED BY THE EMPLOYER The Employer will not provide any insurance. INSURANCE EFFECTED BY THE CONTRACTOR a) The Contractor and Sub-contractor shall where applicable provide as a minimum the following: - i)..... Contract Works, SASRIA and Public Liability Insurance; - ii)..... Insurance of Construction Plant and Equipment (including tools offices and other temporary structures and contents) and other things (except those intended for incorporation into the Works) brought onto the site for a sum sufficient to provide for their replacement; - iii).... Insurance in terms of the provisions of the Compensation for Occupational Injuries and Diseases Act (COID) Act No 130 of 1993; Employers Common Law Liability Insurance with a limit of indemnity of not less than R 1 000 000.00; - iv).... Motor Vehicle Liability Insurance comprising (as a minimum) "balance of Third Party" Risks including Passenger Liability indemnity of not less than R 1 000 000.00 (one million Rand);and

	v)..... Where the Contract involves manufacturing and/or fabrication of the Works or parts thereof at premises other than at the Contract Site the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the Works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such Works during manufacture or fabrication then such interest shall be noted by the endorsement to the relevant Policies of Insurance. The Contractor shall within fourteen (14) days of commencement of the contract produce to the Employer the relevant Policies of Insurance. Notwithstanding anything elsewhere contained in this Contract without limiting the obligations liabilities or responsibilities of the Contractor in any way whatsoever (including but not limited to any requirement for the provision by the Contractor of any other insurances) the Employer may, on behalf of the Contractor, effect and maintain as appropriate in the joint names of the Employer the Contractor and where the relevant Sub-contractors the following insurances which are subject to the terms, limits, exceptions and conditions of the Policy. CONTRACT WORKS AND SASRIA SPECIAL RISKS INSURANCE – which will provide cover against accidental physical loss or damage to the Works, Temporary Works and materials intended for incorporation in the Works. PUBLIC LIABILITY Insurance – which will provide indemnity against legal liability in the event of accidental death of or injury to third persons and/or loss of or damage to third party property arising directly from the execution of the contract and occurring during the period of insurance with a limit of indemnity of R 2 000 000.00 in respect of all claims arising from any one occurrence or series of occurrences consequent on or attributable to one source or original cause.
8.6.1.1.3	R Nil
10.5.3	The number of Adjudication Board Members to be appointed is: Nil

PART 2: DATA TO BE PROVIDED BY CONTRACTOR

REF. CLAUSE No	DATA BY CONTRACTOR						
1.1.1.9	Name of Contractor:						
1.2.1.2	Address of Contractor:						
	Physical: Postal:						
							
							
	e-mail:						
	Telephone No: Fax No:.....						
1.1.1.14	Time for achieving Practical Completion of the whole of the Works is: _____ (Max 36 months)						
6.2.1	The security to be provided by the Contractor shall be one of the following: <i>VAT is to be excluded from the Contract Sum/ value of Works for calculating the percentages</i>						
	<table border="1"> <thead> <tr> <th>Type of Security</th><th>Contractor's choice Indicate "Yes" or No"</th></tr> </thead> <tbody> <tr> <td>Cash deposit of 10% of the Contract Sum</td><td></td></tr> <tr> <td>Performance guarantee of 10% of the Contract Sum</td><td></td></tr> </tbody> </table> Note that additional retention in lieu of surety will not be allowed.	Type of Security	Contractor's choice Indicate "Yes" or No"	Cash deposit of 10% of the Contract Sum		Performance guarantee of 10% of the Contract Sum	
Type of Security	Contractor's choice Indicate "Yes" or No"						
Cash deposit of 10% of the Contract Sum							
Performance guarantee of 10% of the Contract Sum							

C1.2.2 AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT No 85 OF 1993

THIS AGREEMENT is made between

(Hereinafter called the Employer) of the one part, herein represented by:

in his capacity as:;

AND:

(Hereinafter called the Contractor) of the other part, herein represented by

in his capacity as:

duly authorized to sign on behalf of the Contractor.

WHEREAS the Contractor is the Mandatory of the Employer in consequence of an agreement between the Contractor and the Employer in respect of

CONTRACT NO: ZDM 029/2021 : PANEL OF CONTRACTORS FOR EMERGENCY WATER REPAIRS AND MAINTENANCE WITHIN ZULULAND DISTRICT NORTH

for the construction, completion and maintenance of the works;

AND WHEREAS the Employer and the Contractor have agreed to enter into an agreement in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act No 85 of 1993, as amended by OHS Act Amendment Act No 181/1993 (hereinafter referred to as the Act);

NOW THEREFORE the parties agree as follows:

1. The Contractor undertakes to acquaint the appropriate officials and employees of the Contractor with all relevant provisions of the Act and the regulations promulgated in terms thereof.
2. The Contractor undertakes to fully comply with all relevant duties, obligations and prohibitions imposed in terms of the Act and Regulations: Provided that should the Employer have prescribed certain arrangements and procedures that same shall be observed and adhered to by the Contractor, his officials and employees. The Contractor shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
3. The Contractor hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures, if any, imposed by the Act and Regulations, and the Contractor expressly absolves the Employer and the Employer's Consulting Engineers from being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedures in respect of the work included in the contract.
4. The Contractor agrees that any duly authorized officials of the Employer shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the Contractor has complied with his undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the Contractor, or to take such steps it may deem necessary to remedy the default of the Contractor at the cost of the Contractor.
5. The Contractor shall be obliged to report forthwith to the Employer any investigation, complaint or criminal charge which may arise as a consequence of the provisions of the Act and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such investigation, complaint or criminal charge.

Thus signed at for and on behalf of the **CONTRACTOR**
on this the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

Thus signed at for and on behalf of the **EMPLOYER** on this
the day of 20.....

SIGNATURE:

NAME AND SURNAME:

CAPACITY:

WITNESSES: 1.

2.

C.2 PRICING DATA

C2.1 PRICING INSTRUCTIONS

1. GENERAL

The Bill of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents, which include the Conditions of Tender, Conditions of Contract, the Specifications (including the Project Specification) and the Drawings.

2. DESCRIPTION OF ITEMS IN THE SCHEDULE

The Bill of Quantities has been drawn up generally in accordance with Civil Engineering Quantities 1990 issued by the SA Institution of Civil Engineers.

The short descriptions of the items in the Bill of Quantities are for identification purposes only and the measurement and payment clause of the Standardized Specifications and the Particular Specifications, read together with the relevant clauses of the Project Specification and directives on the drawings, set out what ancillary or associated work and activities are included in the rates for the operations specified.

3. QUANTITIES REFLECTED IN THE SCHEDULE

The quantities given in the Bill of Quantities are estimates only, and subject to re-measuring during the execution of the work. The Contractor shall obtain the Engineer's detailed instructions for all work before ordering any materials or executing work or making arrangements for it.

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Bill of Quantities and in accordance with the General and Special Conditions of Contract, the Specifications and Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste.

The validity of the contract will in no way be affected by differences between the quantities in the Bill of Quantities and the quantities finally certified for payment.

4. PROVISIONAL SUMS

Where Provisional sums or Prime Cost sums are provided for items in the Bill of Quantities, payment for the work done under such items will be made in accordance with Clause 6.6 of the General Conditions of Contract 2015. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted in the "Amount" column of the Bill of Quantities and in the Summary of the Bill of Quantities unless ordered or authorized in writing by the Employer before closure of tenders. Any unauthorized changes made by the Tenderer to provisional items in the schedule, or to the provisional percentages and sums in the Summary of the Bill of Quantities, will be treated as arithmetical errors.

5. PRICING OF THE BILL OF QUANTITIES

The prices and rates to be inserted by the Tenderer in the Bill of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under the several items, and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based.

Each item shall be priced and extended to the "Total" column by the Tenderer, with the

exception of the items for which only rates are required, or items which already have Prime Cost or Provisional Sums affixed thereto. If the Contractor omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

The Tenderer shall fill in rates for all items where the words "rate only" appears in the "Total" column. "Rate Only" items have been included where:

- (a) an alternative item or material is contemplated;
- (b) variations of specified components in the make-up of a pay item may be expected; and
- (c) no work under the item is foreseen at tender stage but the possibility that such work may be required is not excluded.

For "Rate Only" items no quantities are given in the "Quantity" column but the quoted rate shall apply in the event of work under this item being required. The Tenderer shall however note that in terms of the Tender Data the Tenderer may be asked to reconsider any such rates which the Employer may regard as unbalanced.

All rates and amounts quoted in the Bill of Quantities shall be in Rands and cents and shall include all levies and taxes (other than VAT). VAT will be added in the summary of the Bill of Quantities.

The scope will consist of adhoc work packages of varying sizes involving : repair, replacements and upgrades of existing old and new mechanical and electrical equipment, civil works, and all water and sanitation delivery infrastructure in ZDM as and when required.

6. CORRECTION OF ENTRIES

Incorrect entries shall not be erased or obliterated with correction fluid but must be crossed out neatly. The correct figures must be entered above or adjacent to the deleted entry, and the alteration must be initialled by the Tenderer.

7. ARITHMETICAL ERRORS

Arithmetical errors found in the Bill of Quantities as a result of faulty multiplication or addition, will be corrected by the Engineer at the tender evaluation stage, in accordance with the procedure set out in the Tender Data.

8. MONTHLY PAYMENTS

Unless otherwise specified in the Specifications and Project Specifications, progress payments in Interim Certificates, referred to in Clause 6.10 of the General Conditions of Contract 2015, in respect of "sum" items in the Bill of Quantities shall be by means of interim progress instalments assessed by the Engineer and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

9. UNITS OF MEASUREMENT

The units of measurement described in the Bill of Quantities are metric units for which the standard international abbreviations are used. Non-standard abbreviations which may appear in the Bill of Quantities are as follows:

No.	=	number	PC sum	=	Prime cost sum
%	=	percent	Prov sum	=	Provisional sum

10. PRODUCT NAMES OR SIMILAR APPROVED

Wherever reference has been made to product names, it also includes all similar ZDM approved product names. Should alternative products be included, all relevant information to be supplied for approval by ZDM.

11. PAYMENT FOR THE LABOUR-INTENSIVE COMPONENT OF THE WORKS:

Those parts of the works to be constructed using labour-intensive methods are marked in the bill of quantities with the letters LI either in a separate column or as a prefix or suffix against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a deviation from the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand and this clause does not over-ride any of the requirements in the generic labour-intensive specification in the Scope of Works.

Where minimum labour intensity is specified in the design, the contractor is expected to use their initiative to identify additional activities that can be done labour-intensively in order to comply with the set minimum labour intensity targets.

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. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict

12. LINKAGE OF PAYMENT FOR LABOUR-INTENSIVE COMPONENT OF WORKS TO SUBMISSION OF PROJECT DATA

The Contractor's payment invoices shall be accompanied by labour information for the corresponding period in a format specified by the employer. If the contractor chooses to delay submitting payment invoices, labour returns shall still be submitted as per frequency and timeframes stipulated by the Employer. The contractor's invoices shall not be paid until all pending labour information has been submitted. The client may institute a penalty relating to outstanding labour information.

The following information shall be maintained on site and submitted in electronic/hard copy formats:

- Certified ID copies of all locally employed labour
- Signed Contracts between the employer and the EPWP Participants
- Attendance Registers for the EPWP Participants
- Proof of Payment of EPWP Employees
- Monthly Reporting Template as per EPWP requirements

SECTION 1 : PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		PRELIMINARY AND GENERAL The scope will consist of adhoc work packages of varying sizes involving : repair, replacements and upgrades of existing old and new mechanical and electrical equipment, civil works, and all water and sanitation delivery infrastructure in Abaqulusi LM eDumbe LM and uPhongola LM and when required. FIXED-CHARGE ITEMS 1200 A 8.3 8.3.1 Contractual Requirements 8.3.2 Establish Facilities on the Site : b) Facilities for Contractor Offices and storage sheds Workshops Living Accomodation Ablution and latrine facilities Tools and equipment Water supplies, electric power and communications Access (Subclause 5.8) Plant Other fixed-charge obligations PA All work to ensure compliance with the provisions of the OSH Act 85 of 1993 and Regulations R1010 as published in Government Gazette on 18 July 2003. This item shall include all costs to provide a safety plan including the mentoring thereof, auditing thereof and reporting to the Engineer, on a regular basis. To include Health and Safety Officer. To include dealing with extra requirements relating to Covid-19. All extra effort required to manage task based construction including reporting thereon and dealing with labour related matters. CONTRACTORS TO PRICE THE ABOVE FOR THE FOLLOWING WORK PACKAGE SIZES:				
1.1	1200 A 8.3	All fixed charge related items as listed above for projects with a value up to R20 000.	%	20000		
1.2	1200 A 8.3	All fixed charge related items as listed above for projects with a value over R20 000 and up to R50 000.	%	50000		
1.3	1200 A 8.3	All fixed charge related items as listed above for projects with a value over R50 000 and up to R100 000.	%	100000		
1.4	1200 A 8.3	All fixed charge related items as listed above for projects with a value over R100 000 and up to R250 000.	%	250000		
1.5	1200 A 8.3	All fixed charge related items as listed above for projects with a value over R250 000 and up to R500 000.	%	500000		
CARRIED FORWARD						

SECTION 1 : PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
1.6	1200 A 8.3	BROUGHT FORWARD All fixed charge related items as listed above for projects with a value over R500 000 and up to R1000 000 and above.	%	1000000		
1.7	8.4	TIME-RELATED ITEMS The scope will consist of adhoc work packages of varying sizes involving : repair, replacements and upgrades of existing old and new mechanical and electrical equipment, civil works, and all water and sanitation delivery infrastructure in Abaqulusi LM eDumbe LM and uPhongola LM and when required.				
	8.4.1	Contractual Requirements				
	8.4.2	Operate and maintain facilities on the site, for duration of construction, except where otherwise stated:				
	8.4.2.1	b) Facilities for contractor for duration of construction (SABS 1200 AB)				
	8.4.2	Operate and maintain facilities on the Site: Offices and storage sheds Workshops Living Accomodation Ablution and latrine facilities Tools and equipment Water supplies, electric power and communications Access (Subclause 5.8) Plant Other fixed-charge obligations				
	PA	All work to ensure compliance with the provisions of the OSH Act 85 of 1993 and Regulations R1010 as published in Government Gazette on 18 July 2003. This item shall include all costs to provide a safety plan including the mentoring thereof, auditing thereof and reporting to the Engineer, on a regular basis. To include Health and Safety Officer Full time. To include dealing with extra requirements relating to Covid-19. All extra effort required to manage task based construction including reporting thereon and dealing with labour related matters. CONTRACTORS TO PRICE THE ABOVE FOR THE FOLLOWING WORK PACKAGE SIZES:				
1.8		All fixed charge related items as listed above for projects with a value up to R20 000.	Week	4		
1.9		All fixed charge related items as listed above for projects with a value over R20 000 and up to R50 000.	Week	4		
1.10		All fixed charge related items as listed above for projects with a value over R50 000 and up to R100 000.	Week	4		
CARRIED FORWARD						

SECTION 1 : PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R	
1.11	8.7	BROUGHT FORWARD All fixed charge related items as listed above for projects with a value over R100 000 and up to R250 000.	Month	3			
1.12		All fixed charge related items as listed above for projects with a value over R250 000 and up to R500 000.	Month	4			
1.13		All fixed charge related items as listed above for projects with a value over R500 000 and up to R1000 000 and above.	Month	6			
1.14		Daywork					
1.14.1		Labour	Sum	1	25 000.00	25 000.00	
1.14.2		Percentage adjustment to item 1.14.1 for labour	%	25000			
1.14.3		Materials	Sum	1	25 000.00	25 000.00	
1.14.4		Percentage adjustment to item 1.14.3 for materials	%	25000			
1.14.5		Plant (Inclusive of Operator)	Sum	1	25 000.00	25 000.00	
1.14.6		Percentage adjustment to item 1.14.5 for plant	%	25000			
1.15		SKILLS TRAINING					
1.15.1		Allowance of R50 000.00 for CEITS skills training of local labour.	PC	1	50 000.00	50 000.00	
1.15.2		All work to assist with the selection of accredited training agent and manage the training process including markup and handling fee. All direct training costs will be paid at cost.	%	50000			
1.16		STUDENT TRAINING / IN-SERVICE					
1.16.1		Allowance for R80 000 for in-service training of students.	PC	1	80 000.00	80 000.00	
1.16.2		All work to assist with the training, supervising and signing of students report, including markup and handling fee. All direct training costs will be paid.	%	80000			
1.17		CLIENT HEALTH AND SAFETY					
1.17.1		Allowance for R50 000 for Health and Safety reimbursement.	PC	1	50 000.00	50 000.00	
1.17.2		Contractor's markup including payment	%	50000			
1.18		CLIENT ENVIRONMENTAL OFFICER					
1.18.1		Allowance for R50 000 for Environmental Officer reimbursement.	PC	1	50 000.00	50 000.00	
1.18.2		Contractor's markup including payment	%	50000			
1.19		COMMUNITY LIASION OFFICER					
1.19.1		Allowance for R30 000 for CLO reimbursement.	PC	1	30 000.00	30 000.00	
1.19.2		Contractor's markup including payment	%	30000			
CARRIED FORWARD							

SECTION 1 : PRELIMINARY AND GENERAL

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
1.20		BROUGHT FORWARD				
1.20.1		EPWP REQUIREMENTS				
		Allowance for R50 000 for standard ZDM blue coloured overall for workers branded with ZDM logo and EPWP lettering on the back. Taking labourers for Medical tests.	PC	1	50 000.00	50 000.00
1.20.2		Contractor's markup including payment	%	50000		
TOTAL FOR SECTION 1 CARRIED FORWARD TO SUMMARY						

SECTION 2 : EQUIPPING AND MAINTAINING BOREHOLES AND PUMPS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
	PA.17.7	EQUIPPING				
2.1	PA.17.7.1	Establishment	No	5		
2.2		All work to ensure compliance with the provisions of the OHS Act 85 of 1993 and Regulations R1010 as published in Government Gazette on 19 July 2003. This item shall include all costs to provide a safety plan including the monitoring thereof, auditing thereof and the reporting thereon to the Engineer on a regular basis.	No	5		
2.3		All work required to be done for Environmental Management. NB. Exclude topsoiling; compaction of earth berms and grassing etc. as these are individually itemised.	No	5		
	PA.17.7.2	Concrete Block/Apron and Mounting Flange				
		(a) Handpump application				
		1.5m x 1.0m x 0.3m precast or cast-in-situ including 4No stainless steel mounting bolts, steel sleeve/mounting flange and identification plate				
2.4		i) Without run-off drain	No	2		
2.5		ii) With run-off drain	No	2		
2.6		(b) Other pump application	Sum	1	50 000.00	50 000.00
2.7		Markup on the above	%	50000		
	PA.17.7.3	Borehole Installation				
2.8		(a) Handpump	No	2		
2.9		(b) Submersible pump	No	2		
2.10		(c) Electric lineshaft pump	No	2		
2.11		(d) Diesel lineshaft pump	No	2		
2.12		(e) Solar pump	No	2		
2.13		(f) Windmill	No	2		
2.14		Electrical connection including all materials and a compliance certificate.	Sum	1	50 000.00	50 000.00
2.15		Markup on the above	%	50000		
	PA.17.7.4	Column and Shaft Installation				
2.16		(a) <2 diam. shafting"	m	375		
2.17		(b) 3 - 4" diam. shafting"	m	375		
		Supply of Pump, Valves Fittings etc				
2.18		Supply of all materials, fittings etc as approved by the Engineer (Proven costs)	Sum	1	250 000.00	250 000.00
2.19		Markup on the above	%	250000		
	PA.17.7.5	Protective Housing				
2.20		(a) Galvanised cage as detailed on Dwg 28006/937 complete including concrete base etc - Diesel option 01	No	2		
2.21		(b) Galvanised cage as detailed on Dwg 28006/938 complete including concrete base etc - Diesel option 02	No	2		
CARRIED FORWARD						

SECTION 2 : EQUIPPING AND MAINTAINING BOREHOLES AND PUMPS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
2.22		BROUGHT FORWARD (c) Galvanised cage as detailed on Dwg 28006/939 complete including concrete base etc - Electric motors	No	2		
	PA.17.8	MAINTENANCE AND REPAIRS				
2.23	PA.17.8.1	Establishment				
2.23.1		For 1 borehole only:	Sum	2		
2.23.2		For 2-5 boreholes:	Sum	2		
2.23.3		For 6-10 boreholes:	Sum	2		
2.23.4		For more than 10 boreholes:	Sum	2		
	PA.17.8.2	Removal or Re-installation of Existing Equipment				
2.24		(a) Handpump	No	2		
2.25		(b) Submersible pump	No	2		
2.26		(c) Electric lineshaft pump	No	2		
2.27		(d) Diesel lineshaft pump	No	2		
2.28		(e) Solar pump	No	2		
2.29		(f) Windmill	No	2		
	PA.17.8.3	Removal or Re-installation of Columns and Shafts				
2.30		(a) <2 diam. shafting"	m	375		
2.31		(b) 3 - 4" diam. shafting"	m	375		
	PA.17.8.4	Concrete Block/Apron Repair				
		(a) Handpump				
2.32		i) Replace with new (Without run off drain)	No	2		
2.33		ii) Remove existing	No	2		
		(b) Other				
2.34		i) Replace with new (With run off drain)	No	2		
2.35		ii) Remove existing	No	2		
	PA.17.8.4	Mounting Flange (Baseplate) Repair				
		(a) Handpump				
2.36		i) Replace with new	No	2		
2.37		ii) Remove existing	No	2		
	PA.17.8.6	Special Travel				
2.38		Collection of items not specified in work order by LDV (@ Department of Public Works prevailing rates - see www.publicworks.gov.za)	km	5000		
CARRIED FORWARD						

SECTION 2 : EQUIPPING AND MAINTAINING BOREHOLES AND PUMPS

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
	PA.17.8.7	Pump Repairs				
2.39		All costs including labour and materials to service a Lister" diesel engine including replacement of oil filters etc"				
2.39.1		(1) T1	No	2		
2.39.2		(2) T2	No	2		
2.39.3		(3) T3	No	2		
2.39.4		(4) Fuel	Sum	1	60 000.00	60 000.00
2.39.5		Markup on the above	%	60000		
2.39.6		Other parts or materials required for repairs	Sum	1	30 000.00	30 000.00
2.39.7		Markup on the above	%	30000		
		Hourly labour charges for the repair of specified items				
2.40		(a) Unskilled labour	hr	3750		
2.41		(b) Skilled labour	hr	375		
2.42		(c) Qualified artisan	hr	375		
	PA.17.8.8	Other Pump Repairs				
2.43		(a) All work to wire brush and/or hydro blast steel fittings, cages etc and apply two coats Zinga", supply of coating materials only measured elsewhere."	m²	125		
2.44		(b) Zinga	kg	35		
2.45		(c) Zingasolve	l	35		
2.46		(d) Supply blast grit	50kg	25		
	PA.17.8.9	Supply of Materials to Nearest LA Node				
2.47		i) Rough formwork	m²	125		
2.48		ii) Reinforcement (Proven cost plus 15%)	kg	5000		
2.49		iii) 19mm Concrete stone	m³	10		
2.50		iv) Concrete sand	m³	10		
2.51		v) Cement (PBFC)	bag	200		
2.52	PA.17.6.14	Reporting	No	10		
TOTAL FOR SECTION 2 CARRIED FORWARD TO SUMMARY						

SECTION 3 : WATER AND SANITATION RELATED SERVICES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
3.1	PB.7.2.1	Establishment	No	5		
3.2		All work to ensure compliance with the provisions of the OHS Act 85 of 1993 and Regulations R1010 as published in Government Gazette on 19 July 2003. This item shall include all costs to provide a safety plan including the monitoring thereof, auditing thereof and the reporting thereon to the Engineer on a regular basis.	No	5		
3.3		All work required to be done for Environmental Management. NB. Exclude topsoiling; compaction of earth berms and grassing etc. as these are individually itemised.	No	5		
	PB.7.2.2	Supply to Nearest LA Node				
3.4		(a) Rough formwork	m²	50		
3.5		(b) Reinforcement	kg	200		
3.6		(c) 19mm Concrete stone	m³	20		
3.7		(d) Concrete sand/granular bedding	m³	20		
3.8		(e) Cement (PBFC)	bag	100		
3.9		(f) Concrete bricks	No	1000		
3.10		(g) Concrete cube test	m³	5		
3.11		(h) Soil Density test	no	15		
3.12		PSDK.1.2	(i) A2 geotextile	m²		
3.13	CONCRETE					
3.14	Supply and Cast on site:					
3.15	15Mpa		m³	5		
3.16	25Mpa		m³	5		
3.17	30Mpa		m³	5		
	READY MIX CONCRETE					
3.18	15Mpa		m³	5		
3.19	25Mpa		m³	5		
3.20	30Mpa		m³	5		
3.21	PB.7.2.3	Supply of Pipes and Fittings				
3.22		Pipes				
3.23		Supply and delivery of HDPE, uPVC, PVC-O, Steel, etc.	Sum	1	220 000.00	220 000.00
3.24		Markup on the above	%	220000		
3.25	PB.7.2.4	Installation of Typical Details				
3.26		(a) Air valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/901 (for 50mm dia. and 63mm dia. HDPE pipes)	No	2		
3.27		(b) Air valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/902 (for 75mm dia. to 250mm dia. UPVC pipes)	No	2		
CARRIED FORWARD						

SECTION 3 : WATER AND SANITATION RELATED SERVICES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
3.28		BROUGHT FORWARD (c) Isolating valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/903 (for 50mm dia. and 63mm dia. HDPE pipes)	No	2		
3.29		(d) Isolating valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/904 (for 75mm dia. HDPE / PVC pipes)	No	2		
3.30		(d) Isolating valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/904 (for 90mm dia. HDPE / PVC pipes)	No	2		
3.31		(d) Isolating valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/904 (for 110mm dia. HDPE / PVC pipes)	No	2		
3.32		(e) Isolating valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/905 (for 90mm dia. and 160mm dia. PVC pipes)	No	2		
3.33		(f) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/906 (for 50mm dia. and 63mm dia. HDPE pipes)	No	2		
3.34		(f) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/906 (for 75mm dia. HDPE / PVC pipes)	No	2		
3.35		(f) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/906 (for 90mm dia. HDPE / PVC pipes)	No	2		
3.36		(g) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/907 (for 75mm dia. to 110mm dia. UPVC pipes)	No	2		
3.37		(g) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/907 (for 75mm dia. to 160mm dia. UPVC pipes)	No	2		
3.38		(g) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/907 (for 75mm dia. to 200mm dia. UPVC pipes)	No	2		
3.39		(h) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/908 (for 200mm dia. to 300mm dia. UPVC pipes)	No	2		
3.40		(i) Standpipe Type 1 complete with all fittings as per schedule on Dwg 28006/910 (excluding water meter)	No	5		
3.41		(j) Standpipe Type 2 complete with all fittings as per schedule on Dwg 28006/911 and including water meter	No	5		
3.42		(k) Drinking trough complete with cover and all fittings as detailed on Dwg 28006/912	No	2		
CARRIED FORWARD						

SECTION 3 : WATER AND SANITATION RELATED SERVICES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
3.43		BROUGHT FORWARD (l) 5000l tank and stand complete including all fittings, materials etc as detailed on Dwg 28006/913	No	5		
3.44		(m) 5000l tank and stand complete with all fittings, materials etc as detailed on Dwg 28006/914	No	5		
3.45		(n) 10 000l tank and stand complete with all fittings, materials etc as detailed on Dwg 28006/914-A	No	5		
3.46		(i) Circular manhole cover detail complete with all fittings as per Dwg 28006/909	No	15		
3.47		(j) Pipe route marker as detailed on Dwg 28006/917	No	50		
3.49		Supply and installation of lockable padlocks specified by ZDM	Sum	1	10 000.00	10 000.00
3.50		Markup on the above	%	10000		
3.50.1		Supply and installation of water meters Supply specified sizes of water meters.	Sum	1	55 000.00	55 000.00
3.51		Markup on the above	%	55000		
3.52		Fencing				
3.53		Pedestrian/stock fencing complete as detailed on Dwg 28006/928 excluding gates	m	50		
3.54		Extra-over item for pedestrian gate as detailed on Dwg 28006/930 (0.9m wide)	No	2		
3.55		Extra-over item for Double Vehicular gate Dwg 28006/930 (3.6m wide)	No	2		
3.56		Security fencing as detailed on Dwg 28006/929 complete excluding gates	m	100		
3.57		Extra-over item 5.34 for pedestrian gate (0.9m wide)	No	2		
3.58		Extra-over item 5.34 for double leaf vehicle gate (3.6m wide)	No	2		
3.59	PB.7.2.5	Excavate, Lay and Backfill				
3.60	SABS 1200	(a) Excavation according to SABS 1200				
3.61		(i) Soft	m³	300		
3.62		(ii) Intermediate	m³	500		
3.63		(iii) Hard	m³	200		
3.64		(iv) Mechanised (TLB/tracked excavator) excavation	m³	100		
3.65		(b) Laying and Backfill				
3.66		(i) Laying HDPE pipes up to 75mm dia.	m	300		
3.67		(ii) Laying UPVC pipes > 75mm - 160mm dia.	m	500		
3.68		(ii) Laying UPVC pipes > 160mm - 300mm dia.	m	200		
3.69		(iii) Pressure testing (Passed)	m	1000		
CARRIED FORWARD						

SECTION 3 : WATER AND SANITATION RELATED SERVICES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
3.70		BROUGHT FORWARD (iv) Provision of water when using a Water Tanker	Sum	1		
3.71		SEWERS				
3.72		Supply, lay, joint, bed, class 34 uPVC and test pipeline				
3.73		110mm	m	50		
3.74		160mm	m	50		
3.75		200mm	m	50		
3.76		315mm	m	50		
3.77		Manholes				
3.78		0,0 upto 2,0m	No	2		
3.79		2,0 upto 3,0m	No	2		
3.80		3,0 upto 4,0m	No	2		
3.81		4,0 upto 5,0m	No	2		
3.82		Erf Connections (110mm uPVC CI 34, 3 m long)	No	2		
3.83		Erf Connections (110mm uPVC CI 34, 9 m long)	No	2		
3.84		Anchor blocks	m³	2		
3.85		Connection to existing sewer	No	5		
3.86	8.2.2	Backfilling				
3.87	8.2.2.3	(i) Backfilling all pipes from trench	m³	500		
3.88	8.2.2.3	(i) Backfilling all pipes from commercial sources	m³	200		
3.89		(ii) Backfilling all pipes from Borrow Pits	m³	300		
3.90		Extra Over Item for Backfilling: Supply of bedding & blanket from Trench / Borrow Pit / Commercial source:- From Trench				
3.91		a) Selected granular material	m³	150		
3.92		b) Selected fill material From Borrow pit	m³	200		
3.93		a) Selected granular material	m³	50		
3.94		b) Selected fill material From Commercial Sources	m³	100		
3.95		a) Selected granular material	m³	20		
3.96		b) Selected fill material	m³	100		
3.97		c) 13.2mm stone	m³	50		
3.98		Erosion Protection				
3.99	PSD.3.1	Erosion control berms complete as detailed on Dwg 28006/918 but excluding rock pitching measured elsewhere	m³	20		
3.100	PSD.3.2	500 x 350 x 1.2 Sandbags filled with selected fill material as detailed on drawing 28006/918	No	20		
CARRIED FORWARD						

SECTION 3 : WATER AND SANITATION RELATED SERVICES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
3.101	PSD.3.3	BROUGHT FORWARD Extra over item 5.89 for 1% cement stabilisation of selected fill to sandbags	No	20		
3.102		c) Existing Bedding Removal	m ³	5		
3.103		Gabions				
3.104	8.2.2	1m x 1m x 2m gabions	m ³	20		
3.105		3m x 1m x 0.3m reno mattress	m ³	20		
3.106	8.2.3	Extra-over item 5.93 for packing selected stone to exposed face. (where instructed only)	m ²	20		
3.107	8.2.4	Geotextile (Grade A2)	m ²	20		
	8.2.5	Pitching				
3.108		a) UngROUTED stone pitching to upstream face of erosion control berms	m ²	20		
3.109		b) Rock bolsters to details shown on the Drawing 28006/918 but excluding sandbags measured elsewhere	m ³	20		
	PB.7.2.6	Additional Items				
		(c) Labour				
3.110		(i) Unskilled labour	hr	1000		
3.111		(ii) Skilled labour	hr	150		
3.112		(iii) Artisan Plumber / Supervisor	hr	50		
		Large Plant				
		All large plant rates are to be wet" with an operator and based on a minimum hire of 8 hours/day. "				
3.113		TLB (70kW)				
3.113.1		(i) Establishment/destablishment	km	100		
3.113.2		(ii) Wet rate	hr	50		
3.114		EXCAVATOR (20T)				
3.114.1		(i) Establishment/destablishment	km	100		
3.114.2		(ii) Wet rate	hr	50		
3.115		ROLLER COMPACTOR				
		350mm wide 750kg walk behind vibrating roller				
3.115.1		(i)Establishment/destablishment	km	100		
3.115.2		(ii) Wet rate	hr	50		
		Small Plant				
		All small plant rates are to be wet" "				
3.116		350CFM compressor with 2 breakers				
3.116.1		(i) Establishment/destablishment	Sum	1		
3.116.2		(i)Wet rate	day	10		
3.117		Water pump 2" petrol with hose				
3.117.1		(i) Establishment/destablishment	Sum	1		
3.117.2		(ii) Wet rate	day	10		
CARRIED FORWARD						

SECTION 3 : WATER AND SANITATION RELATED SERVICES

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
3.118		BROUGHT FORWARD				
3.118.1		Rammer compactor				
		(i) Establishment/destablishment	Sum	1		
3.118.2		(ii) Wet rate	day	10		
TOTAL FOR SECTION 3 CARRIED FORWARD TO SUMMARY						

C2.2 BILL OF QUANTITIES**SUMMARY OF BILL OF QUANTITIES**

SECTION 1 PRELIMINARY & GENERAL R

SECTION 2 EQUIPPING AND MAINTAINING BOREHOLES & PUMPS R

SECTION 3 WATER RELATED SERVICES R

SUBTOTAL R

ADD CONTINGENCIES @ 10% R

SUBTOTAL R

ADD FOR CONTRACT PRICE ADJUSTMENT @ 10 % R

SUBTOTAL R

ADD VAT @ 15 % R

TOTAL CARRIED TO THE FORM OF OFFER ON PAGE C.2 R

Time for Completion of the Contract (Max 36 Months) (Carried to Pg C.10, Par.1.1.1.14)

SIGNED ON BEHALF OF TENDERER:

C3 SCOPE OF WORK

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C3.2 PROJECT SPECIFICATIONS

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B: AMENDMENTS TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS

B1: AMENDMENTS TO THE STANDARD SPECIFICATIONS

- PSA GENERAL
- PSAB ENGINEER'S OFFICE
- PSC SITE CLEARANCE
- PSD EARTHWORKS

B2: ADDITIONAL PARTICULAR SPECIFICATIONS

- PA OHS&A 1993 HEALTH AND SAFETY SPECIFICATION
- PB ENVIRONMENTAL MANAGEMENT PLAN
- PC PROVISIONS FOR STRUCTURED TRAINING
- PD VIP TOILETS
- PE MISCELLANEOUS ITEMS

C3.1 STANDARD SPECIFICATIONS

The standard specifications on which this contract is based are the **SABS 1200 Standardized Specifications**.

Although not bound in nor issued with this Document, the following Parts of the SABS 1200 Standardized Specifications shall apply:

SABS 1200 A:	General (1986)
SABS 1200 D:	Earthworks (1988)
SABS 1200 DB:	Earthworks (Pipe Trenches) (1989)
SABS 1200 DK:	Gabions and Pitching (1996)
SABS 1200 GA:	Concrete (Small Works) (1982)
SABS 1200 HA:	Structural Steel Work (Sundry Items) (1990)
SABS 1200 L:	Medium-Pressure Pipelines (1983)
SABS 1200 LB:	Bedding (Pipes) (1983)

Variations and additions to the various SABS 1200 Standardised Specifications are given in Portion B of the Project Specifications

The following SANS specifications are also referred to in this document and the Contractor is advised to obtain them from Standards South Africa (a division of SABS) in Pretoria.

SANS 10396:2003: Implementing Preferential Construction Procurement Policies using Targeted Procurement Procedures

SANS 1914-1 to 6 (2002): Targeted Construction Procurement

SANS 1921-1 (2004): Construction and Management Requirements for Works Contracts

Part 1: General Engineering and Construction Works and where accommodation of traffic is involved:

SANS 1921-2 (2004): Construction and Management Requirements for Works Contracts;

Part 2: Accommodation of Traffic on Public Roads Occupied by the Contractor.

Other documents:

The latest edition of "Standards and Guidelines" from the National Home Builders Registration Council.

Model Preamble for Trades from the Association of SA Quantity Surveyors

General Conditions of Contract 2015 (third edition, 2015) Obtainable from the SA Association of Consulting Engineers

C3.2 PROJECT SPECIFICATIONS

STATUS

The Project Specification, consisting of two parts, forms an integral part of the contract and supplements the Standard Specifications.

Part A contains a general description of the works, the site and the requirements to be met.

Part B contains variations, amendments and additions to the Standardized Specifications and, if applicable, the Particular Specifications.

In the event of any discrepancy between a part or parts of the Standardized or Particular Specifications and the Project Specification, the Project Specification shall take precedence. In the event of a discrepancy between the Specifications, (including the Project Specifications) and the drawings and / or the Bill of Quantities, the discrepancy shall be resolved by the Engineer before the execution of the work under the relevant item.

The standard specifications which form part of this contract have been written to cover all phases of work normally required for road contracts, and they may therefore cover items not applicable to this particular contract.

PART A: GENERAL

PS.1 GENERAL

Employer's objectives.

Zululand District Municipality (ZDM) seeks to establish a panel of 20 contractors for the civil, mechanical, electrical works/services in all Local Municipalities (LMs) of WSAs who are current contracted customers of Zululand District Municipality for a period of 3 years / 36 months for core and critical maintenance in order to achieve the following objectives:

- Improve turnaround time of down time and interruption of services;
- Minimise down time of any critical equipment and or unit process; and
- Mitigate against asset related operational risks associated with equipment failure.

ZDM therefore seeks contractors within the boundaries of its operational area that are geared up to aid ZDM to achieve these objectives.

The Employer is required to execute maintenance of water and sanitation projects in an ad-hoc fashion often in response to unforeseen, emergency circumstances including drought, equipment failure, geo-political considerations etc.

PS.2 DESCRIPTION

The scope will consist of ad-hoc work packages involving: repair, replacements and upgrades of existing old and new mechanical and electrical equipment, civil works, and all water delivery infrastructure in all LMs where ZDM has an obligation to deliver water services as and when required.

PS.2.2 (a) Equipping and Maintaining of Groundwater Boreholes

This portion of the scheduled works deals with the equipping and maintaining of groundwater boreholes.

The activities to be carried out include:

(i) *Equipping and Maintaining*

- The equipping of successful boreholes with pumps or the capping thereof; and
- The maintenance and repair of existing pumps.

(ii) *Electrical Services*

- Electrical repairs to motor controls

The testing option has intentionally been provided for in both portions 1 and 2 so as to allow for testing of new and existing boreholes under different circumstances.

PS.2.3 (b) Rudimentary Water Construction Services

This portion of the scheduled works deals with the construction of emergency water and sanitation infrastructure including repairs to existing facilities and includes:

(i) *Water*

- *Repair to existing facilities such as air valves, isolating valves, meter replacement etc;*
- *Limited materials supply; and*
- *Fencing.*

(ii) *Ad-hoc Repairs and Maintenance*

- *Routine repairs and maintenance such as repairing leaks, air valves, replacing a faulty water meter etc.*

The terms of reference are as follows:

(iii) *Mechanical Work*

- Assessment and repair of failed/broken/damaged mechanical equipment
- Assessment and replacement of failed/broken/damaged mechanical equipment
- Assessment and refurbishment of failed/broken/damaged mechanical equipment
- Provide technical report after completion of every task.
- Adhere to ZDM's Safety, Health, Environment, Risk and Quality (SHERQ) system

(iv) *Electrical, Controls and Instrumentation*

- *Assessment and repair of failed/damaged/broken electrical equipment.*
- *Assessment and repair of failed/damaged/broken controls and instrumentation equipment.*
- *Assessment and replacement of failed/broken/damaged electrical equipment.*
- *Assessment and replacement of failed/broken/damaged controls and instrumentation equipment.*
- *Assessment and refurbishment (rewinding) of failed/broken/damaged electrical motors and transformers.*
- *Fault-finding or troubleshooting on controls and instrumentation.*
- *Programming on PLC and other controls systems.*
- *Provide technical report after completion of every task.*
- *Adhere to ZDM SHERQ system*

(v) Civil Works and Logistics

- Assessment and repair on steel, concrete, HDPE and other types of pipelines
- Assessment and replacement of steel, concrete, HDPE and other types of pipelines.
- Assessment and repair on various types of valves.
- Assessment and replacement on various types of valves.
- Assessment and repair on retaining structures and other civil structures.
- Provide cranes.
- Provide low beds and trucks.
- Provide technical report after completion of every task.
- Adhere to ZDM SHERQ system.

(vi) Extent of the services

The services and key deliverables are as follows:

- Turnaround Times and Locality – The Contractor shall be within 200km of ZDM operational area.
- Scope of Work – **The Contractors are to provide quotations within four (48) hours of receiving the Scope of Work. If a company fails to provide quotations when requested, they will immediately be removed from the system.**
- Quality of Work – all work is to be completed as per ZDM standards and specifications.

(vii) Use of reasonable skill and care

Identify the work for which the service provider is required to exercise reasonable skill and care. All work within ZDM require the service provider or Contractor to exercise reasonable skill and care.

(viii) Co-operation with other services providers

Identify other service providers on the contract and establish how interactions are to take place. The Service Providers or Contractors are to establish relationships with OEMs or Supplier's Agent as the emergency work might require replacement of complete units or replacement of failed components.

PS.3 DESCRIPTION OF SITE AND ACCESS

The project locations occur throughout the Zululand District Municipality. There is a fairly well integrated system of gravel roads and tracks within the region although access to certain sites may be difficult.

The project locations and the availability of access thereto will be indicated to the Contractor when a works order is issued.

PS.4 GEOLOGICAL & HYDROGEOLOGICAL INFORMATION

Existing geological information of the Zululand District Municipality is available and may be purchased from the Council for Geoscience (Pietermaritzburg). Existing hydro-geological information of the Zululand District Municipality can be accessed via the Zululand District Municipality Geographical Information System (GIS) and the Water Services Development Plan (WSDP). Alternatively, information is archived in the National Ground-water Database (NGDB) and may be accessed through the Directorate Geohydrology of the Department of Water Affairs and Forestry (DWAf).

The geology and rock formations comprise one or more of the following formation types:

Un-consolidated Soil Formations

Alluvium (sand and clay and gravel) and boulders (limited).

Consolidated Rock Formations

Sedimentary rocks including mudstone, shale, sandstone (including occasional orthoquartzitic zones) and tillite, all igneous (including dolerite sills and dykes) and metamorphic rocks found in the Zululand District Municipality.

Varying degrees of weathering and fracturing may be encountered within the above consolidated formations.

No claims for extra payment for such variations will be entertained (unless otherwise stipulated in the Schedule of Rates) nor do such variations relieve the Contractor from any responsibility hereunder nor from fulfilling any or all of the terms and requirements of this Contract.

PS.5 DETAILS OF CONTRACT

This Contract is designed to enable the Employer to respond to the demands noted in PS.1 in an efficient and equitable manner within a short time span.

To effect such a response the tender process for this Contract called for offers to execute defined services, from experienced contractors over a three year period.

Although the Employer may elect to appoint an independent Engineer or Engineer's Representative as per Clause 1.1.15 and 1.1.16 of the Conditions, the nature of the circumstances around which the identification of work must be responded to, is such that this Contract is not ideally suited to promote inexperienced contractors. The progressive development of contractors is targeted elsewhere in the Zululand District Municipality's capital works programme and the appointed contractor is expected to already have the requisite skills and experience to handle the level of work for which they have tendered.

The work will be executed in distinct "bytes" the scope of which will be confirmed by the Employer in an official works order which makes reference to this contract.

The scope of the scheduled work could not be accurately quantified at tender stage in view of the nature of the circumstances described above.

The quantities have therefore provisional and are merely intended as a platform from which to call for tenders in an equitable fashion. The actual situation, including in particular the size of each "byte" of work will be dependent on the actual needs identified during the contract and the contractor must take this into account in determining rates.

PS.6 FACILITIES AVAILABLE

PS.6.1 Site Facilities

There are no available facilities on site.

PS.6.2 Engineer (Employer's Representative)

An Engineer's Representative (technical staff of the ZDM) shall be assigned by the Employer to monitor the work undertaken by the Contractor.

PS.7 FACILITIES REQUIRED**PS.7.1 For the Contractor**

Whatever may be required for the satisfactory, cost effective and expedient execution of the Contract as agreed to by the Employer.

PS.7.2 For the Employer**PS.7.2.1 Global Positioning System (GPS)**

The Contractor shall provide a GPS for the purpose of accurately co-ordinating each project position and recording this information on the applicable reports as required in this Contract. The GPS shall be of a make acceptable to the Engineer and must have an accuracy of 15m or better. The global positioning system shall remain the property / hire property of the Contractor.

In the event that an emerging contractor and / or affirmative business enterprise cannot afford a GPS, prior arrangement must be made with the Employer for the loan or hire of one.

PS.7.2.2 Digital Camera

All work undertaken is to be digitally photographed.

No payments will be affected unless a digital photograph is uploaded onto the ZDM IMPI web-based management system.

PS.7.2.3 Standard Equipment for the Borehole Construction and Testing Contractor Casing Testing Equipment

The Contractor shall provide depth testing equipment to allow the Engineer to check the depth of steel casings inserted by the Contractor. The testing equipment shall be of a make which is acceptable to the Engineer and must employ electromagnetic methods for depth probing. The casing testing equipment shall remain the property / hire property of the Contractor.

PS.7.2.4 Water Quality Testing Equipment (Field Test)

The Contractor shall provide an approved pH meter and a Electrical Conductivity (EC) meter for the purposes of carrying out water quality tests on fresh samples of water obtained from each borehole worked on. The water quality testing equipment shall remain the property / hire property of the Contractor.

PS.7.2.5 Dip Meter

The Contractor shall provide a suitable electrical dip meter to allow the Engineer to check water levels. The dip meter shall be of a sufficient length and of a make that is acceptable to the Engineer and must have accuracy better than 10 mm increments. The dip meter shall remain the property / hire property of the Contractor.

PS.8 FEATURES REQUIRING SPECIAL ATTENTION**PS.8.1 Completion**

Projects will not be taken over by the Employer or paid for unless the applicable reports have been correctly completed and handed over to the Engineer and/or Employer as required.

These reports are to include GPS co-ordinates and digital photographs.

PS.9 COURTESY

In all dealings with the public, the Contractor is required to deal with discussions and disputes with deliberate courtesy and understanding, in close liaison with the Employer and the Engineer.

Prior to the arrival in an area, the Contractor shall arrange through the office of the ZDM (Corporate Services) to be introduced to the appropriate community structures and the Ward Councillor and to be briefed on any sensitivities that need to be observed.

PS.10 DUE DILIGENCE

The Zululand District Municipality will identify and quantify the work that needs to be done at any one time and an order to execute this work will be issued to the contractor. The order will be based on the contract rates and the Zululand District Municipality will endeavour to ensure that the quantum of work is distributed as evenly as possible between the contractors listed on the roster over the duration of the contract.

A timeframe to execute the order will be agreed with the selected contractor prior to an order being issued and will be noted on the order.

Contractors who default on work identified in an order will not be considered for any further work in terms of this contract. Possible reasons for default or for lack of due diligence shall include but are not limited to:

- Failure to react within a reasonable time frame once ordered to do so;
- Poor quality of workmanship; and
- Inadequate resources and/or plant.

Default will be dealt with in terms of Clause 9 of the GCC.

PART B: AMENDMENTS TO THE STANDARD SPECIFICATIONS AND OTHER ADDITIONAL SPECIFICATIONS**INTRODUCTION**

In certain clauses in the Standard Specifications, allowance is made for a choice to be specified in the project specifications between alternative materials or methods of construction, and for additional requirements to be specified to suit a particular contract.

Details of such alternative or additional requirements applicable to this contract are contained in Part B1 of the project specifications.

The number of each clause and each payment item in this part of the project specifications is prefixed "PS" and numbered sequentially followed by a number corresponding to the relevant clause or payment item in the standard specification in parentheses.

New clauses and payment items not covered by clauses or items in the Standard Specifications have also been included.

Additional particular specifications are also included in Part B2 and are prefixed "P" and numbered alphabetically.

PART B1 : AMENDMENTS TO THE STANDARD SPECIFICATIONS**PSA GENERAL****PSA.1 MATERIALS (3)****PSA 1.1 QUALITY (3.1)**

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

PSA.2 PLANT (4)**PSA.2.1 PLANT FOR CONSTRUCTION PURPOSES (No reference)**

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

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

PSDK GABIONS AND PITCHING**PSDK.1 MATERIALS (3)****PSDK .1.1 Gabion Cages (3.1.2)**

The cages for gabion baskets shall comprise mesh type 80 and 2.7mm Class A galvanized wire. The cages for Reno mattresses shall comprise mesh type 60 with 2.2mm Class A galvanized wire.

PSDK .1.2 Geotextile (3.1.3)

The geotextile shall comprise grade A2 as indicated in the tables below.

Properties		Units	Standard Grades					Test Methods
			A1	A2	A3	A4	A5	
Thickness	Thickness under 2 kPa	mm	1.3	1.6	1.8	2.1	2.7	SABS 0221-88
Permittivity	@ 100mm head	S ⁻¹	3	2.9	2.5	2.3	2	Cal
Porosity	Under 2 kPa	%	93	93	93	93	93	GTS
Through flow	@ 100mm head	l/s/m ²	300	285	250	235	200	SABS 0221-88
Permeability	1.0 x 10 ⁻³	m/s	3.9	4.3	4.5	4.9	5.4	
Pore Size	O _{95W}	µm	240	225	205	190	165	Franzius Institute
	O _{95H}	µm	195	185	170	155	125	NF,G 38017
Penetration Load	CBR	kN	1.5	1.7	2.1	2.5	3.6	SABS 0221-88
	Elongation	%	30-50					

Installation Conditions	Grade of Geotextile				
	A1	A2	A3	A4	A5
Trench < 2.0m deep with smooth sides and rounded drainage stone with moderate compaction	•				
Trench < 2.0m deep with rough sides or sharp drainage stone with moderate compaction		•			
Trench < 2.0m deep with rough sides or sharp drainage stone with high compaction			•		
Trench > 2.0m deep with smooth sides and rounded drainage stone with moderate compaction				•	
Trench > 2.0m deep with rough sides or sharp drainage stone with high compaction					•

PSDK.1.3 Stone (3.2.1)

The stone to be used on this contract shall be as classified as medium in terms of Table 2.

PSGA CONCRETE (SMALL WORKS)**PSGA.1 PLANT (4)****PSGA.1.2 Finish (4.4.2)**

The finish of all exposed concrete whether internal or external shall be smooth
"Off the shutter" all other concrete surfaces shall be measured as rough.

PSGA.2 CONSTRUCTION (5)**PSGA.2.1 Fixing (5.1.2)**

Welding of reinforcement will not be permitted.

PSGA.2.2 Quality (5.4.1)

All concrete used on this contract shall be strength concrete.

On the drawings strength concrete has been designated by its characteristic strength followed by the size of stone to be used in its manufacture, e.g. 30/20 refers to a concrete of strength 30 MPa at 28 days made with 20mm stone.

PSGA.2.3 Ready mixed concrete (5.4.1.6)

No ready mixed concrete will be allowed in this contract. All concrete required for this project is to mixed using Labour Intensive methods (LI).

PSGA.3 TESTS (7)**PSGA.3.1 Frequency of testing (7.1.2)**

As the concrete used on this contract will involve small quantities the Engineer will decide when testing is to be done. The Contractor is however required to provide a minimum of 3 moulds and to make the tests.

PSGA.4 MEASUREMENT AND PAYMENT (8)**PSGA.4.1 Concrete (8.1.3.3)**

PSGA.4.2 (a) The unit rates for concrete shall not include for the cost of testing.

PSL MEDIUM PRESSURE PIPELINES**PSL.1 MATERIALS (3)****PSL.1.1 STEEL PIPES FITTINGS AND SPECIALS (3.4)****PSL.1.1.1 Pipes of nominal bore up to 150mm (3.4.2)**

AMEND to read: -

Unless otherwise scheduled, steel pipes and fittings of nominal bore up to 150mm shall be of heavy duty, shall be screwed or plain ended for welded fittings or connecting with flexible couplings and shall comply with the applicable requirements of SANS 62.

PSL.1.1.2 Pipes of nominal bore over 150mm (3.4.3)

Unless otherwise scheduled, steel pipes and fittings of nominal bore over 150mm shall be manufactured to conform to SABS 719/1971 from grade 300WA steel and shall have a minimum wall thickness of 4.5mm.

PSL.1.1.3 Steel Pipe Specials and Fittings (3.4.4)

Steel specials shall be fabricated from straight steel pipe as specified in PSL.1.1.1 and PSL.1.1.2 and shall be manufactured and tested in accordance with BS 534 – Clause 4.

Where specified on the drawings or schedule of quantities, ANSI B16 curvature bends, tees and reducers shall be used.

PSL.1.2 OTHER TYPES OF PIPES (3.7)**PSL.1.2.1 uPVC Pipes**

Where uPVC bends are specified, they shall have a minimum pressure rating of 16 bar irrespective of the rating of the pipe to which they are attached.

PSL.1.2.2 Polyethylene Pipes (3.7.2)

ADD the following: -

All HDPE piping used on this contract shall be manufactured to the latest SABS ISO 4427 specification in an ISO 9002 listed factory belonging to a company which is a member of SAPPMA. Pipes from manufacturers who are non-SAPPMA members will not be accepted. Random samples will be taken to check the MFI and OIT index of the material.

All HDPE piping is to be SABS ISO 4427: 1996E PE80.

The contractor will be required to submit certified proof of the above prior to bringing any pipe material to site. The Engineer may also call for certificates of compliance to be submitted to substantiate the origin of raw material used in the manufacture of the pipes.

Pipe shall be supplied in rolls of lengths of either 100m or 50m.

PS.L 2 JOINTING MATERIALS (3.8)**PSL.2.1 Flexible Couplings (3.8.2)**

HDPE compression fittings, including both the coupling and the thread, shall be rated as being suitable for operating pressures of 12.5 bar and shall be manufactured of the following materials:

- Body: Virgin polypropylene in master batch UV, high stability copolymer (PP-B) with UV Protection;
- Seal: Nitrile rubber (NBR);
- Bush Ring: Polypropylene, high stability copolymer (PP-B) with UV Protection;
- Clamping Ring: Acetalic resin (POM); and
- Body Nut: Polypropylene, high stability copolymer (PP-B) with UV Protection.

Clamp saddles must comply with the following minimum specification:

- They must have a pressure rating of minimum 16 Bar;
- The parallel thread may not exceed 2"BSP;
- They must be reinforced with a stainless steel reinforcing ring; and
- They must have a minimum of 4 x galvanised steel bolts.

PSL.2.2 Flanges and accessories (3.8.3)

Unless otherwise indicated on the drawings or schedules of quantities, dimensions and drilling of flanges shall be in accordance with the requirements of SABS 1123 Table 1600/3 or 2500/3 as specified. All flanges shall be truly at right angles to the axis of the pipe fittings and shall be drilled with bolt holes off-centre.

Flanges for normal working pressures up to 2500 kPa shall be flat-faced with full-face gaskets. **All gaskets shall be of the "Klinker" type.**

Nuts and bolts for flanges shall comply with SABS 135 or SABS 136 as applicable.

All bolts, nuts and washers shall be mild steel, hot dip, galvanized in accordance with SABS ISO 1461.

The length of each bolt shall be such that after tightening at least one thread in addition to the thread run out and not more than the bolt diameter shall project. The threaded portion of bolts shall be clear of the shear plane.

All nuts and studs shall be fitted with two, steel, flat washers, under the bolt head and under the nut.

Any bolts not complying with this requirement shall be removed and replaced at the expense of the Contractor.

PSL.3 CORROSION PROTECTION (3.9)**PSL.3.1 Steel pipes of nominal bore up to 150mm (3.9.2.1)**

These pipes, fittings, specials etc. shall all be internally and externally hot-dip galvanized. All galvanizing shall be done in accordance with SANS 121 : 2000/ISO 1461 2000. The minimum amount of zinc deposited shall be 760 g/m². The Contractor shall submit certificates certifying that all galvanized pipes have been manufactured in a certified facility and meet the specifications noted above. Retention will not be released until such certificates are delivered to the Engineer.

All internal flanges and bolts shall be wrapped with a “Denso” mastic blanket applied in accordance with the manufacturer’s instructions.

PSL.3.2 Steel pipes of nominal bore over 150 mm (3.9.2.2)

AMEND to read:

Steel pipes, flanges and specials of nominal bore over 150mm shall be Copon lined both internally and externally.

Before painting, all surfaces shall be thoroughly cleaned and rust, grease, dirt and other contaminants or deleterious substances shall be removed. The surfaces shall be shot blast cleaned to SA 2.5 finish to Swedish Standard SIS OS/59/00 -1967. Surface profile must not exceed 0.1mm.

After being subjected to surface preparation as specified above, and immediately after preparation, the pipes shall be coated internally and externally with “Copon KSIR 88” or similar approved solvent free epoxy material, shop applied to a minimum aggregate dry film thickness (DFT) of 300 microns and a maximum DFT of 600 microns. The application of the epoxy coating shall be made with at least two coats but not more than three coats in order to achieve the required DPI. The thickness of the coating shall be checked with an approved non destructive thickness gauge. The finished coating shall also be checked for blemishes using a Holiday detector as directed by the Engineer.

Reinstatement of damaged coatings and linings is to be carried out using “Copon Hycote 151”, or similar approved epoxy material, after preparing the surface as specified above and applying in accordance with the manufacturer’s recommendation.”

All internal flanges and bolts shall be wrapped with a “Denso” mastic blanket applied in accordance with the manufacturer’s instructions.

PSL.3.3 Protection against electrolytic corrosion (3.9.3)

Where applicable, electrical continuity wires shall be provided at all joints, whether a coupling, flanged joint, adapter joint and whether connecting valves, fittings or pipes, but excluding isolating and welded joints.

The two adjacent pipes or pipe and valve, pipe and fittings, or as the case may be, shall be bonded together to provide electrical continuity by means of two separate lengths of 12 mm diameter stranded copper cable with PVC sheathing. Each cable shall be bonded to the top of the pipe, valve or fitting by means of two No 15 Cadweld exothermic powder charges or similar approved.

The area of surface of the pipe, valve or fitting to which each cable is to be bonded shall be cleaned down to bare metal prior to application of the powder charges.

PSL.3.4 Protection against corrosive soils (3.9.6):

External protection to all steel and ductile iron pipes, fittings and joints against corrosive soils shall be by means of an approved petrolatum impregnated tape packing and prime coat applied to at least 150mm above final ground level and wrapped in an adhesive plastic tape.

All soil shall be deemed corrosive and provision is made in the schedule for all underground pipes to be wrapped. Wrapping is to extend a minimum of 50mm into the concrete thrust for puddle flanges as detailed on the drawings.

Flanges, VJ Couplings, short/long collar couplings or other steel or cast iron mechanical couplings shall be protected by priming with “Denso S105” paste or similar approved before encasing the nuts and bolts and the filling of all voids with “Densofil” cork filled mastic or similar approved to give a smooth surface which shall be over wrapped with two complete layers of “Densyl” tape or similar approved, smoothed and free from voids. For external, buried joints only, the entire wrapping shall be covered with “Densotherm” bitumen outer wrap or similar approved. Internal joints shall not require the outer wrap.

PSL.4 **VALVES** (3.10)

PSL.4.1 **General**

Lifting lugs are to be fitted to all valves that have a mass in excess of 100kg, to be hot dip galvanized to SANS 1461.

PSL.4.2 **Resilient seal gate valves**

Resilient seal gate valves (RSV) shall comply with SABS 664 (latest amendment) with classes and flange drillings as detailed or scheduled elsewhere.

The typical application for resilient seal valves is for valves in “normally open” locations (eg air valves, isolating valves, in-line valves <250NB where the maximum differential pressure across the valve is not likely to exceed 16 Bar under normal operating conditions. Resilient seal valves shall not be used in terminal positions (eg as scour valves) without the approval of the Engineer.

In addition they shall comply with the following:

(a) General

Gate valves shall be double flanged and be resilient seated and shall be on the non-rising spindle type.

The valves shall be capable of sealing drip tight bi-directionally over the full range of pressures from zero to maximum working pressure.

(b) Gate Design

The gate shall be fully rubber encapsulated inside and out to ensure drip tight sealing and to avoid corrosion and shall be provided with a 10 year replacement warrantee. The gate shall further have a drain hole, preventing stagnant water or impurities from collecting.

Rubber utilized in the coating of the wedge shall be inert and shall not impart odour, taste and colour and shall be suitable for drinking water applications. The gate nut shall not be fixed to the wedge, thereby reducing opening torques.

(c) Gate and Body Design

The gate shall have optimally placed guides of wear resistant plastic so as to reduce the torques as well as to reduce wear between the rubber and the coating on the body. The bore of the body shall be straight through design in order to allow cleaning with a badger.

(d) Valve Bonnet

The valve shall utilize 3 independent bonnet seals which shall include a set of stem steels embedded in non-corrosive material, a back seal to prevent leakage when changing seals and a wiper ring to protect against debris entering the valve.

Two friction washers (sizes 50mm to 200mm) and thrust ball bearings (250mm to 600mm) shall be incorporated to ensure smooth spindle operation as well as to reduce opening and closing torques.

(e) Spindle

Spindles shall be made of stainless steel. The stem threads shall be rolled to maintain steel structure and increase strength and to ensure smooth thread edges and consequently a low operating torque. The spindle seat shall consist of 2 nitrile rubber O rings located in a corrosion resistant housing. A wiper ring shall also be provided.

(f) Body and Assembly

The rubber bonnet gasket shall fit in the recess in the valve bonnet preventing blow out of the seal under surge conditions. The bonnet bolts shall pass through the gasket and be sunk into the bonnet and be sealed for corrosion protection.

An edge protecting ring shall permanently be fitted around the body of the bonnet joint in order to protect the coating during transportation and installation. The body of the valve shall be fusion bonded epoxy coated to a minimum D.F.T. of 250 microns.

Unless otherwise specified caps for key operation will be required for buried valves and hand wheels on valves situated in accessible chambers. Extension spindles and brackets shall be provided where detailed and hand wheels shall be clearly marked with the direction of opening.

All valves shall be clockwise closing when viewed from above.

PSL.4.3**Wedge gate valves**

Gate valves shall comply with the requirements of SABS 664 (latest amendment) with classes and ends as elsewhere specified.

The typical application for wedge gate seal valves is for valves in "normally closed" locations (e.g. scour valves) and for valves in the normally open position (eg in-line valves <250NB) where the maximum differential pressure across the valve is likely to exceed 16 Bar under normal operating conditions.

Channel-guides and shoes shall be fitted to valves falling within the following pressure and size ranges:

PRESSURE	VALVE SIZE
Class 10	600mm and above
Class 16	350mm and above
Class 25	350mm and above
Class 40	All sizes
Class 100	All sizes

The spindles shall be of the non-rising type and shall be manufactured of solid stainless steel.

All valves shall be clockwise closing when viewed from above.

Gearing shall be chosen to limit the total effort at the hand wheel or valve key to 400 Newtons.

The valves shall be capable of being easily operated by one man against the maximum unbalanced pressure and the total effort required to operate the valve shall not exceed 400 Newtons (i.e. A simultaneous push-pull of 200 Newtons each) on the ends of tee key 900 mm long resulting in a maximum torque of 180Nm.

In order to comply with the above requirements it has been found that the following are normally necessary for larger sizes of valves:

- (a) Class 16 (PN 16) valves in sizes 80mm, 150mm and 300mm should be fitted with ball thrust collars; and
- (b) Class 25 (PN25) valves in size 80mm, 150mm should be fitted with either ball thrust collars or spur gears, while 250mm and 300mm sizes should be fitted with ball thrust collars and 3 to 1 gears.
- (c) Class 40 (PN40) valves in sizes 80mm, 150, 200mm should be fitted with either ball thrust collars or spur gears, while 250mm and 300mm sizes should be fitted with ball thrust collars and 3 to 1 gears.

While other forms of anti-friction devices may be acceptable it is the Contractor's responsibility to ensure that the required torque is not exceeded.

Unless otherwise specified buried valves shall be provided with caps for key operation and valves in chambers with hand wheels.

The valves shall be provided with Type B (Gunmetal) trim with pinned seat rings. The gate shall be full length. The body of the valve shall be epoxy coated to a minimum D.F.T. of 250 microns inside and out.

The gland packing shall be of the "Maxmech Style M57", "Chesterton 1724" or similar approved.

The valves are to be drop tight at working pressure.

Each valve so supplied shall be provided with a pressure test certificate.

PSL.4.4 Butterfly valves

These shall be solid body cast iron type for bolting to flanges and shall be of perfect closure. The valves shall be fitted with gearbox operated hand wheels or ratchet locating hand-levers, stainless steel shafts and discs and natural rubber or neoprene seals and shaft seals.

The valves shall conform to the requirements of BS 5155:1984. The class of valve shall be as specified. Specifications and test certificates shall be provided.

PSL.4.5 Air release valves

Air valves shall be the double purpose air release / vacuum break type.

The air release and vacuum break valve shall be of a compact single chamber design with solid cylindrical High Density Polyethylene control floats housed in a tubular stainless steel or corrosion protected body with epoxy powder coated cast iron, or s/steel ends secured by means of stainless steel tie rods.

Ball type air valves are not acceptable.

The valve shall have an integral surge alleviation mechanism which shall operate automatically to limit transient pressure rise or shock induced by closure due to high velocity air discharge or the subsequent re-joining of separated water columns. The limitation of pressure rise must be achieved by deceleration of approaching water prior to valve closure. Relief mechanisms that act subsequent to valve closure cannot reach in the low millisecond time span required and are therefore unacceptable.

Large orifice sealing shall be effected by the flat face of the control float seating against a nitrile rubber 'O' Ring housed in a dovetail groove circumferentially surrounding the large orifice. Discharge of pressurised air shall be controlled by the seating and unseating of a small orifice on a natural rubber seal affixed to the control float.

The intake/discharge orifice area shall be equal to the nominal size of the valve i.e.; and 150mm (6") valve shall have a 150mm (6") intake/discharge orifice.

The valve construction shall be proportioned with regard to material strength characteristics, so that deformation, leaking or damage of any kind does not occur by submission to twice the designed working pressure.

The valve design shall incorporate an over pressure safety feature that will fail without an explosive effect, such as is normally the case when highly compressed air is released suddenly. This feature shall consist of easily replaceable components such as gaskets, seals or the like.

All air valves shall be supplied with a copy of the relevant factory test certificates that reflects the test pressure and valve serial number. Original factory test certificates for each valve shall be issued on completion of delivery of the valve consignment.

Each air valve shall have a plate made of corrosion – resistance material securely fixed to the body, on which the following information shall be stamped or engraved:

- The Manufacturer's Name;
- Size of valve. e.g. : DN 100;
- Class of valve e.g.: PN 16;
- The valve serial number, which must tie up with the relevant test certificate.

End connections shall comply with SABS 1123 T1600/3 or T2500/3 as applicable and all valves will be supplied with matching flanges, gaskets and stainless-steel fasteners.

PSL.4.6 Control valves

Control valves shall comprise a centre guided diaphragm actuated globe valve of either oblique (Y) or angle pattern design. The body and cover shall be SG iron with bronze seat. The internal and external surfaces of the valve body shall be fusion bonded epoxy coated. End connections shall comply with the drilling pattern indicated on the drawings. The body shall have a replaceable non-threaded seat ring that is held in place by a set of screws, which tighten into a body groove. This seat should be accessible and serviceable without removing the valve from the pipeline. The seat area shall have a flow opening with no stem guides, bearings or supporting ribs.

The actuator assembly shall be of the double chamber design with a separating partition between the lower surface of the diaphragm and the main valve. The entire actuator assembly consisting of the seal disk, valve shaft, bearing, diaphragm assembly, separating partition and top cover must be removable from the valve as a single unit.

The actuator assembly must be capable of accepting a V-port throttling plug by simply bolting the device to the seal disk.

The main valve, solenoid pilot, limit switch, check valve, control tubing, filter and isolation valves shall be factory assembled and tested. The valve manufacturer must be completely certified in accordance with the ISO 9002 Quality Assurance Standard.

The settings and operation of the valves shall be as described herein or alternatively as indicated on the drawings.

Prior to any valve being ordered or delivered to site, the Contractor shall deliver to the Engineer a sample of a typical control valve that he proposes to use and which complies with this specification. The Engineer will then investigate whether the valve is compliant with the specification before authorizing the use of such valve. If the valve does not comply with the specification in all respects, the Engineer may reject such valve in which case the Contractor will have to source valves of the required quality and all costs associated therewith will be for the Contractor's account.

The sample shall be accompanied by the following control sheet:

Item	
Name of valve supply company:	
Overview of company with particular emphasis on service capabilities, calibration facilities and their track record in South Africa:	(To be attached)
Valve specification sheets (detailing compliance with this specification):	(To be attached)
Test certificate:	(To be attached)

PSL.4.7 Water meters**a) Bulk Meters (NB 40mm up to NB 300mm)**

Water meters tendered for under this category must be of the in-line through-flow Woltman type, mechanical turbine flanged bulk water meters and must conform to the following dimensions and specifications:

Nominal Bore	Body Lengths	Flange Specs	Working Pressure Maximum	Temp Maximum
40mm	220mm	BS4504 Table 16	1600kPa	50°C
50mm	200mm	BS4504 Table 16	1600kPa	50°C
80mm	225mm	BS4504 Table 16	1600kPa	50°C
100mm	250mm	BS4504 Table 16	1600kPa	50°C
150mm	300mm	BS4504 Table 16	1600kPa	50°C
200mm	350mm	BS4504 Table 16	1600kPa	50°C
250mm	450mm	BS4504 Table 16	1600kPa	50°C
300mm	500mm	BS4504 Table 16	1600kPa	50°C

- All Woltman type mechanical meters supplied in terms of this contract shall perform to an accuracy of better than $\pm 2\%$ error over the meter's operating range; i.e. between Q_t and Q_p (Q_n). The performance characteristics of the meters offered must be equal to or better than the values listed below:

Size DN	Q_{start} m ³ /h	Q_{min} m ³ /h	Q_t m ³ /h	Q_n (Q_p) m ³ /h	Q_{max} (Q_s) m ³ /h
40mm	0,15	0,3	0,8	40	60
50mm	0,15	0,3	0,7	50	90
80mm	0,25	0,5	0,8	120	200
100mm	0,25	0,8	1,8	230	300
150mm	1,0	1,8	4	450	600
200mm	1,5	4	6	800	1200
250mm	3,0	6	11	1250	1600
300mm	8,0	12	15	1400	2000

- Meters must be fitted with robust glass/copper dry dial registers, which comprise 6-digit cyclometer-type totalizers, registering in kiloliters (kl) or m³. These registers must be sealed to IP68 to prevent ingress of dirt or moisture, and must function under water, in the event of manholes flooding. The registers, which are to be fitted as standard, must be able to provide one high frequency opto-type pulse output function and two low frequency reed-type pulse output functions. Only meters which allow for very easy fitment and removal of the reed- and opto-type pulsers, normally associated with data logging, without having to break the verification seals, will be acceptable;
- No consideration will be given to meter types, which necessitate the use of special tools or fitment of any form of gland in the process of connecting pulser units, or, meters which require a register-change to switch from one volume unit per pulse to another;
- Meters must preferably offer an upgrade path to AMR (Automatic meter reading), which facilitates the fitment of "intelligent" registers at a later stage. The Contractor is to provide full details of the meter capability in this regard and furnish examples of systems already operating successfully in South Africa;
- Meters must be data logger compatible with loggers which have a proven track record and have a purpose-written software, to be used in conjunction with their bulk water meters, for network management;
- Cover bolts must be of stainless-steel material to facilitate easy removal of mechanisms. Meter bodies must be coated with a high-quality sintered epoxy powder coating, both internally and externally, with a minimum coating thickness of between 200 and 300 microns;
- Although most of the meters will be installed horizontally, it must be possible to install the meters vertically (with flow in the upward direction) or in an inclined position (with flow in the upward direction), should site conditions make this necessary;
- The performance of the meters offered shall not be affected by outside magnetic influences;

- A place must be provided for on the meter body, which can be drilled and tapped, for connecting a pressure transducer, for data logging, should the need arise; and
- Ability for meter mechanisms to be exchanged – or to fit new, calibrated mechanisms into used or existing meter bodies, without loss of measuring accuracy to be substantiated. This is of particular importance to facilitate cost effective ease of maintenance to the meters in the future, without the need to remove meter bodies from the pipeline.

Prior to any meter being ordered or delivered to site, the Contractor shall deliver to the Engineer a sample of a typical bulk meter that he proposes to use and which complies with this specification. The Engineer will then investigate whether the meter is compliant with the specification before authorizing the use of such meters. If the meter does not comply with the specification in all respects, the Engineer may reject such meter in which case the Contractor will have to source meters of the required quality and all costs associated therewith will be for the Contractor's account.

The sample shall be accompanied by the following control sheet:

Item	
Name of official local meter distribution company:	
Overview of company with particular emphasis on service capabilities, calibration facilities and their track record in South Africa:	<i>(To be attached)</i>
Meter specification sheets (including head loss across meter, minimum upstream/downstream straight pipe lengths and compliance with this specification):	<i>(To be attached)</i>
Test certificate:	<i>(To be attached)</i>

b) Domestic (Plastic bodied, wet dial water meters)

Water Meters used in this application must comply with the South African Bureau of Standards Specification No. 1529-1:1994 and must be approved in terms of Section 18 of the Trade Metrology Act No. 77 of 1973 and Regulation 80 of Part II of the Trade Metrology Regulations.

All meters must be tested and sealed by an authorised official in a SANAS, (SANS 0259) accredited laboratory, situated within the borders of the Republic of South Africa. The seal must include the Trade Metrology Authorisation number and copies of the test certificate must be made available free of charge on request by the Engineer.

Meters tendered for under this category must be the plastic bodied, wet dial, domestic water meters, and must conform to the following dimensions and specifications:

METER SIZE	15mm	20mm	25mm
Maximum Flow rate $q_s \pm 2\%$ (m ³ /h)	3	5	7
Permanent Flow rate $q_p \pm 2\%$ (m ³ /h)	1,5	2,5	3,5
Transitional Flow rate $q_t \pm 2\%$ (l/h)	22,5	37,5	52,5
Minimum Flow rate $q_{min} \pm 5\%$ (l/h)	15	25	35
Starting Flow (l/h)	5,7	5,7	10
Maximum Working Pressure (kPa)	1600	1600	1600
Body Length (mm)	165	165	198
Alternate Body Length (mm)	114	-	-
Pulse Output (l)	0.5	0.5	5.0

- Counter must be of a wet dial type to prevent condensation under the lens;
- Counter window of minimum 7mm thickness that cannot be penetrated, by means of a needle or similar sharp instrument in order to stop the counter from operating, without destroying the unit and allowing an uncontrollable discharge of water;
- The meter must be approved by Trade and Metrology for vertical and horizontal installation;
- The meter must be suitable for rhythmic pulsating flows with a pulse output;
- The meter must be suitable for use with water temperatures up to 50°C and a maximum working pressure of 1 600 kPa;
- The maximum rate of flow (Q_s) must be achieved at a pressure drop not in excess of 100 kPa across the inlet/outlet of the meter;
- All internal plastic components to be constructed of virgin materials and may not contain any materials of scrap value;
- Each meter must be backed with a 3-year guarantee against faulty workmanship and/or materials;
- The meter supplier and/or manufacturer must have a SANS 0259 accredited laboratory and each meter unit is to be tested and sealed by an authorised official;
- Meters are to comply with a Class "C" accuracy determination;
- Meters shall have built-in non-return valves to prevent reverse flow;
- The serial number of the meter cartridge must be clearly visible from the position that the meters are normally read;
- Meters offered shall not be affected by outside magnetic influences; and
- The local meter distribution company supplying the meters to the Contractor must have a proven track record for the supply of plastic bodied, domestic meters.

Prior to any meter being ordered or delivered to site, the Contractor shall deliver to the Engineer a sample of a typical meter that he proposes to use and which complies with this specification. The Engineer will then investigate whether the meter is compliant with the specification before authorizing the use of such meters. If the meter does not comply with the specification in all respects, the Engineer may reject such meter in which case the Contractor will have to source meters of the required quality and all costs associated therewith will be for the Contractor's account.

The sample shall be accompanied by the following control sheet:

Item	
Name of the official, local. meter distribution company:	
Overview of company with particular emphasis on service capabilities, calibration facilities and their track record in South Africa:	<i>(To be attached)</i>
Meter specification sheets (including head loss across meter, minimum upstream/downstream straight pipe lengths and compliance with this specification):	<i>(To be attached)</i>
Test certificate:	<i>(To be attached)</i>

In spite of the requirements of SANS1529-1:2003, the Contractor must be prepared to perform the following tests in the presence of the engineer, if so required by him:

- Witness testing of a random sample of 5 meters in the test laboratory of the local meter distribution company, on the test rig normally used for the testing and calibration of these meters. Special attention will be given by the engineer to the actual performances of the meters offered, rather than the minimum performance as laid down by SANS1529-1:2003 for Class B specifications; and
- All costs associated with the above tests will be borne by the Contractor. The Employer will carry traveling costs to and from the laboratory of the official local meter distributor.

PSL.4.8 **Flow control device**

The device shall comply with the following:

- The device must be IP68 rated;
- The device must be capable of being interrogated, tested and re-programmed in the field using an appropriate electronic device which can be linked to a desktop and data downloaded to "Excell" for analysis;
- The device must be capable of delivering a minimum flow rate of 10 l/min;
- The device must have a minimum battery life in excess of 5 years;
- The device must be capable of delivering a preset volume of water (daily, monthly or as required) at full pressure;
- Daily and monthly allocation must be adjustable in field to higher/lower amounts without the need to replace any parts
- The maximum daily amount must be guaranteed (therefore must not be dependent on pressure fluctuations in the network);
- The device must be capable of withstanding a pressure of up to 10 bar;
- The device must be capable of logging the hourly consumption – over a minimum 3-month period;
- The device must have a built-in safety function which shuts off the flow in the event of the reed switch cable being tampered with or cut; and
- The device must have an option to carry-over the unused daily allocation within a month;
- The device must have security seals which prevent the uncoupling of the sensor cable from the meter pulse output;
- The device must be constructed from materials which have a very limited or no scrap value;
- The device must be able to be installed underground and to be mounted either horizontally or vertically; and
- The device must allow full bore flow (full pressure, no trickle flow)

- The flow limiter units must also be capable of being supplied with a field service terminal and communication cable/probe with the following features:
- Small, robust, hand held device with high quality screen and superior battery performance;
- Associated software with various operator levels to manage field usage with confidence and have security restrictions for adjusting of flow limiter settings;
- Adjustable security settings for various operator levels;
- Ability to configure flow limiters to administrator predefined usage settings;
- Ability to configure flow limiter in-field to variable settings;
- Ability to read and store flow limiter summary and detail data and download to database;
- Allow manual meter reading recordings; and
- Run flow limiter test functions

PSL.4.9 Coatings and resistance to corrosion

All new valves are to be epoxy coated internally and out. Coating may be either by an approved solvent-based epoxy system or an approved fusion bonded epoxy system as specified below:

Contractors will be required to submit details of their proposed suppliers, coating specification and the coating system to be applied, to the Engineer for approval, before ordering the valves.

a) Solvent Based Epoxy Coating System

The epoxy shall be of the type Carboline 891; Plascogard KSIR 88; Sigmaguard EHB; AEBECOTE 330 or similar approved.

The dry film thickness (D.F.T) shall be as follows:

- Coating: 350 microns $\pm$ 50 microns; and
- Lining: 250 microns $\pm$ 50 microns

The applied coating and lining shall comply with the requirements of Table 2.

TABLE 2 : Lining Requirements

No	Property	Requirements	Test Method	Frequency
1	Visual	The lining shall be smooth, free from excessive runs, sags, orange peel, occlusion or other visible defects.	Use an experienced observer.	Each Valve
2	Coating Thickness	Minimum: 200 microns Maximum: 500 microns	SABS Method 141	Minimum 6 readings/V alves per batch
3	Electrical Insulation Defects	Nil defects when tested at 90 Volts 2 Megaohms	SABS Method 1217 – Section 8:12	One Valve per batch
4	Degree of Cure	No softening or discolouration	20 double rubs with cotton wool swab soaked in MEK	One valve per batch
5	Adhesion	Destructive testing not recommended		

b) Fusion Bonded Epoxy Powder Coating System

The Epoxy coating shall be a fusion bonded epoxy powder coating of the type Interpon PCL

331, Vedoc V VPC 2001 or similar approved.

TABLE 3: Lining Requirements

No	Property	Requirements	Test Method	Frequency
1	Visual	Smooth glossy or semi glossy finish, free from excessive runs, sags, orange peel, occlusion or other visible defects	Use an experienced observer	Each Valve
2	Coating Thickness	Min. 200 max. 500 microns	SABS Method 141	Minimum 6 readings/valve
3	Electrical Insulation Defects	Nil defects at 3500 Volts. For conditions for repair see Clause 3.3	SABS 1217 section 8.12.2	One Valve per batch
4	Impact Resistance	No defects at 2 joules	SABS 1217 section 8.7	Random 5% of Valves
5	Degree of cure: Dynamic Test	No softening or discolouration	20 double rubs with cotton wool swab soaked in MEK	One Valve per batch

The cured fusion bonded epoxy powder coating shall meet the requirements specified in Table 3 above.

Where extended spindles are used these shall be galvanised.

PSL.5 **MANHOLES AND SURFACE BOXES (3.11)**

PSL.5.1 **Manhole covers and frames (Clause 3.11.5)**

Steel covers and frames and locking bars shall be as detailed on the drawings and shall be hot dip galvanized after manufacture to SANS 121 :2000/ISO 1461 : 2000.

The Contractor shall submit certificates certifying that all galvanized covers and frames have been manufactured in a certified facility and meet the specifications noted above. Retention will not be released until such certificates are delivered to the Engineer.

PSL.5.2 **Surface Boxes (3.11.6)**

a) Domestic meter box

The meter box shall be of an approved plastic mould design which is robust, tamper proof, has a base plate and is lockable and complies with the following:

- The locking device is to be robust and the key is to be capable of accommodating the opening torsion without twisting;
- Meter box fittings are to be keyed into ends of box to prevent rotation on installation;
- Base plate to have drainage ports to allow water to drain;
- The box must allow fitment of meters of 115mm in length when combined with the approved flow control device. Where specified in the Bill of Quantities, boxes are also to be able to accommodate an isolating stop cock;
- The box must afford quick and easy access to perform restrictions and de-restrictions;
- Inlet and outlet fittings should be ¾" brass female connectors; and
- The lid of the box should be of high impact injection moulded plastic and must be UV stabilized.

Prior to any meter being ordered or delivered to site, the Contractor shall deliver to the Engineer a sample of a typical meter that he proposes to use and which complies with this specification. The Engineer will then investigate whether the meter is compliant with the specification before authorizing the use of such meters. If the meter does not comply with the specification in all respects, the Engineer may reject such meter in which case the Contractor will have to source meters of the required quality and all costs associated therewith will be for the Contractor's account.

1 key must be supplied together with every 25 boxes supplied and this must be provided for in the rate for the supply of the box.

PART B2: PARTICULAR SPECIFICATIONS

In addition to the Standardized and Project Specifications the following Particular Specifications shall apply to this contract and are bound in hereafter.

- PA: EQUIPPING AND MAINTENANCE OF GROUNDWATER BOREHOLES
- PB: RUDIMENTARY WATER
- PC: "AD-HOC" REPAIRS AND MAINTENANCE
- PD: ELECTRICAL REPAIRS
- PE: OHS 1993 HEALTH AND SAFETY SPECIFICATIONS
- PF: ENVIRONMENTAL MANAGEMENT PLAN

PA: DRILLING, DEVELOPMENT, TESTING, EQUIPPING AND MAINTENANCE OF GROUNDWATER BOREHOLES**INDEX**

Clause No.	Description	Page
PA.1	General	C.58
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PA.3	Material	C.58
PA.8	Borehole Equipping	C.63
PA.9	Borehole Pump Maintenance and Repair	C.65
PA.10	Rising Main and Tank / Reservoir Installation	C.65
PA.11	Borehole Number Identification	C.66
PA.12	Cessation of Drilling Activities	C.66
PA.13	Abandonment	C.66
PA.14	Lost Borehole	C.66
PA.15	Reports	C.67
PA.16	Supervision	C.68
PA.17	Remuneration and Payment	C.68

PA.1 GENERAL

The specifications are for the drilling (or rehabilitation), development and testing of ground-water boreholes for rural water supply.

The Contractor shall provide all labour, transport, plant, tools, and appurtenances (unless otherwise specified by the Employer in the work order). The Contractor shall perform all work necessary to satisfactorily construct and complete the boreholes in accordance with this Specification and to any further details as may be ordered by the Employer's Representative. The borehole depths will be dependent on drilling results and the strata intersected.

PA.2 EQUIPMENT

The equipment to be used must be of such standard that the requirements as set out in the Project Specifications can be accomplished without any disruption of the works.

The Consultant shall specify in the type of geophysical equipment he intends to use. Its capacity shall be sufficient to cope with the work as specified for each particular Work Order. It shall be kept at all times in full working order and in good repair. The Employer's Representative will reserve the right to inspect the equipment to be used for the completion of the Works prior to the commencement of the Works.

If the Employer's Representative considers that the equipment in use on the site of the Works is in any way inefficient or inadequate in capacity, the Employer's Representative shall have the right to call upon the Contractor to put such equipment in order within seven (7) days. Alternatively, the Contractor will remove such equipment and replace it with additional equipment the Employer's Representative considers necessary to meet the requirements of the Contract. In the event that this requirement is not satisfied, the Employer's Representative reserves the right to advise the Employer to terminate the Work Order immediately.

- It will be the responsibility of the Contractor to arrive on site with all equipment required to complete the work specified in the work order without interruption.

PA.3 MATERIALS

All materials to be used shall be new and undamaged and shall be supplied and delivered as such on site.

All materials as are required in the drilling, development, testing, equipping and maintenance of ground-boreholes shall be assembled in an approved manner and in accordance with normal ground-water engineering practice.

PA.8 BOREHOLE EQUIPPING**PA.8.1 Foundation Block**

Where a hand-pump is to be installed, or as directed by the Engineer, a precast reinforced concrete foundation block or alternately a reinforced concrete block cast on site, shall be installed at the borehole as detailed in Drawing No. 28006/936.

For mechanized and windmill type pumps, foundation blocks are to be installed to the manufacturers specification or as indicated by the Engineer.

The foundation block shall include:

PA.8.1.1 Groundwork's and Landscaping

The area immediately adjacent to the foundation block shall be cleared of all debris of construction and drilled cuttings and landscaped to allow for excess water to drain in an unimpeded manner away from the borehole site. This shall reduce the risk of pollution and possible bacteriological contamination into the groundwater.

PA.8.1.2 Sanitary Seal

The purpose of such seal is to prevent the inflow of surface water directly into the borehole between the annular space of the outer casing and the borehole. The seal shall comprise a workable mixture of drilled cuttings and Portland Cement in equal proportions. Sufficient water shall be added to allow easy placement and ramming of the seal mixture between the annulus of the outer casing and the borehole. Drilled cuttings shall initially be back-filled and rammed to form a solid base 0,6m below natural ground level upon which the seal shall be placed.

PA.8.1.3 Precast and Cast On-site Reinforced Concrete Block

The concrete mix shall be made of approved aggregate, river sand and cement to strength of 25 MPa after 28 days. The block shall be properly shuttered during construction and all exposed edges shall have a 20mm x 20mm chamfer.

Stainless steel mounting bolts supplied by the Contractor shall be cast into the foundation block (pre-cast foundation block). Alternately the stainless steel bolts shall be fixed to the borehole casing by means of a mounting flange (foundation block cast on site). The stainless steel bolts shall be of a size and length as specified for the type of pump and is to include the stainless steel nuts for the bolts.

A borehole number identification shall be inscribed on to the steel borehole capping with off cut casing and cast in-situ into a conical hole provided in the foundation block. The foundation block shall be set level on the sanitary sealed base.

PA.8.2 **Pump Installation**

The entire pump installation shall be done to the satisfaction of the Engineer. All fittings must be installed in accordance with the manufacturer's specifications. The installation shall be tested for successful operation upon completion of the installation.

PA.8.2.1 Pump Intake Installation Depth

Piping / columns and shafting shall be inserted down the hole such that the cylinder/element is at the depth indicated by the Engineer.

PA.8.2.2 Pump Rods and Piping Connections

Pump rods and piping connections shall be properly tightened using connections in accordance with the manufacturer's specifications.

PA.8.2.3 Pump Head (where applicable)

The pump head shall be properly bolted down onto the foundation block. All nuts, bolts, screws, etc shall be properly tightened in accordance with the manufacturer's specifications.

PA.8.2.4 Lubrication

All lubrication points on the pump shall be lubricated in accordance with the manufacturer's specifications.

PA.8.2.5 Foot Valve and Strainer

Where these two items form part of the pump specification they must be fitted and it must be ensured that the foot valve is working properly.

PA.8.3 Protective Housing

A protective and lock-able housing may be required specifically in the case of motorized pumps. The type of motorised pump installation, shall determine the type of protective housing to be used. (refer to drawing No. 28006/937 to 939). The details comprise:

- Steel cage Type Housing (Electric); and
- Steel cage Type Housing (Diesel) – 2 options.

PA.9 BOREHOLE PUMP MAINTENANCE AND REPAIR

Existing pump installations may require maintenance and repair. The Employer will embark on maintenance programmes from time to time, predominantly for but not limited to hand-pump application. Other pumps requiring maintenance include motorised pumps (diesel and electric) and windmills. The Employer will receive maintenance requests from the community, prioritize the maintenance schedule and issue them to the Contractor. The project is to be assessed by the Contractor and a list of repairs and spare requirements with costs generated and submitted to the Engineer for approval.

PA.9.1 Repairs

Repairs will be based on the applicable labour and travel rates given in the schedule.

PA.9.2 Replacement of Items

If it is not cost effective to repair parts of pumps, the part shall be replaced at competitive prices (based on three quotes) plus a percentage mark-up, subject to approval by the Employer. The Employer reserves the right to purchase the spares and issue them to the Contractor. The item replaced will remain the property of the Zululand District Municipality and must be accounted for by the Contractor.

PA.9.3 Reporting

A maintenance report must be completed for every pump maintained as detailed in Clause PA.15. Submission of this report serves as acknowledgment that the pump has been repaired and is in working order. Pump failure within three months of report submission will have to be repaired by the Contractor at the Contractor's expense. Payment will not be made until this form is completed and submitted to the Engineer for verification and approval.

PA.10 RISING MAIN AND TANK / RESERVOIR INSTALLATION

In the case of boreholes that have been identified for upgrade and motorised pump supply, rising mains and tanks / reservoirs may be required. The rising main and tank / reservoir specification will be determined by the Engineer, which the Contractor shall supply.

PA.11 BOREHOLE NUMBER IDENTIFICATION

Each new borehole drilled shall be allocated a Borehole Number by the Employer and issued to the Contractor by the Employer's Representative. It is the responsibility of the Contractor to clearly inscribe the Borehole Number for each new borehole as follows:

Position	Type	Method of Inscription	Details Inscribed
Borehole Capping (for capped successful and unsuccessful Boreholes)	Steel cover PVC Cap	Welding Indelible Marker Pen	Borehole No Wet or Dry
Stone Plugged Concrete Cover (where unsuccessful, Abandoned or abandoned or lost Borehole has neem stone plugged)	Galvanised Iron Name Plate	Stamping	Borehole No Dry Lost Date Drilled

PA.12 CESSATION OF DRILLING ACTIVITIES

The termination, at any stage, of drilling operations on a particular borehole shall rest with the Employer's Representative

PA.13 ABANDONMENT

The Employer's Representative shall have the right at any time during the progress of the work to order the abandonment of the borehole. The Contractor shall thereupon remove the plant and where required withdraw the casing as the Employer's Representative shall direct and / or, up until the Employer's Representative revokes such direction, and shall leave the borehole to the satisfaction of the Employer's Representative. No payment will be approved for any casing remaining in the borehole which has been abandoned unless the Employer's Representative has satisfied himself that the casing cannot be withdrawn and has certified this in writing. An abandoned borehole shall be stone plugged as given in Clause PSL1.6 (viii).

Should the abandoned borehole be considered a potential pollution point source, the Employer's Representative may issue further instructions to effectively seal the borehole.

PA.14 LOST BOREHOLE

Should accident to the plant, behaviour of the ground, jamming of the tools or casing, non-compliance of the straightness or verticality test (as specified in Clauses PSL1.5 (vi)) or any other cause, prevent the satisfactory completion of the works, the borehole shall be deemed to be lost and no payment shall be made for the drilling or borehole construction costs nor for any materials, nor for any time. The cost of materials which have been recovered but are in a damaged state are borne by the Contractor. Should the materials recovered be in good order, then the Contractor shall have no claim for such materials and will have the option to re-use such materials within the scope of the project. A lost borehole shall be stone plugged as given in Clause PSL1.6 (viii).

Should the lost borehole be considered a potential pollution point source, the Employer's Representative may issue further instructions to effectively seal the borehole.

In the event of a lost borehole, the Contractor shall construct a new borehole adjacent to the lost borehole, on a site indicated by the Employer's Representative. The option of declaring any borehole lost shall rest with the Contractor, subject to directions from the Employer's Representative.

No payment whatsoever will be made for the lost borehole. Measurement and payment for the construction of a borehole adjacent to the lost borehole shall be in accordance with the specifications of any other borehole included in this document, provided that the specifications therefore are met.

PA.15 REPORTS

The Contractor shall accurately record the following reports:

Name	Description	Supplied
Construction Report	An accurate record of all Contractors activities including time, personnel, plant, equipment, quantities of materials used, borehole depths, etc. or	Daily record kept by Contractor and available for inspection by the Drilling Inspector Engineer
Borehole Drilling Report	An accurate record for each borehole of borehole No., locality, drilling techniques used and stratigraphic data including depths, strata type, water strike levels, blow yields, casing diameter, lengths, etc.	On completion of each borehole drilled
Borehole Rehabilitation Report	An accurate record for each borehole of borehole no., locality, drilling techniques used and stratigraphic data including depths, strata type, water strike levels, blow yields, casing diameter, lengths, etc.	On completion of each borehole rehabilitated
Test Pumping Report	An accurate record of yield test information including borehole no., locality, borehole depth, datum point, water levels, time intervals, flow rates, recovery and any special observations. Refer to SABS 0299-4:1998.	On completion of each yield test
Borehole Maintenance Report	An accurate report of the pump maintained including maintenance number, locality, pump type, repairs effected, spares used, un-serviceable items removed.	On completion of each borehole drilled

The Contractor shall not be paid for any work invoiced unless the above-mentioned reports pertaining to the work invoiced have been satisfactorily submitted.

The Contractor shall submit each report to the Employer's Representative within 3 days of completion of the work as detailed in the Report. Failure to do so shall be regarded as non-performance in terms of the contract and will be subject to the conditions of contract.

PA.16 SUPERVISION

The Contractor is to provide a suitably experienced foreman who is required to supervise and direct the work at all times, and who will be responsible for:

- (a) Confirmation of borehole positions (with allocated borehole numbers) as set out by the Engineer;
- (b) Introduction and acquaintance with the Councillor, the community leader and / or water committee representative if so directed by the Engineer;
- (c) Supervision of operations; and
- (d) Preparation of all field reports.

PA.17 REMUNERATION AND PAYMENT**PA.17.7 BOREHOLE EQUIPPING****PA.17.7.1 Establishment**

The rate is inclusive of all equipment, plant, personnel, and facilities that is necessary to perform the work as required per installation team with establishment thereof at the borehole site and the de-establishment on completion of the installation.

Payment shall be made per borehole to locate the installation team at the borehole..... Unit: No

PA.17.7.2. Concrete Block / Apron and Mounting Flange

Due to the diverse nature of the type of installations that can be installed, this payment item will be split into two categories:

(a) Hand-pump Application Concrete Block

The rate provides for the supply of a precast or the on-site fabrication of a reinforced concrete foundation block as detailed in PA.8.1, the excavation and preparation of groundwork with a sealed base, the installation of the foundation block. It is to include the landscaping and cleaning of the surrounding areas to the satisfaction of the Engineer.

Payment for blocks shall be made per foundation block supplied and installed.

- (i) Without run-off drain.....Unit: No
- (ii) With run-off drain..... Unit: No

(b) Other Pump Application Concrete Block

Payment for other pump applications will be based on the design specification issued by the Engineer and will be paid for in terms of PA.17.8.9.

PA.17.7.3 Borehole Installation

Due to diverse types of installations that can be installed, this payment item will be split into the following categories:

(a) Handpump Installation

The rate provides for the collection and delivery of the hand-pump and associated fittings to site and the safe keeping thereof. The rate is to include the installation of the complete hand-pump (excluding installation of columns and shafting, where applicable, which will be charged as a separate item; see item PA.17.7.4, to the satisfaction of the Engineer.

Payment shall be made per hand-pump installed.....Unit: No

(b) Submersible Pump Installation

The rate provides for the collection and delivery of the submersible pump and associated fittings to site and the safe keeping there-of. The rate is to include the installation of the complete submersible pump (including installation of piping and electrical connections), to the satisfaction of the Employer's Representative.

Payment shall be made per submersible pump installed.....Unit: No

(c) Motorised Positive Displacement Installation (Electric)

The rate provides for the collection and delivery of the pump, motor and associated fittings to site and the safe keeping there-of. The rate is to include the installation of the complete pump and the motor including discharge couplings and electrical connections (excluding installation of columns and shafting which will be charged as a separate item; see item PA.17.7.4), to the satisfaction of the Employer's Representative.

Payment shall be made per positive displacement pump installed.....Unit: No

(d) Motorised Positive Displacement Installation (Diesel)

The rate provides for the collection and delivery of the pump, motor and associated fittings to site and the safe keeping there-of. The rate is to include the installation of the complete pump and the motor including discharge couplings and diesel power plant (excluding installation of columns and shafting where applicable, which will be charged as a separate item; see item PA.17.7.4), to the satisfaction of the Engineer.

Payment shall be made per PD pump installed..... Unit: No

(e) Motorised Positive Displacement Installation (Solar)

The rate provides for the collection and delivery of the pump, motor and associated fittings to site and the safe keeping there-of. The rate is to include the installation of the complete pump and the motor including discharge couplings, electrical connections and solar panel stand and panels (excluding installation of columns and shafting which will be charged as a separate item; see item PA.17.7.4), to the satisfaction of the Engineer.

Payment shall be made per PD pump installed.....Unit: No

(f) Windmill

The rate provides for the collection and delivery of the windmill and associated fittings to site and the safe keeping there-of. The rate is to include the installation of the complete windmill and discharge couplings (excluding installation of columns and shafting which will be charged as a separate item; see item PA.17.7.4), to the satisfaction of the Engineer.

Payment shall be made per windmill pump installed..... Unit: No

PA.17.7.4 Column and Shaft Installation

Pump installation depths vary from borehole to borehole thus a separate rate for the installation of columns and shafts has been introduced. The rate provides for the collection and delivery to site and the safe keeping thereof. The rate is to include the installation of typically 3m (may vary for different pump types) columns and associated shafting with column stabilisers at intervals specified by the manufacturer (or to the Engineer's specification), to the satisfaction of the Engineer.

Payment shall be made per linear meter installed.

(a) Less than two-inch diameter shafting..... Unit: m

(b) Greater than two-inch diameter shafting up to a maximum of four inches.....Unit: m

PA.17.7.5 Protective Housing

It may be necessary to protect installations, particularly motorised installations, against vandalism and theft. Protective housings will predominantly vary between two types of protective housing as well as the optional addition of a perimeter fence:

(a) Steel Cage Type Housing (Electrical)

As determined by the Engineer, submersible and positive displacement type electrical installations requiring protection will be housed in a steel cage type pump housing as detailed in Dwg 28006/939. The rate provides for the collection and delivery to site and the safe keeping thereof of all materials. The rate is inclusive of all labour, transport, material supply and installation of the pump housing to the satisfaction of the Engineer.

Payment shall be made per protective housing supplied and installed.....Unit: No

(b) Steel Cage Type Housing (Diesel)

As determined by the Engineer, positive displacement type diesel installations requiring protection will be housed in a steel cage type pump housing as detailed in Dwg 28006/937 and 938. The rate provides for the collection and delivery to site and the safe keeping thereof of all materials. The rate is inclusive of all labour, transport, material supply and installation of the pump housing to the satisfaction of the Engineer.

Payment shall be made per protective housing supplied and installed.....Unit: No

PA.17.8 MAINTENANCE AND REPAIRS**PA.17.8.1 Establishment**

The rate is inclusive of all equipment, plant, personnel, and facilities that is necessary to perform the work as required per maintenance team with establishment thereof at the borehole site and the de-establishment on completion of the installation.

Payment shall be made per borehole relocate the installation team at the borehole.
.....Unit: No

PA.17.8.2 Removal and/or Re-installation of Existing Equipment

Due to the diverse nature of the type of installations, this payment item will be split into the following categories:

(a) Hand-pump Installation

The rate provides for the removal or re-installation of a hand-pump and its associated fittings. The Contractor is responsible for the on-site safe keeping there-of. The rate is to include the removal or re-installation of the complete hand-pump (excluding columns and shafting, where applicable, which will be charged as a separate item; see item PA.17.8.3), to the satisfaction of the Engineer.

Payment shall be per hand-pump removed or re-installed.....Unit: No

(b) Submersible Pump Installation

The rate provides for the removal or re-installation of a submersible pump and associated fittings. The Contractor is responsible for the on-site safe keeping there-of. The rate is to include the removal or re-installation of the complete submersible pump (including piping and electrical connections), to the satisfaction of the Engineer.

Payment shall be per submersible pump removed or re-installed.....Unit: No

(c) Motorised Positive Displacement Installation (Electric)

The rate provides for the removal or re-installation of the positive displacement pump, electrical motor and associated fittings. The Contractor is responsible for the on-site safe keeping thereof. The rate is to include the removal or re-installation of the of the complete pump and the motor including discharge couplings and electrical connections (excluding columns and shafting which will be charged as a separate item; see item PA.17.8.3), to the satisfaction of the Engineer.

Payment shall be per positive displacement pump removed or re-installed.
..... Unit: No

(d) Motorised Positive Displacement Installation (Diesel)

The rate provides for the removal or re-installation of the positive displacement pump, diesel motor and associated fittings. The Contractor is responsible for the on-site safe keeping thereof. The rate is to include the removal or re-installation of the of the complete pump and the motor including discharge couplings and electrical connections (excluding columns and shafting which will be charged as a separate item; see item PA.17.8.3), to the satisfaction of the Engineer.

Payment shall be per diesel pump removed or re-installed..... Unit: No

(e) Motorised Positive Displacement Installation (Solar)

The rate provides for the removal or re-installation of the pump, motor and associated fittings. The Contractor is responsible for the on-site safe keeping thereof. The rate is to include the removal or re-installation of the complete pump and the motor including discharge couplings, electrical connections and solar panels (excluding columns and shafting which will be charged as a separate item; see item PA.17.8.3), to the satisfaction of the Engineer.

Payment shall be per solar pump removed or re-installed.....Unit: No

(f) Windmill

The rate provides for the removal or re-installation of the windmill (to a maximum size of a Climax No. 12 or equivalent) and associated fittings. The Contractor is responsible for the on-site safe keeping thereof. The rate is to include the removal or re-installation of the complete windmill and discharge couplings (excluding columns and shafting which will be charged as a separate item; see item PA.17.8.3), to the satisfaction of the Engineer.

Payment shall be per windmill removed or re-installed..... Unit: No

(g) Electrical Compliance Certificate

The rate provides for the obtaining of an electrical compliance certificate from a registered, reputable electrical contractor for all electrical installations connected to single or three-phase electricity..... Unit: No

PA.17.8.3 Removal and/or Re-installation of Columns and Shafting

Pump installation depths vary from borehole to borehole thus a separate rate for the removal or re-installation of columns and shafts has been introduced. The rate provides for the removal of existing or re-installation of serviceable columns and shafts. The Contractor is responsible for the on-site safe keeping thereof. The rate is to include the removal and re-installation of typically 3m (may vary for different pump types) columns and associated shafting with column stabilisers at intervals specified by the manufacturer (or to the Engineer specification), to the satisfaction of the Engineer.

Payment shall be per linear meter removed or re-installed.

(a) Less than two-inch diameter shafting..... Unit: m

(b) Greater than two-inch diameter shafting up to a maximum of four inches.....Unit: m

PA.17.8.4 Concrete Block / Apron and Mounting Flange

Payment will be made in accordance with item PA.17.7.2 as applicable.

PA.17.8.5 Pump Spares

Payment for the cost of supply, transport, delivery (except where the part has to be collected subsequent to site visit which will be charged as per payment item PA.17.8.6 : Special Travel) and safekeeping on site of pump spares of varying descriptions, as approved by the Engineer. Payment shall be on the basis of three competitive quotes from reputable dealers and as approved by the Employer, with a percentage mark up of 15% on the Nett price (excluding VAT). Payment shall be made only for materials used per borehole maintained and shall be calculated for each completed borehole. No claims for extra payment will be entertained by reason of remoteness, wharfage, insurance, etc.

Payment shall be measured at a rate per pump spare replaced..... Unit: No

PA.17.8.6 Special Travel

For spares that do not form part of the "common components" that are expected to be carried by the Contractor, special provision, with the prior approval of the Engineer, for the collection of spares has been made in the form of travel costs. The rate provides for **all** travel related costs for the collection and delivery of "special" spares to site.

Payment shall be made per kilometer travelled measured from the Contractors operational base within the Zululand District Municipality to site according to the rates published by the National Department of Public Works and as stipulated in the work order.

.....Unit: km

PA.17.8.7 Pump Repairs

Where it is cost effective to repair existing equipment, and only with the prior consent of the Engineer, the Contractor is to repair such parts. This rate is labour based and is to provide for all "workshop" costs (except for the purchase of spares – see item PA.17.8.5 and special travel – see item PA.17.8.6) incurred during repair.

Payment shall be made per hour and broken into the following categories.

(a) Unskilled labour..... Unit: hr

(b) Skilled labour..... Unit: hr

(c) Qualified artisan.....Unit: hr

PA.17.8.8 Other Pump Repairs

All steel/metal surfaces requiring re-painting shall first be wire brushed to remove all loose scale or hydro-blasted down to clean metal. Then apply Zinga in accordance with manufacturer's instructions.

The above specification may be adjusted in consultation with the Engineer's Representative to include other approved treatments. Zinga can be sourced via the sole agents Code Tech (031-568 1852)

Payment will include for all costs to prepare the base surface in accordance with the manufacturer's instructions, degrease, prime and apply Zinga to the appropriate film thickness. Where hydro-blasting is used, the plant will be paid for as per the plant hire rate and grit supplied paid for per 50kg bag used.

- | | |
|-----------------------------|----------------------|
| (a) Base preparation | Unit: m ² |
| (b) Zinga | Unit: kg |
| (c) Zingasolve | Unit: l |
| (d) Supply blast grit | Unit: 50kg |

PA.17.8.9 Supply of Materials to Nearest LA Node

Payment for the cost of supply, transport, delivery and safekeeping on site of all materials required and as specified by the Engineer. Costs are for supply at one of the following LA Nodes Ulundi, Nongoma, Vryheid, Paul Pietersburg and Pongola.

Transport of materials from the node to the site will be paid for per km. Trips must be identified at order stage and must be planned to minimise establishment costs. Trips which make inefficient use of transport will not be paid for.

- | | |
|---|----------------------|
| (a) Formwork.
Payment shall be made per square meter..... | Unit: m ² |
| (b) Reinforcement.
Payment shall be made per kg..... | Unit: kg |
| (c) 19mm Concrete stone.
Payment shall be made per cubic meter..... | Unit: m ³ |
| (d) Concrete sand/selected granular bedding.
Payment shall be per cubic meter..... | Unit: m ³ |
| (e) Cement (PBFC).
Payment shall be per 50kg bag..... | Unit: bag |

PA.17.9 ADDITIONAL ITEMS

Where Additional Items are specified by the Engineer and rates are not included in Section 6.3: Schedule 2 of the Schedule of Rates, the costs thereof shall be recovered on the basis of proven cost with a percentage mark up of 15% on the Nett price (excluding VAT).

Payment shall be made only for materials used and shall be calculated for each completed borehole. No claims for extra payment will be entertained by reason of remoteness, wharfage, insurance, etc. The Contractor shall purchase specified materials on the basis of three competitive quotes from reputable dealers as approved by the Engineer.

Proven cost shall be approved by the Engineer on the following basis:

(a) Materials

Original invoices and receipts provided by the Contractor

(b) Labour

A day-work rate with calculations based on the aggregate of the gross remuneration of the workmen and of the foreman for the time they are actually engaged on the work concerned.

(c) Security

A day (24 hours) armed guard rate per guard inclusive of all costs to and incidental to the hiring of the said armed guard.

PA.17.10 STANDARD REPORTS

The following standard reports are included overleaf

- General Data Sheet (2 pages);
- Borehole drilling report;
- Borehole rehabilitation report

PB: RUDIMENTARY WATER**PB.1 GENERAL**

The specifications are for the material supply and construction of emergency water facilities including:

- (a) Spring protection;
- (b) Small lengths of pipeline (reticulation, rising mains, fittings etc);
- (c) 5000l tanks and tank stands;
- (d) Installation of community dispensing units and domestic meters with flow control devices;
- (e) Miscellaneous repairs, maintenance work etc to water installations; and
- (f) Fencing.

The Contractor shall provide all labour, transport, plant, tools etc (unless otherwise specified by the Employer in the work order). The Contractor shall perform all work necessary to satisfactorily construct and complete the rudimentary water project in accordance with this specification and to any further details as may be ordered by the Engineer.

PB.2 EQUIPMENT

The equipment to be used must be of such a standard that the requirements as set out in the project specifications can be accomplished without any disruption of the works. The Contractor is to arrive on site with all the equipment required to complete the work specified in the work order without interruption. The Contractor is expected to obtain, maintain and be responsible for the equipment.

If the Engineer considers any equipment in use on the site of the Works to be inefficient or inadequate in any way, then the Engineer shall have the right to call upon the Contractor to put the Equipment in order within seven (7) days. Alternatively, the Contractor shall remove such equipment and replace it with additional equipment to the satisfaction of the Engineer and which will meet the requirements of the Contract. In the event that this requirement is not satisfied, then the Engineer reserves the right to advise the Employer to terminate the work order immediately.

PB.3 MATERIALS

All materials used shall be new, undamaged and where applicable bear the SABS mark of approval as specified in the work order, and shall be supplied and delivered to site. All materials as are required for the construction of spring protection and water sanitation projects shall be assembled in an approved manner and in accordance with normal engineering practice.

The provisions of PSL: Medium Pressure Pipelines shall also be complied with and referred to in this regard.

PB.4 SPRING PROTECTION

Construction of spring protection schemes. The design will vary according to local conditions. The contractor is responsible for all material supply and delivery as well as the construction of the spring protection according to the design and as specified in the work order.

PB.5 REPORTS

The Contractor shall accurately record the information required on the General Data Sheet (refer PA.5.18)

The Contractor shall submit each report to the Engineer within 7 days of completion of the work. Failure to do so shall be regarded as non-performance in terms of the contract and will be subject to the conditions of contract.

PB.6 SUPERVISION

The Contractor is to provide a suitably experienced foreman who is required to supervise and direct the work at all times, and who will be responsible for:

- (a) Confirmation of project positions as set out by the Engineer;
- (b) introduction and acquaintance with the Employer's Area Representative, the community leader and / or water / sanitation committee representative if so directed by the Engineer;
- (c) Supervision of operations; and
- (d) Preparation of all field reports.

PB.7 REMUNERATION AND PAYMENT**PB.7.1 General**

The Contractor under this Contract is considered to be an expert in rudimentary water and is expected to organise and carry out the work specified hereunder in a competent manner. Problems encountered will be overcome entirely within the framework of this Specification and schedule of quantities, and no claims for extra payments will be entertained for problems foreshadowed in the Specification or due to limitations placed by this Specification.

The rates as given must include full compensation for the supply of all materials, labour, equipment, utilization, transport and all work necessary for, or incidental to, the items scheduled.

Projects will be identified and prioritised by the Zululand District Municipality and issued to and introduced to the Contractor by the planning staff / personnel of the Zululand District Municipality.

PB.7.2 Rudimentary Water**PB.7.2.1 Establishment**

The rate is inclusive of provision of all equipment, plant, personnel, materials and facilities that is necessary to perform the work as required per day, per work order with establishment thereof and de-establishment on completion of the work order. Where a work order allows for tasks to be performed at more than one location in a particular day, then the transport between the various destinations, but excluding de-establishment at the end of the day, shall be paid as provided for in PB.7.2.6 (b) per km traveled. Differentiation will be made between various values of work order and also between rudimentary work and ad-hoc repairs.

Payment shall be made per work order.....Unit: No

PB.7.2.2 Supply to Nearest LA Node

Payment for the cost of supply, transport, delivery and safekeeping on site of all materials required and as specified by the Engineer. Costs are for supply at one of the following LA Nodes: Abaqulusi, eDumbe and Pongola.

Transport of materials from the node to the site will be paid for per km. Trips must be identified at order stage and must be planned to minimise establishment costs. Trips which make inefficient use of transport will not be paid for.

- (a) Rough Formwork.
Payment shall be made per square meter.....Unit: m²
- (b) Reinforcement.
Payment shall be made per kg..... Unit: kg
- (c) 19mm Concrete stone.
Payment shall be made per cubic meter.....Unit: m³
- (d) Concrete sand/ granular bedding.
Payment shall be per cubic meter..... Unit: m³
- (e) Cement (PBFC).
Payment shall be per 50kg bag.....Unit: bag
- (f) Concrete bricks.
Payment shall be made per 100 bricks..... Unit: 100No
- (g) Grade A2 geotextile.
Payment shall be made per square meter.....Unit: m²

All other items will be based on proven cost from reputable dealers and as approved by the Employer (unless otherwise specified in the schedule of rates), with a percentage mark up of 15% on the Nett price (excluding VAT).

PB.7.2.3 Supply of Pipes and Fittings

Payment for the cost of supply, (but excluding laying and bedding measured elsewhere) transport, delivery, safekeeping on site and installation of HDPE, PVC and / or steel pipe of varying descriptions, inclusive of all associated fittings and couplings, and as approved by the Engineer.

Payment shall either be on the basis of proven cost from reputable dealers and as approved by the Engineer (where called for in the schedule), with a percentage mark up of 15% on the Nett price (excluding VAT), or at the rate tendered where applicable.

PB.7.2.4 Installation of Typical Details

This rate is to provide for the supply, transport, delivery, safekeeping on site and installation of the following:

- (a) Air valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/901 (for 50mm dia. to 63mm dia. HDPE pipe)
Payment shall be per number..... Unit: No
- (b) Air valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/902 (for 75mm dia. to 250mm dia. HDPE pipe)
Payment shall be per number..... Unit: No
- (c) Isolating detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/903. (for 50mm dia. to 63mm dia. HDPE pipes)
Payment shall be per number..... Unit: No
- (d) Isolating detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/904. (for 75mm dia. UPVC pipes)
Payment shall be per number..... Unit: No
- (e) Isolating detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/905. (for 90mm dia. to 160mm dia. UPVC pipes)
Payment shall be per number..... Unit: No
- (f) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/906. (for 50mm dia. and 63mm dia. HDPE pipes)
Payment shall be per number..... Unit: No
- (g) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/907. (for 75mm dia. to 110mm dia. UPVC pipes)
Payment shall be per number.....Unit: No
- (h) Scour valve detail complete including all fittings, precast chamber, GMS lid etc as detailed on Dwg 28006/908. (for 125mm dia. to 250mm dia. UPVC pipes)
Payment shall be per number..... Unit: No
- (i) Standpipe: Type 1 complete with all fittings as per schedule on Drawing 28006/910 (excluding water meter).
Payment per number..... Unit: No
- (j) Standpipe: Type 2 complete with all fittings as per schedule on Drawing 28006/911 and including water meter
Payment per number..... Unit: No
- (k) Drinking trough complete with cover and all fittings as detailed on Dwg 28006/912.
Payment per number..... Unit: No
- (l) 5000l tank and stand complete including all fittings, materials etc as detailed on Dwg 28006/913
Payment per number..... Unit: No
- (m) 5000l tank and stand complete including all fittings, materials etc as detailed on Dwg 28006/914
Payment per number..... Unit: No
- (n) Pedestrian/stock fencing complete as detailed on Dwg 28006/928.
Payment per metre.....Unit: m

- (o) Extra-over (n) above for supply and installation of pedestrian gate as detailed on Dwg 28006/930
Payment per number.....Unit: No
- (p) Extra-over (n) above for the supply and installation of double leaf vehicle gate as detailed on Dwg 28006/930
Payment per number.....Unit: No
- (q) Security fencing complete as detailed on Dwg 28006/929.
Payment per metre.....Unit: m
- (r) Extra-over (q) above for the supply and installation of pedestrian gate as detailed on Dwg 28006/929
Payment per number.....Unit: No
- (s) Extra-over (q) above for the supply and installation of double leaf vehicle gate as detailed on Dwg 28006/929
Payment per number..... Unit: No

Payment shall be on the basis of proven cost from reputable dealers and as approved by the Employer, with a percentage mark up of 15% on the Nett price (excluding VAT).

PB.7.2.5 Excavation, Laying and Backfill

(a) Excavation

This rate is to provide for all costs to and incidental to but not including back-fill of the trenching as detailed on Dwg27035/910 of the feeding main and the excavation of reservoir platforms. The payment categories are:

- (i) "Soft" excavation comprising all conditions that can be hand dug by pick and shovel. Payment shall be made per cubic meter excavated and broken into two categories:
Class I (Less than 1.5 m³ per day) per cubic meter.....Unit: m³
Class II (Greater than 1.5 m³ per day) per cubic meterUnit: m³
- (ii) Mechanised (backacter) excavation. The rate shall be on the basis of three competitive quotes from reputable dealers and as approved by the Employer, with a percentage mark up of 15% on the Nett price (excluding VAT).
Payment shall be per cubic meter.Unit: m³
- (iii) "Very hard" excavation requiring blasting. The rate shall be on the basis of three competitive quotes from reputable dealers and as approved by the Employer, with a percentage mark up of 15% on the Nett price (excluding VAT).
Payment shall be per cubic meter.Unit: m³

(b) Laying and Backfill

Payment is for the:

- (i) laying of HDPE, PVC, and / or steel feeding mains inclusive of all associated fittings, couplings, and air valves of varying descriptions as specified by the Engineer.
Payment shall be per linear meter.Unit: m
- (ii) provision for all costs to and incidental to the backfill and suitable compaction (90% MOD AASHTO) of trenching and where necessary reservoir platforms.
Payment shall be made per cubic meter backfilledUnit: m³

PB.7.2.6 Additional Items

Where Additional Items are specified by the Engineer and rates are not included in Section 6: Schedule of Rates the costs thereof shall be recovered on the basis of proven cost with a percentage mark up of 15% on the Nett price (excluding VAT).

Payment shall be made only for materials used and shall be calculated for each completed project. No claims for extra payment will be entertained by reason of remoteness, wharfage, insurance, etc. The Contractor shall purchase specified materials on the basis of three competitive quotes from reputable dealers as approved by the Engineer.

The proven cost shall then be approved by the Engineer on the following basis:

(a) Materials

Original invoices and receipts provided by the Contractor

(b) Travel

The rate is to include for the provision of suitable vehicular transport to effectively complete the work required. Payment shall be made per kilometer traveled from the Contractors operational base within the Zululand District Municipality to site as agreed with the Engineer according to the rates published by the National Department of Public Works for light vehicles and prescribed rates for heavy vehicles and as specified in the work order. Unit: km

(c) Labour

An hour-work rate with calculations based on the aggregate of the gross remuneration of the workmen and of the foreman for the time they are actually engaged on the work concerned. The work categories are as follows:

- | | |
|---------------------------|----------|
| (i) Labour | Unit: hr |
| (ii) Skilled labour | Unit: hr |
| (iii) Supervisor | Unit: hr |

PC AD-HOC REPAIRS AND MAINTENANCE**PC.1 GENERAL**

This specification is for the supply of “ad-hoc” repairs and maintenance services predominantly although exclusively on existing water services. The nature of the work will by its very nature be limited in scope and could involve the repair of a leaking pipe, replacement of a water meter and the like.

PC.2 EQUIPMENT

The equipment to be used must be of such a standard that the requirements as set out in the project specifications can be safely and properly accomplished. The Contractor is to arrive on site with all the equipment required to complete the work specified in the work order without interruption. The Contractor is expected to obtain, maintain and be responsible for the equipment.

If the Engineer considers any equipment in use on the site of the Works to be inefficient or inadequate in any way, then the Engineer shall have the right to call upon the Contractor to put the Equipment in order within seven (7) days. Alternatively, the Contractor shall remove such equipment and replace it with additional equipment to the satisfaction of the Engineer and which will meet the requirements of the Contract. In the event that this requirement is not satisfied, then the Engineer reserves the right to advise the Employer to terminate the work order immediately in which case the Contractor will be deemed not to have applied due diligence and will be excluded from doing any further work in the category.

PC.4 MATERIALS

All materials used shall be new, undamaged and where applicable bear the SABS mark of approval as specified in the work order, and shall be supplied and delivered to site.

ECC armored pump cables shall be of the type where the earth integrated within the cable sleeve as opposed to being externally visible.

PC.5 REMUNERATION AND PAYMENT**PC.5.1 General**

The Contractor under this Contract is considered to be sufficiently experienced to execute the type of work as specified herein and is expected to organise and carry out the work specified hereunder in a competent manner. Problems encountered will be overcome entirely within the framework of this Specification and schedule of quantities, and no claims for extra payments will be entertained for problems foreshadowed in the Specification or due to limitations placed by this Specification.

The rates as given must include full compensation for the supply of all materials, labour, equipment, utilization, transport and all work necessary for, or incidental to, the items scheduled.

..... Projects will be identified and prioritised by the Zululand District Municipality and issued to and introduced to the Contractor by the planning staff / personal of the Zululand District Municipality.

PC.5.2 Establishment

..... The rate is inclusive of provision of all equipment, plant, personnel, materials and facilities that is necessary to perform the work as required per work order with establishment thereof and de-establishment on completion of the work order.

..... Payment shall be made per work order.....Unit: No

PC.5.3 Additional Items

Where Additional Items are specified by the Engineer and rates are not included, the costs thereof shall be recovered on the basis of proven cost with a percentage mark up of 15% on the nett price (excluding VAT).

Payment shall be made only for materials used and shall be calculated for each completed project. No claims for extra payment will be entertained by reason of remoteness, wharfage, insurance, etc. The Contractor shall purchase specified materials on the basis of three competitive quotes from reputable dealers as approved by the Engineer.

The proven cost shall then be approved by the Engineer on the following basis:

(a) Materials

Original invoices and receipts provided by the Contractor

(b) Travel (LDV)

The rate is to include for the provision of suitable vehicular transport to effectively complete the work required. Payment shall be made per kilometer traveled from the Contractors operational base within the Zululand District Municipality to site as agreed with the Engineer according to the rates published by the National Department of Public Works for light vehicles.Unit: km

(c) Labour

An hour-work rate with calculations based on the aggregate of the gross remuneration of the workmen and of the foreman for the time they are actually engaged on the work concerned. The work categories are as follows:

- (i) Labour.....Unit: hr
- (ii) Skilled labour.....Unit: hr
- (iii) SupervisorUnit: hr.

PD ELECTRICAL REPAIRS**PD.1 GENERAL**

This specification is for the supply of specialist electrical services for the repair of electrical pump installations with motor control center (MCC)

PD.2 SKILLED RESOURCES

Tenders who wish to be accepted for this work must be able to demonstrate their experience in working with motor control panels. A minimum of 5 years' experience in the manufacture or repair of MCCs is a requirement. **Normal electrical experience in the built environment is not sufficient and failure to demonstrate applicable expertise will result in disqualification.**

Tenderers must attach the following information to page T.66 when submitting their tender failing which their tender for this aspect of the work will not be considered:

- Name of specialist control panel electrician;
- Years of experience with MCC work;
- List of projects with description of MCC type work carried out in the last 2 years; and
- References in relation to the above with contact numbers.

PD.3 EQUIPMENT

The equipment to be used must be of such a standard that the requirements as set out in the project specifications can be safely and properly accomplished. The Contractor is to arrive on site with **all** the equipment required to complete the work specified in the work order without interruption. The Contractor is expected to obtain, maintain and be responsible for the equipment.

If the Engineer considers any equipment in use on the site of the Works to be inefficient or inadequate in any way, then the Engineer shall have the right to call upon the Contractor to put the Equipment in order within seven (7) days. Alternatively, the Contractor shall remove such equipment and replace it with additional equipment to the satisfaction of the Engineer and which will meet the requirements of the Contract. In the event that this requirement is not satisfied, then the Engineer reserves the right to advise the Employer to terminate the work order immediately in which case the Contractor will be deemed not to have applied due diligence and will be excluded from doing any further work in the category.

PD.4 MATERIALS

All materials used shall be new, undamaged and where applicable bear the SABS mark of approval as specified in the work order, and shall be supplied and delivered to site.

ECC armored pump cables shall be of the type where the earth integrated within the cable sleeve as opposed to being externally visible.

PD.5 REMUNERATION AND PAYMENT**PD.5.1 General**

The Contractor under this Contract is considered to be an expert in executing electrical work as specified herein and is expected to organise and carry out the work specified hereunder in a competent manner. Problems encountered will be overcome entirely within the framework of this Specification and schedule of quantities, and no claims for extra payments will be entertained for problems foreshadowed in the Specification or due to limitations placed by this Specification.

The rates as given must include full compensation for the supply of all materials, labour, equipment, utilization, transport and all work necessary for, or incidental to, the items scheduled.

..... Projects will be identified and prioritised by the Zululand District Municipality and issued to and introduced to the Contractor by the planning staff / personal of the Zululand District Municipality.

PD.5.2 Establishment

..... The rate is inclusive of provision of all equipment, plant, personnel, materials and facilities that is necessary to perform the work as required per work order with establishment thereof and de-establishment on completion of the work order.

..... Payment shall be made per work order.....Unit: No

PD.5.3 Additional Items

Where Additional Items are specified by the Engineer and rates are not included, the costs thereof shall be recovered on the basis of proven cost with a percentage mark up of 15% on the nett price (excluding VAT) .

Payment shall be made only for materials used and shall be calculated for each completed project. No claims for extra payment will be entertained by reason of remoteness, wharfage, insurance, etc. The Contractor shall purchase specified materials on the basis of three competitive quotes from reputable dealers as approved by the Engineer.

The proven cost shall then be approved by the Engineer on the following basis :

(a) Materials

Original invoices and receipts provided by the Contractor

(b) Travel (LDV)

The rate is to include for the provision of suitable vehicular transport to effectively complete the work required. Payment shall be made per kilometer traveled from the Contractors operational base within the Zululand District Municipality to site as agreed with the Engineer according to the rates published by the National Department of Public Works for light vehicles.Unit: km

(c) Labour

An hour-work rate with calculations based on the aggregate of the gross remuneration of the workmen and of the foreman for the time they are actually engaged on the work concerned. The work categories are as follows:

- (i) Skilled electrician with min 5-years instrumentation and control experience.....Unit: hr
- (ii) Electrical assistant.....Unit: hr
- (iii) Unskilled labour.....Unit: hr.

PE: OHSA 1993 HEALTH AND SAFETY SPECIFICATION**PE.1 SCOPE**

This specification covers the health and safety requirements to be met by the Contractor to ensure a continued safe and healthy environment for all workers, employees and subcontractors under his control and for all other persons entering the site of works.

This specification shall be read with the Occupational Health and Safety Act (Act No 85 and amendment Act No 181) 1993, and the corresponding Regulations, and all other safety codes and specifications referred to in the said Regulations.

In terms of the OHSA Agreement in Section C1.2.4 of the Contract document, the status of the Contractor as mandatory to the Employer (client) is that of an employer in his own right, responsible to comply with all provisions of OHSA 1993 and the Regulations 2014.

This safety specification and the Contractor's own Health & Safety Plan as well as the Occupation Health & Safety Act, 85 of 1993 & Construction Regulations 2014, shall be displayed on site or made available for inspection by all workers, employees, inspectors and any other persons entering the site of works.

The following are possible risks associated with this project:

- Working in elevated positions most of the time in a restricted environment with limited landings (working platforms);
- Working above a continuously flowing river and in an flood plain environment subject to flooding;
- Lifting and lowering of materials and equipment from the ground to the bridge and vice versa, exposed to cross winds;
- Steep and restricted access to the lower flood plain below the bridge
- Potentially dangerous existing services, i.e. gas lines, water and sewerage mains, electrical high voltage cables, on the bridge, buried and overhead
- Deep excavations in soils requiring shoring or reducing of slopes
- Blasting of hard rock or demolition of concrete
- High pressure during testing of the new rising main, which could result in potentially dangerous situations in the event of the pipeline or fittings failing
- Potentially harmful gasses when tying into the existing sewer mains
- Movement of construction vehicles on site, taking into consideration steep slopes, other traffic and existing services
- Exposure to possible injuries due to mishandling or failure of power and hand tools
- Falling debris, tools and materials from bridge
- Non-conformance to specifications with regards to fasteners and materials
- Risks related to general safety and security on site

Additional risks may arise from specific methods of construction selected by the Contractor which are not necessary covered in the above.

PE.2 DEFINITIONS

For the purpose of this contract the following shall apply:

Employer" where used in the contract documents and in this specification, means the Employer as defined in the General Conditions of Contract and it shall have the exact same meaning as "**client**" as defined in the Construction Regulations 2014. "**Employer**" and "**client**" is therefore interchangeable and shall be read in the context of the relevant document.

- (a) “**Contractor**” wherever used in the contract documents and in this specification, shall have the same meaning as “**Contractor**” as defined in the General Conditions of Contract.

In this specification the terms “**principal contractor**” and “**contractor**” are replaced with “**Contractor**” and “**subcontractor**” respectively.

For the purpose of this contract the **Contractor** will, in terms of OHSA 1993, be the mandatory, without derogating from his status as an employer in his own right.

- (b) “**Engineer**” where used in this specification, means the Engineer as defined in the General Conditions of Contract. In terms of the Construction Regulations the Engineer may act as agent on behalf of the Employer (the client as defined in the Construction Regulations).

PE.3 TENDERS

The Contractor shall submit the following with his tender:

- (a) a documented Health and Safety Plan as stipulated in Regulation 7 (1) (a) of the Construction Regulations 2014. The Safety Plan must be based on the Construction Regulations 2014 and will be subject to approval by the Employer;
- (b) a declaration to the effect that he has the competence and necessary resources to carry out the work safely in compliance with the Construction Regulations 2014;
- (c) a declaration to the effect that he made provision in this tender for the cost of the health and safety measures envisaged in the Construction Regulations; and
- (d) Failure to submit the foregoing with his tender, will lead to the conclusion that the Contractor will not be able to carry out the work under the contract safely in accordance with the Construction Regulations.

PE.4 NOTIFICATION OF COMMENCEMENT OF CONSTRUCTION WORK

After award of the contract, but before commencement of construction work, the Contractor who intends to carry out any construction work other than work contemplated in regulation 3(1) of the Construction Regulations 2014, must at least 7 days before that work is to be carried out notify the provincial director in writing in a form similar to Annexure 2 if the intended construction work will –

- (a) include excavation work;
- (b) include working at a height where there is risk of falling;
- (c) include the demolition of a structure; or
- (d) include the use of explosives to perform construction work.

The notification must be done in the form similar to Annexure 2 included on page T.53 (Forms to be Completed by Successful Tenderer) of the tender document.

A copy of the notification form must be kept on site, available for inspection by inspectors, Employer, Engineer, employees and persons on site.

PE.5 RISK ASSESSMENT

Before commencement of any construction work during the construction period, the Contractor must have a risk assessment performed and recorded in writing by a competent person. (Refer Regulation 9 of the Construction Regulations 2014).

The risk assessment must identify and evaluate the risks and hazards that may be expected during the execution of the work under the contract, and it must include a documented plan of safe work procedures to mitigate, reduce or control the risks and hazards identified and must include a monitoring and review plan.

The risk assessment shall be available on site for inspection by inspectors, Employer, Engineer, subcontractors, employees, trade unions and health and safety committee members, and must be monitored and reviewed periodically by the Contractor.

PE.6 APPOINTMENT OF EMPLOYEES AND SUBCONTRACTORS

PE.6.1 Health and Safety plan

The Contractor must appoint his employees and any subcontractors to be employed on the contract, in writing, and he must provide them with a copy of his documented Health and Safety Plan, or relevant sections thereof. The Contractor must ensure that all subcontractors and employees are committed to the implementation of his Safety Plan.

PE.6.2 Health and safety induction training

The Contractor must ensure that all employees under his control, including subcontractors and their employees, undergo a health and safety induction training course by a competent person before commencement of construction work. No visitor or other person shall be allowed or permitted to enter the site of the works unless such person has undergone health and safety training pertaining to hazards prevalent on site.

The Contractor must ensure that every employee on site is in possession of proof of the health and safety induction training issued by a competent person prior to commencement of construction work.

PE.7 APPOINTMENT OF SAFETY PERSONNEL

PE.7.1 Construction Managers and Supervisor

Construction Manager and Alternate Manager – CR 8 (1)

The Principal Contractor must in writing appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed in terms of Regulation 8 (1). The construction manager cannot manage any other site other than the single site for which he has been appointed. The construction manager must have at least a national diploma in civil engineering with a post graduate experience of five years in the Civil Engineering field.

Assistant Construction Manager(s) – CR 8 (2)

The Principal Contractor must in writing appoint one or more assistant construction managers for different sections thereof in terms of Regulation 8 (2): Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties. The assistant construction manager cannot manage any other site other than the single site for which he has been appointed. The construction manager must have at least a national diploma in civil engineering.

Construction Supervisor(s) – CR 8 (7)

The Principal Contractor must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site in terms of Regulation 8 (7). The construction supervisor cannot supervise any other site other than the single site for which he has been appointed. The construction supervisor must have at least five years' experience supervising construction activities on site.

Assistant Construction Supervisor(s) – CR 8 (8)

The Principal Contractor must in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in sub regulation (7), and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor in terms of Regulation 8 (8): Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties. The assistant construction supervisor cannot supervise any other site other than the single site for which he has been appointed. The assistant construction supervisor must have at least two years' work experience in his specific task in order to supervise employees.

PE.7.2 Construction health and safety officer

Due to the nature of the work, the degree of danger likely to be encountered and the accumulation of hazards or risk on the site, the Principal Contractor must in writing appoint one full or part time Construction Health & Safety Officer to assist in the control of all health and safety related aspects on the site, in terms of Regulation 8 (5). The Construction Health & Safety Officer must be registered and in good standing with the South African Council for the Project & Construction Management Professions (SACPCMP). Each contractor must appoint his / her Construction Health & Safety Officer who is registered and in good standing with the SACPCMP. The contractors' Construction Health & Safety Officer must conduct at least a weekly site visit and submit weekly reports on the findings on the construction site. The contractor may appoint a consultant to oversee the health and safety on site who must perform the same duties as a part time Construction Health & Safety Officer.

Provision must be made by the Contractor in his rates, to cover the cost of this dedicated construction health & safety officer appointed after award of the contract.

PE.7.3 Health and safety representatives

In terms of **Section 17 and 18 of the Act (OHSA 1993)** the Contractor, being the employer in terms of the Act for the execution of the contract, must appoint a **health and safety representative** in his employment on the site of the works. The health and safety representative must be selected from employees who are employed in a full-time capacity at a specific workplace.

The number of health and safety representatives for a workplace shall be at least one for every 100 employees.

The function of health and safety representative(s) will be to review the effectiveness of health and safety measures, to identify potential hazards and major incidents, to examine causes of incidents (in collaboration with his employer, the Contractor), to investigate complaints by employees relating to health and safety at work, to make representations to the employer (Contractor) or inspector on general matters affecting the health and safety of employees, to inspect the workplace, plant, machinery etc. on a regular base, to participate in consultations with inspectors and to attend meetings of the health and safety committee.

PE.7.4 Health and safety committee

In terms of Sections 19 and 20 of the Act (OHSA 1993) the Contractor (as employer), shall establish one or more health and safety committee(s) where there are two or more health and safety representatives at a workplace. The persons selected by the Contractor to serve on the committee shall be designated in writing.

The function of the health and safety committee shall be to hold meetings at regular intervals, but at least once every three months, to review the health and safety measures on the contract, to discuss incidents related to health and safety with the Contractor and the inspector, and to make recommendations regarding health and safety to the Contractor and to keep record of recommendations and reports made by the committee.

PE.7.5 Competent persons

In accordance with the Construction Regulations the Contractor must appoint in writing **competent persons** responsible for supervising construction work on each of the following work situations that may be expected on the site of the works.

- (a) Risk assessments as described in Regulation 9;
- (b) Fall protection as described in Regulation 10;
- (c) Structures as described in Regulation 11;
- (d) Temporary Works as described in Regulation 12;
- (e) Excavation work as described in Regulation 13;
- (f) Demolition work as described in Regulation 14;
- (g) Tunneling as described in Regulation 15;
- (h) Scaffolding work as described in Regulation 16;
- (i) Suspended platform operations as described in Regulation 17;
- (j) Rope Access as described in Regulation 18;
- (k) Material hoists as described in Regulation 19;
- (l) Batch plant operations as described in Regulation 20;
- (m) Explosive powered tools as described in Regulation 21;
- (n) Cranes as described in Regulation 22;
- (o) Construction vehicle and mobile plant as described in Regulation 23;
- (p) Temporary electrical installations and machinery on construction sites as described in Regulation 24;
- (q) Use & temporary storage of flammable liquids on construction sites as described in Regulation 25;
- (r) Water Environments as described in Regulation 26;
- (s) Housekeeping & general safeguarding on construction sites described in Regulation 26;
- (t) Stacking and storage on construction sites as described in Regulation 28;
- (u) Fire precautions on construction sites as described in Regulation 29; and
- (v) Construction employees' facilities as described in Regulation 30.

A competent person may be appointed for more than one part of the construction work with the understanding that the person must be suitably qualified and able to supervise at the same time the construction work on all the work situations for which he has been appointed.

The appointment of competent persons to supervise parts of the construction work does not relieve the Contractor from any of his responsibilities to comply with **all** requirements of the Construction Regulations.

PE.8 RECORDS AND REGISTERS

In accordance with the Construction Regulations the Contractor is bound to keep records and registers related to health and safety on site for periodic inspection by inspectors, the Engineer, the Employer, trade union officials and subcontractors and employees. The following records and registers must be kept on site and shall be available for inspection at all times.

- (q) A copy of the OHSA 1993 Construction Regulations 2014;
- (r) A copy of this Health and Safety Specification;
- (s) A copy of the Contractor's Health and Safety Plan (Regulation 7);
- (t) A copy of the Notification of Construction Work (Regulation 4);
- (u) A health and safety file in terms of Regulation 7(1) (b) with inputs by the Construction Health & Safety Officer (Regulation 8(5&6));
- (v) A copy of the risk assessment described in Regulation 9;
- (w) A fall protection plan and the corresponding records of evaluation and training of employees working from elevated positions as described in Regulation 10 and Regulation 18(2)(b);
- (x) Drawings pertaining to the design of structures (Regulation 11 (1) (c)) and Temporary works (Regulation 12 (3) (c)) must be kept on site;

- (y) Pronouncement of the safety of excavations must be recorded in a register to be kept on site (Regulation 13(2)(h));
- (z) A copy of the certificate of the system design for suspended platforms (Regulation 17(3));
- (aa) A notice must be affixed around the base towers of material hoists to indicate the maximum mass load, which may be carried at any one time by material hoists (Regulation 19 (5));
- (bb) Maintenance records of material hoists and inspection results must be kept in a record book to be kept on site (Regulation 19 (8));
- (cc) A record of any repairs to or maintenance of a batch plant must be kept on site (Regulations 20(8));
- (dd) A warning notice must be displayed in a conspicuous manner when and wherever an explosive powered tool is used (Regulation 21(2));
- (ee) A register for recording of findings by the competent person appointed to inspect construction vehicles and mobile plant (Regulation 23(1)(k)).

PE.9 CONTRACTORS RESPONSIBILITIES

For this contract the Contractor will be the mandatory of the Employer (Client), as defined in the Act (OHSA 1993), which means that the Contractor has the status of employer in his own right in respect of the contract. The Contractor is therefore responsible for all the duties and obligations of an employer as set out in the Act (OHSA 1993) and the Construction Regulations 2003.

Before commencement of work under the contract, the Contractor shall enter into an agreement with the Employer (Client) to confirm his status as mandatory (employer) for the contract under consideration.

1. Occupational Health & Safety Act, 85 of 1993

(a) Section 7 – Health & Safety Policy

The Principal Contractor must prepare a written policy concerning the protection of the Health & Safety of his employees at work, including the description of his organisation and the arrangements for carrying out and reviewing that policy. This policy must be signed by the Principal Contractor's CEO and prominently displayed at the site camp where it will be accessible to all employees. This policy must be communicated to all his employees during the start up of a project and whenever the policy is amended.

(b) Section 16 – CEO & Contracts Manager

The CEO will accept responsibility for health & safety in the organisation in terms of Section 16 (1). The appointment of the CEO must be done in writing and may include a board resolution. Where the CEO cannot directly oversee the project, he / she may appoint a Contracts Manager to accept responsibility for health & safety on all sites allocated to him or her in terms of Section 16 (2).

(c) Section 17 – Health & Safety Representatives

The Principal Contractor must appoint in writing 1 SHE representative for every 50 employees or part thereof in terms of Section 17 (1). The SHE representative must attend formal training conducted by an accredited training service provider who is registered with the Department of Labour and the respective training authority. The SHE representative must be a full-time employee and must be familiar with the Principal Contractor's scope of work. The SHE representative must not be in a supervisory or management position. The SHE representative shall carry out regular inspections on site while performing normal duties at work. The SHE representative shall participate in incident investigations and will form part of the health & safety committee.

(d) Section 19 – Health & Safety Committees

The Principal Contractor must appoint a management representative in writing as a SHE committee member to attend health & safety committee meetings in terms of Section 19 (3). Where there are more than one SHE representatives, the Principal Contractor shall hold at least monthly SHE committee meetings. The number of management representatives shall not exceed that of the number of SHE representatives.

(e) Section 24 – Report to Inspector Regarding Certain Incidents

The Principal Contractor must report all incidents immediately, in relation to Section 24 of the Occupational Health & Safety Act, 85 of 1993, to the provisional director, Client and its agent:

(f) Section 37 – Acts or omissions by employees or mandataries

The client must engage in a mandatory agreement with the Principal Contractor to ensure that all aspects of health & safety are included within the Principal Contractor's scope of work and the agreement relieves the employer of any civil liability whenever an employee does or omits to do any act which it would be an offence in terms of this Act for the employer of such employee. This agreement shall be in writing and signed by both parties in terms of Section 37 (2). Where the Principal Contractor appointments sub-contractors, there needs to be an agreement as the sub-contractor is an employer in his own right.

2. General Administrative Regulations, 2003

a) Regulation 4 – Copy of the Act

The Principal Contractor must have a copy of the latest version of the Occupational Health & Safety Act, 85 of 1993 and Regulations, readily available at the site office for use by the Principal Contractor, employees, employer and inspectors.

In addition to the above, the Principal Contractor must prominently display size A1 laminated posters of the following Acts in the workplace:

- Occupational Health & Safety Act, 85 of 1993;
- Employment Equity Act, 55 of 1998, and
- Basic Conditions of Employment Act, 75 of 1997.

b) Regulation 9 – Recording & Investigation of Incidents

The Principal Contractor must appoint a competent person in writing as the accident and incident investigator to investigate all incidents on site. The reporting of incidents must be done in the form of WCL 1 (Diseases) / WCL 2 (Injuries) and investigated and recorded in the form of Annexure 1. The incidents must be investigated within 7 days by the appointed competent person with the assistance of the health & safety committee.

3. General Safety Regulations, 2003

a) Regulation 2 – Personal Safety Equipment & Facilities

The Principal Contractor must supply, free of charge, sufficient and suitable PPE to his employees for them to carry out their work safely. The Principal Contractor must demonstrate to the employee the safe use, care and limitations of such PPE. The employee must sign the PPE issue register for any PPE which was issued to him or her. The Principal Contractor must ensure that every reasonable effort has been taken to reduce if not eliminate the health & safety risk to his employees. PPE must and will always be the last resort.

b. Regulation 2 A – Intoxication

The Principal Contractor must ensure that no employee enters or remains in the workplace if he or she is under the influence of or in possession of intoxicating substances (Alcohol & Drugs). The Principal Contractor shall conduct random drug & alcohol tests to ensure that substance abuse is closely monitored in the workplace. Disciplinary action must be taken to employees who are found to guilty of misconduct.

c. Regulation 2 B – Substituted Notices & Signs

The Principal Contractor must display substituted notices and signs around the site which must be clearly visible and comply with the local bylaws. The Signage must include but not limited to the mandatory PPE requirements, First-Aid, Fire Equipment, Excavation Work, Hazardous Substances, Construction Activities and Public Notices.

d. Regulation 2 C – Admittance of Persons

The Principal Contractor must ensure that no unauthorised persons enter or remains in the work area. The Principal Contractor must strategically erect signage at the entrance to the site prohibiting entry. Where the site is on a public space, the Principal Contractor must ensure that adequate measures are in place to prevent unauthorised entry. The following information should also be included:

“No Unauthorised Entry”

“Visitors Report to Site Office”

“Construction Site” & indicate the specific hazards associated with the site.

“Induction to be Obtained Prior to Entry to the Site”

e. Regulation 3 – First Aid, Emergency Equipment and Procedures

The Principal Contractor must ensure that he / she has a fully stocked first aid kit on site. The first aid kit must contain the minimum contents as per the Annexure contained in this regulation. The Principal Contractor must appoint a trained & competent person as the first aider to attend to all injuries on site and to control the first-aid kit. The training of the first aider must be done by an accredited training provider who is registered with the department of labour and the respective training authority. The Principal Contractor must display the first aid signs at strategic points on the site to indicate the location as well as the name of the person in charge of the first aid kit.

f. Regulation 4 – Use & Storage of Flammable Liquids

The Principal Contractor must store all flammable liquids in a well-ventilated store which is designed for this purpose. The store must be bunded and be able to contain 110% of the volume of the flammable liquids stored. The flammable liquids must not be stored with combustible material. The store must be clearly marked as to the content and approximate quantity of flammable liquids that are stored. The following signage (290 x 290 mm) must also be displayed at the entrance to the store:

“No Smoking”

“No Open Flames”

“Hazardous Chemicals”

“Flammable Store”

g. Regulation 6 – Work in Elevated Positions

No work at heights must be carried out unless it is done safely from a safe platform or scaffold. Ladders should be used only to gain access and not as a work platform. Only platform ladders are designed to be used as a safe work platform. Persons working at heights must undergo a Working at Heights evaluation during the medicals which will form part of the hazards listed in the Annexure 3. All persons working above 2 metres must wear and attach a safety harness to a suitable lifeline. All persons working at heights must undergo Working at Heights Training by an accredited training service provider who is registered with the department of labour and the respective training authority.

h. Regulation 8 – Stacking of Articles

The Principal Contractor must appoint a competent person in writing in accordance with Regulation 8 (1) (a) and to supervise the stacking of articles on site. All stacking and storage must be done safely, and stacks must not exceed three times the base width. Stacks must be wider or at the same size at the bottom than at the top. All storage areas must be adequately cordoned off.

i. Regulation 13 A – Ladders

The Principal Contractor must appoint a suitable person in writing to inspect the ladders on a regular basis. The Principal Contractor must ensure that every ladder is constructed of sound material and is suitable for the purpose for which it is used. Ladders should be used only to gain access and not as a work platform. Only platform ladders are designed to be used as a safe work platform. Ladders must not be painted as the paint may hide any cracks on the ladder. If the ladder is constructed from timber, the timber must be free from Knots and the rungs must be let into the styles.

The Contractor's duties and responsibilities are clearly set out in the Construction Regulations 2014, and are not repeated in detail but some important aspects are highlighted hereafter, without relieving the Contractor of any of his duties and responsibilities in terms of the Construction Regulations.

4. Construction Regulations, 2014

a) Regulation 3 – Application for the Construction Work Permit

If the project value is over R 40 000 000-00 or the duration of the project exceeds 12 months, then the client shall appoint an agent on its behalf to apply to the provincial director of the department of labour for a construction work permit. The permit application process takes up to 30 days and the Principal Contractor may only commence work once the construction work permit is received.

b) Regulation 4 – Notification of Construction Work

The Principal Contractor must, prior to commencing with any work, notify the provincial director of the department of labour, at least 7 days before, in the form of Annexure 2 of its intention to commence with construction work. If the client does an application for a construction work permit, the notification is not necessary.

c) Regulation 5 – Duties of Client

The Client will –

- (g) ensure that potential principal contractors submitting tenders have made adequate provision for the cost of health and safety measures;
- (h) ensure that the principal contractor to be appointed has the necessary competencies and resources to carry out the construction work safely;
- (i) take reasonable steps to ensure co-operation between all contractors appointed by the client to enable each of those contractors to comply with these Regulations;

- (j) ensure before any work commences on a site that every principal contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);
- (k) appoint every principal contractor in writing for the project or part thereof on the construction site;
- (l) discuss and negotiate with the principal contractor the contents of the principal contractor's health and safety plan contemplated in regulation 7(1), and must thereafter finally approve that plan for implementation;
- (m) ensure that a copy of the principal contractor's health and safety plan is available on request to an employee, inspector or contractor;
- (n) take reasonable steps to ensure that each contractor's health and safety plan contemplated in regulation 7(1)(a) is implemented and maintained;
- (o) ensure that periodic health and safety audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
- (p) ensure that a copy of the health and safety audit report contemplated in paragraph (o) is provided to the principal contractor within seven days after the audit;
- (q) stop any contractor from executing a construction activity which poses a threat to the health and safety of persons which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site;
- (r) where changes are brought about to the design or construction work, make sufficient health and safety information and appropriate resources available to the principal contractor to execute the work safely; and
- (s) ensure that the health and safety file contemplated in regulation 7(1)(b) is kept and maintained by the principal contractor.

In accordance with Regulations, the Contractor shall liaise closely with the Employer or the Engineer on behalf of the Employer, to ensure that all requirements of the Act and the Regulations are met and complied with.

d) Regulation 7 – Duties of the Principal Contractor & Contractor

The Principal Contractor must provide and demonstrate to the client a suitable, sufficiently documented and coherent site-specific health and safety plan, based on the client's documented health and safety specifications. The plan must be submitted to the client / client's agent for approval. The approved plan will be submitted together with the application for the Construction Work Permit. Work may only commence once the plan has been approved. This plan must be applied, reviewed and updated as the work progresses.

The Principal Contractor must provide a comprehensive health and safety file for review to the client / client agent. The health and safety file will be audited by the client / client agent prior to commencement with work on site. Once the file has been reviewed, the Principal contractor must address all outstanding items prior to commencement with work. The Principal contractor may only commence work if the outstanding items have been addressed. This health & safety file must be updated by the Principal contractor and must remain on site at all times. On completion of the project, the contractor must consolidate the health and safety file including that of the sub-contractors and submit it to the client / client agent.

The Principal Contractor must provide potential sub-contractors, who are tendering for any work to be performed on site (including that of the plant hire companies), with the relevant sections of the client's health & safety specifications.

The Principal Contractor must ensure that the sub-contractors have the necessary competencies, resources and made adequate provision to carry the work out safely.

The Principal Contractor and sub-contractor must enter into a health & safety agreement in terms of Section 37 (2) of the OHS Act and the Principal Contractor must appoint each contractor in writing for part of the project in terms of Regulation 7 (1) (c) (v) of the Construction Regulations, 2014. The Principal Contractor must have a comprehensive and updated list of all his contractors on site.

The Principal Contractor must ensure that the sub-contractors are in Good Standing with the Compensation Commissioner in terms Section 89 of the COID Act, 130 of 1993.

The Principal Contractor must audit the contractors at least monthly. The contractors must submit a close out report with supporting documents, within 7 days, for addressing outstanding items.

The Principal Contractor must ensure that where changes are brought about, sufficient health & safety information, including the necessary resources to carry out the work safely, is provided to the contractor.

The Contractor must provide and demonstrate to the Principal Contractor a suitable, sufficiently documented and coherent site-specific health and safety plan, based on the client's documented health and safety specifications. The plan must be submitted to the Principal Contractor for approval. Work may only commence once the plan has been approved by the Principal Contractor. This plan must be applied, reviewed and updated as the work progresses.

The Contractor must provide a comprehensive health and safety file for review to the Principal Contractor. The file will be audited by the Principal Contractor prior to commencement with work on site. Once the file has been reviewed, the contractor must address all outstanding items prior to commencement with work. The contractor may only commence work if the outstanding items have been addressed. This health & safety file must be updated by the contractor and must remain on site at all times. On completion of the project, the contractor must consolidate the health and safety file including that of his or her sub-contractors and submit it to the Principal Contractor.

The Principal Contractor must ensure that all his employees, including that of his / her contractors, have a medical certificate of fitness, for the type of work to be performed, issued by an Occupational Health Practitioner in the form of Annexure 3 and must include a general examination with the following test results, Blood Pressure, Snellen's Vision (20/20 Test), Spirometry (Lung Function) and Audiometry (Hearing Test). If employees are working at heights, then a 'Working at Heights' evaluation must be done.

The Principal Contractor must ensure that all his employees, including that of his / her contractors, have undergone induction training pertaining to the hazards prevalent site at the time of entry. The induction must be conducted by the Principal Contractor's appointed Construction Health & Safety Officer prior to entering the site.

The Principal Contractor must ensure that all visitors undergo an induction pertaining to the hazards prevalent on the site and that such visitors have the necessary PPE prior to entering the site. The PPE must include but not limited to: Hard Hats, Reflective Vests and Steel Toe Capped or similar approved Safety Boots.

e) Regulation 8 – Management & Supervision of Construction Work

The Principal Contractor must in writing appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed in terms of Regulation 8 (1). The construction manager cannot manage any other site other than the single site for which he has been appointed. The construction manager must have at least a national diploma in civil engineering with a post graduate experience of five years.

The Principal Contractor must in writing appoint one or more assistant construction managers for different sections thereof in terms of Regulation 8 (2): Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties. The assistant construction manager cannot manage any other site other than the single site for which he has been appointed. The construction manager must have at least a national diploma in civil engineering.

Due to the nature of the work, the degree of danger likely to be encountered and the accumulation of hazards or risk on the site, the Principal Contractor must in writing appoint one full time Construction Health & Safety Officer to assist in the control of all health and safety related aspects on the site, in terms of Regulation 8 (5). The Construction Health & Safety Officer must be registered and in good standing with the South African Council for the Project & Construction Management Professions (SACPCMP). Each contractor must appoint his / her Construction Health & Safety Officer who is registered and in good standing with the SACPCMP. The contractors' Construction Health & Safety Officer must conduct at least a weekly site visit and submit weekly reports on the findings on the construction site. The contractor may appoint a consultant to oversee the health and safety on site who must perform the same duties as a part time Construction Health & Safety Officer.

The Principal Contractor must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site in terms of Regulation 8 (7). The construction supervisor cannot supervise any other site other than the single site for which he has been appointed. The construction supervisor must have at least five years' experience supervising construction activities on site.

The Principal Contractor must in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in subregulation (7), and every such employee has, to the extent clearly defined by the contractor in the letter of appointment, the same duties as the construction supervisor in terms of Regulation 8 (8): Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties. The assistant construction supervisor cannot supervise any other site other than the single site for which he has been appointed. The assistant construction supervisor must have at least two years' work experience in his specific task in order to supervise employees.

f) Regulation 9 – Risk Assessment for Construction Work

The Principal Contractor must in writing appoint a competent person as a Risk Assessor to draw up risk assessments for the project in terms of Regulation 9 (1). The Risk Assessor must be trained on Hazard Identification & Risk Assessment (HIRA) by an accredited training service provider who is registered with the department of labour and the respective training authority on the Unit Standard 244383 – Conduct continuous hazard identification and risk assessment within a workplace.

The Risk Assessment must cover all activities performed by the Principal Contractor in site and must be based on the method statements. The Risk Assessments must contain a Risk Matrix, a Monitoring and Review Plan. The Risk Assessments must include control measures and safe work procedures to reduce if not eliminate the risk or hazard.

The Risk Assessments should be reviewed at least annually, when an incident has occurred, when there is a change in the scope of work or when there is a change in the design which may affect the health & safety of persons.

The Risk Assessments must be communicated to all site personnel involved with the activities for which the Risk Assessment has been done.

All Risk Assessments must be carried out in accordance with Regulation 9 of the Construction Regulations, 2014.

g) Regulation 10 – Fall Protection

The Principal Contractor must in writing appoint a competent person as the Fall Protection Plan Developer when work is to be carried out at an elevated position. The Fall Protection Plan Developer must be trained by an accredited training service provider who is registered with the department of labour and the respective training authority. The Training must cover both Unit Standards 229994 and 229998.

The Principal Contractor must in writing appoint a competent person as the safety harness inspector to inspect all safety harnesses.

The Principal Contractor must draw up, implement, maintain and amend where necessary, a Fall Protection Plan for all work to be carried out at an elevated position.

The Fall Protection plan must cover:

- A risk assessment for work at a fall risk position and the methods and procedures to address such risk;
- A process to evaluate the medical fitness of employees who work at a fall risk position;
- A programme for the training of employees working from a fall risk position and the records thereof;
- the procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
- a rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

The Principal Contractor must ensure that the construction manager appointed under regulation 8(1) is in possession of the most recently updated version of the fall protection plan.

All work carried out at a fall risk position must comply with Regulation 10 of the Construction Regulations, 2014.

h) Regulation 11 – Structures

The Principal Contractor must ensure where there are new or existing structures within the work zone, Regulation 11 of the Construction Regulations of 2014, must be complied with.

i) Regulation 12 – Temporary Works

The Principal Contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use. The designer must have at least a National Diploma in Structural Engineering and be registered as a professional engineer with the Engineering Council of South Africa (ECSA). The designer & inspector must be trained on the following Unit Standards:

113974 – Understand and apply structural construction methods; and

263246 – Inspect falsework and formwork.

The Principal Contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose. The temporary works supervisor must be trained by the temporary works supplier / manufacturer on the safe installation of the temporary works as well as on the Unit Standard 263027 - Supervise the erection and dismantling of falsework and formwork.

The temporary works erectors must be trained by the temporary works supplier / manufacturer on the safe installation of the temporary works as well as in the Unit Standard 263204 - Erect, use and dismantle falsework and formwork.

All temporary works must comply with Regulation 12 of the Construction Regulations, 2014

j) Regulation 13 – Excavation Work

The Principal Contractor must in writing appoint a competent person as the excavation work supervisor. The excavation work supervisor must be trained by an accredited training service provider who is registered with the department of labour and the respective training authority on the Unit Standard 365183 - Implement safety procedures for open hole or deep excavations.

All excavation work must be carried out under the constant supervision of the appointed excavation work supervisor. The excavation work supervisor must be able to evaluate the stability of the ground before excavation work begins. The excavation work supervisor must inspect the excavation prior to entry of any employees. All excavations deeper than 1,2 metres must be shaped to the maximum angle of repose relative to the horizontal plane. The Principal Contractor and his contractors must make provision in their tender rates for the shaping of the excavations.

All excavations up to 2 metres must be barricaded at least 1 metre away from the edge with barrier netting at a minimum height of 900mm. No danger tape to be used for barricading. All excavations deeper than 2 metres must be barricaded with a barrier in the form of hand and intermediate rails with barrier netting attached to it or Bonnox type fencing on posts with the barrier netting attached to it. Excavations along public roads that are deeper than 1,2 metres must be barricaded by means of a solid concrete barrier with delineators. Excavations along public roads that are less than 1,2 metres but deeper than 0,5 metres must be barricaded by means of a plastic new jersey barrier with delineators. Excavations along public roads that are less than 0,5 metres but above 100 millimetres must be barricaded by means of a barrier netting with delineators. Excavations along public roads that are less than 150 millimetres must be cordoned off by means of delineators.

All excavations deeper than 1,2 metres must be accessed by means of a ladder which is placed within 6 metres of the employees working inside and must extend at least 900mm above the top of the landing or natural ground level.

All excavated material must be placed at least 1 metre away from the edge of the excavation. No mobile plant must come within 1 metre from the top edge of the excavation or within 2 metres when employees are working inside.

All employees working in excavations deeper than 1,2 metres must wear hard hats.

All excavation work must comply with Regulation 13 of the Construction Regulations, 2014.

k) Regulation 14 – Demolition Work

The Principal Contractor must appoint a competent person in writing to supervise and control all demolition work on site. The demolition work supervisor must have at least five years' experience in demolition work and must be trained on Unit Standard 115457 – Conduct basic demolition tasks.

All demolition work must comply with Regulation 14 of the Construction Regulations, 2014.

l) Regulation 16 – Scaffolding

The Principal Contractor must appoint a competent person in writing as the scaffolding supervisor who must ensure that all scaffolding work operations are carried out under his or her constant supervision. The scaffolding work supervisor must be trained on the Unit Standard 263224 - Supervise the erection and dismantling of access scaffolding, by an accredited training service provider who is registered with the department of labour and the respective training authority.

The Principal Contractor must appoint competent persons in writing as scaffold erectors for erecting the scaffold. The scaffolding work erectors must be trained on the Unit Standard 263245 – Erect, use and dismantle access scaffolding, by an accredited training service provider who is registered with the department of labour and the respective training authority.

The Principal Contractor must appoint a competent person in writing as an inspector to inspect the scaffolding once erected. The scaffolding work inspector must be trained on the Unit Standard 263205 Inspect access scaffolding, by an accredited training service provider who is registered with the department of labour and the respective training authority.

All scaffold must comply with SANS 10085 with regards to the design, erection, use and inspection of access scaffolding.

m) Regulation 23 – Construction vehicles and mobile plant

The Principal Contractor must appoint a competent person in writing as a Construction Vehicles and Mobile Plant Supervisor to ensure that the said regulations are complied with.

The Principal Contractor must ensure that all construction vehicles and mobile plant-

- (a) are of an acceptable design and construction;
- (b) are maintained in a good working order;
- (c) are used in accordance with their design and the intention for which they were designed, having due regard to safety and health;
- (d) are operated by a person who-
 - (i) has received appropriate training, is certified competent and in possession of proof of competency and is authorised in writing to operate those construction vehicles and mobile plant;

The following Unit Standards must be considered with regards to training.

Rigid Body Dump Truck Operator	262731	Operate a rigid body dump truck
Articulated Dump Truck Operator	262745	Operate an articulated dump truck
Front End Loader Operator	262747	Operate front end loader.
Grader Operator	262735	Operate a grader.
Tracked Dozer Operator	262729	Operate a tracked dozer.
Tractor Loader Backhoe Operator	257028	Operate a Tractor Loader Backhoe.
Skidsteer (Bobcat) Operator	262712	Operate a Skidsteer.
Tractor Operator	262804	Operate a tractor.
Excavator Operator	262744	Operate an excavator
Water Cart Operator	262764	Operate a water cart.
Roller Operator	262805	Operate a roller.
Tipper Truck Operator	262734	Operate a tip truck.
Truck Mounted Crane Operator (DMR Code C32)	242978	Operate truck mounted cranes.
Hydraulic Mobile Crane Operator (DMR Codes C33 – C36)	116254	Operate a mobile crane.

- (ii) has a medical certificate of fitness to operate those construction vehicles and mobile plant, issued by an occupational health practitioner in the form of Annexure 3.;
- (k) are inspected by the authorised operator or driver on a daily basis using a relevant checklist prior to use and that the findings of such inspection are recorded in a register kept in the construction vehicle or mobile plant.

The Principal Contractor must provide drip trays to be placed under the engine compartment when the mobile plant is parked for more than 3 hours.

All plant hire companies must be appointed in writing, sign the Section 37 (2) agreement and provide a valid Letter of Good Standing with the Compensation Commissioner.

The Principal Contractor must comply with Regulation 23 of the Construction Regulations, 2014 when using construction vehicles and mobile plant.

n) Regulation 24 - Electrical Installations and Machinery on Construction Sites.

If the Principal Contractor intends on installing a temporary electrical supply, the installation must be done by a qualified registered electrician who will be able to issue a Certificate of Compliance (COC) The electrician must be trained on at least the Unit Standard 113898 – Complete certificate of compliance for a single phased domestic installation.. The Principal Contractor must appoint the electrician in writing in terms of Regulation 24 (c).

The Principal Contractor must appoint a competent temporary electrical installation inspector. The inspector must be trained at least on the Unit Standard 258966 - Inspect and test a single-phase domestic installation. The temporary electrical supply must be inspected by a competent person at least weekly.

The Principal Contractor must appoint a competent person in writing as the electrical machinery inspector in terms of Regulation 24 (e).

All portable electrical tools must be inspected daily by the authorised inspector. The authorised inspector of portable electrical tools must be trained on at least the Unit

Standard 12878 – Use and maintain Power Hand Tools on a construction Site.

The Principal Contractor must ensure that all electrical installations and machinery on the construction site complies with Regulation 24 of the Construction Regulations, 2014.

o) Regulation 25 – Use and Temporary Storage of Flammable Liquids on Construction Sites

The Principal Contractor must provide a lockable ventilated store for the storage of flammable liquids. The store must contain a bund which can contain up to 110% of the volume of the liquid stored therein. The Principal Contractor must provide adequate fire fighting equipment and signage within the store.

A competent person must be trained and appointed to manage hazardous substances on the construction site. This person must be at least trained on the Unit Standard 264454 – Manage hazardous substances.

The Principal Contractor must, in addition to compliance with the provisions for the use and storage of flammable liquids in the General Safety Regulations, 2003, ensure that Regulation 25 is complied with when using and storing flammable liquids on site.

p) Regulation 26 – Water environments

The Principal Contractor must ensure that where construction work is done over or in close proximity to water, provision is made for-

- (a) preventing persons from falling into water by providing hand and intermediate rails or a similar barrier; and
- (b) the rescuing of persons in danger of drowning by providing a floatation device attached to a rope of suitable strength and length, a person who is able to swim with ease and rescue another person and a person trained in resuscitation, preferably a first-aider.

The Principal Contractor must ensure that where a person is exposed to the risk of drowning by falling into the water, the person is provided with and wears a lifejacket.

Regulation 27 – Housekeeping and General Safeguarding on Construction Sites

The Principal Contractor must appoint a competent person in writing as the housekeeping supervisor to ensure that good housekeeping is maintained at all times on site.

The Principal Contractor must provide adequate and suitable bins to separate and contain waste on site. This must be disposed off at a registered landfill at least weekly.

The Principal Contractor must ensure that Regulation 27 of the Construction Regulations is complied with regards to housekeeping and general safeguarding on construction sites.

q) Regulation 28 – Stacking and Storage on Construction Sites

The Principal Contractor must appoint a competent person as the stacking & storage supervisor on site who is at least trained on Unit Standard 254098 – Supervise the procurement, use and storage of equipment and materials for construction and maintenance.

All items that are stacked or stored on the construction site must be inspected by a competent person at least on a monthly basis.

The Principal Contractor must, in addition to compliance with the provisions for the stacking of articles

in the General Safety Regulations, 2003, ensure that Regulation 28 of the Construction Regulations, 2014 is complied with regards to stacking and storage on construction sites.

r) Regulation 29 – Fire Precautions on Construction Sites

The Principal Contractor must appoint a competent person in writing as the Emergency Co-ordinator / Controller in case of a fire.

The Principal Contractor must provide sufficient and suitable firefighting equipment near flammables within 5 metres of any generator or similar equipment, near portable electrical tools and in all construction vehicles and mobile plant.

The Principal Contractor must appoint a competent person in writing as the fire equipment inspector in terms of Regulation 29 (h). The fire equipment inspector must be at least trained on the Unit Standard 12484 – Perform basic firefighting, by an accredited training service provider who is registered with the department of Labour and the respective training authority.

A fire team must be trained on the PASS sequence on site.

The Principal Contractor must ensure that adequate precautions are taken to prevent the risks of a fire and comply with Regulation 29 of the Construction Regulation, 2014.

s) Regulation 30 - Construction Employees' Facilities

The Principal Contractor must appoint a competent person in writing as the facilities inspector to ensure that all the employees' facilities on site are maintained in a clean and hygienic condition.

The Principal Contractor must, in addition to the construction site provisions in the Facilities

Regulations, 2004, provide at or within reasonable access of the construction site, the following clean, hygienic and maintained facilities:

- (a) Shower facilities after consultation with the employees or employees' representatives, or at least one shower facility for every 15 persons;
- (b) at least one sanitary facility for each sex and for every 30 workers; (Toilets must be tied down to prevent it from toppling over in the wind and cordoned off to ensure privacy)
- (c) changing facilities for each sex; and
- (d) sheltered eating areas.

The Principal Contractor must ensure that in addition to Regulation 30 of the Construction Regulations, 2014 the Facilities Regulations, 2004 must be complied with.

t) Non-compliance with the Construction Regulations, 2014

The foregoing is a summary of parts of the Construction Regulations applicable to all construction projects.

The Contractor, as employer for the execution of the contract, shall ensure that all provisions of the Construction Regulations applicable to the contract under consideration are complied with to the letter.

Should the Contractor fail to comply with the provisions of the Regulations 3 to 30 as listed in Regulation 33, he will be guilty of an offence and will be liable, upon conviction, to the fines or imprisonment as set out in Regulation 33.

5. Environmental Regulations for Workplaces, 2003

The Principal Contractor must ensure that the following Regulations are complied with regards to the Environmental Regulations for Workplaces.

i. Regulation 2 – Thermal Requirements

The Principal Contractor must take into consideration the extreme heat during the summer months and the precautions to be taken during this period to avoid possible heat strokes. These may include but not limited to:

- Drinking of ± 600ml of clean water every hour;
- Regular breaks within reason but avoiding possible delays on the project; and
- Training on of employees Heat Stroke Awareness.

The Principal Contractor must take into consideration the extreme cold temperatures during the winter months and the precautions to be taken during this period to avoid possible hyperthermia, cold sores, etc. These may include but not limited to:

- Provision of winter jackets and gloves;
- Running hot water; and
- Training of employees on working in cold temperatures.

While every effort should be made by the employee to keep warm, it must be noted that fires will not be allowed on site.

ii. Regulation 3 – Lighting

While there may be sufficient natural lighting, where work is carried out inside a building or closed space, sufficient artificial lighting must be provided and the above Regulation must be used as a guide for the number of lumens that will be required per square metre.

iii. Regulation 4 – Windows

Window must provide for sufficient natural lighting and the panes must not be painted over.

iv. Regulation 5 – Ventilation

Adequate ventilation must be provided in store rooms and work areas to prevent the accumulation of fumes. Note that all hazardous chemicals must be stored separately from combustibles in a ventilated store.

v. Regulation 6 – Housekeeping

The Principal Contractor and other Contractors must ensure that good housekeeping is maintained on site at all times. A responsible person must be appointed as the housekeeping supervisor, however this should be the responsibility of all site personnel.

vi. Regulation 8 – Fire Precautions & Means of Egress

The Principal Contractor and other Contractors must make adequate provisions for the prevention of fires and escape routes should a fire occur. These may include but not limited to:

The provision of a ventilated store with sufficient signage to warn persons of the dangers likely to be encountered and the control measures to be taken. The signage may include but not limited to:

- “No Smoking”
- “No Open Flames”
- “No Cell Phones”
- “Flammable Liquids”

6. Facilities Regulation, 2004

The Principal Contractor must ensure that the Facilities Regulations are complied with. These may include but not limited to the provision of clean & hygienic:

- Shower facilities for each gender clearly marked with pictorial signs and cordoned off for privacy. (1 Shower per 15 employees)
- Toilet facilities for each gender clearly marked with pictorial signs and cordoned off for privacy. (1 toilet per 30 employees)
- Clean Drinking water. ($\pm$ 5 Litres per employee per day)
- Eye wash facility. (A portable eyewash bottle can be used)
- Changerooms Facilities for each gender clearly marked with pictorial signs and cordoned off for privacy.
- Lockers to be provided for employees to store their personal belongings.
- Sheltered eating areas free from dust, rain, wind and other natural elements.

7. Hazardous Chemical Substances Regulations, 2008

The Principal Contractor must appoint a competent person in writing for the control of Hazardous Chemical Substances on site.

The Principal Contractor must ensure that there are MSDSs readily available for all Hazardous Chemical Substances on site and that employees are issued with and instructed to wear appropriate PPE when handling the Hazardous Chemical Substances.

The Principal Contractor must ensure that all employees handling the Hazardous Chemical Substances on site are training on the safety precautions and MSDSs.

All Hazardous Chemical Substances on site must be placed on a suitable drip tray or bunded area.

The Principal Contractor must ensure that the Hazardous Chemical Substances Regulations are complied with.

8. Noise-Induced Hearing Loss Regulations, 2003

The Principal Contractor must ensure that adequate provisions are made to reduce the noise on site and to protect the employees who are exposed to the noise on site by providing adequate PPE and training on the use, care and limitations of the prescribed PPE.

The Principal Contractor must monitor those employees who are continuously exposed to high noise levels by means of periodic hearing tests done by an occupational health practitioner.

9. Driven Machinery Regulations, 2015**I. Regulation 18 – Lifting Machines, Hand-Powered Lifting Devices and Lifting Tackle**

The Principal Contractor must appoint a competent person in writing to inspect all lifting tackle used on site. This person must be at least trained on the Unit Standard 253575 – Inspect, use and care for manual lifting equipment and tackle.

The Principal Contractor must ensure that the Provisions of Regulation 18 of the Driven Machinery Regulations, 2015 are complied with.

10. General Machinery Regulations, 1988**i) Regulation 2 – Supervision of Machinery**

The Principal Contractor must ensure that where electrical machinery is used, it is used under the supervision of a competent person who is familiar with such machinery and understands the hazards and risks associated with using the machinery.

ii) Regulation 3 – Safeguarding of Machinery

The Principal Contractor must ensure that the machinery is installed, operated and maintained in such a manner that it does not pose a hazard to persons installing, operating or maintaining such machinery.

The Principal Contractor must ensure that all moving parts of the machinery which is within the normal reach of a person is effectively safeguarded by means determined in this regulation.

The machinery must be maintained in a good working condition and is used properly.

The Principal Contractor must ensure that no safety devices are removed from the machinery.

11. Electrical Installations Regulations, 2009**a. Regulation 6 – Electrical Contractor**

The Principal Contractor must ensure that no person may do electrical installation work as an electrical contractor unless that person has been registered as an electrical contractor in terms of these regulations.

b. Regulation 7 – Certificate of Compliance

The Principal Contractor must ensure that the electrical installation done by the electrical contractor must have a Certificate of Compliance in the form of Annexure 1, which shall be accompanied by a test report approved by the chief inspector, in respect of every such electrical installation.

12. Electrical Machinery Regulations, 2011**a. Regulation 10 – Portable Electrical Tools**

The Principal Contractor must ensure that the Provisions of Regulation 10 of the Electrical Machinery Regulations, 2011 are complied with regarding Portable Electrical Tools.

The Contractor is advised in his own interest to make a careful study of the Act and the Construction Regulations as ignorance of the Act and the Regulations will not be accepted in any proceedings *related to non-conformance to the Act and the Regulations*.

PE.10 MEASUREMENT AND PAYMENT**PE.10.1 Principles**

It is a condition of this contract that Contractors, who submit tenders for this contract, shall make provision in their tenders for the cost of all health and safety measures during the construction process. All associated activities and expenditure are deemed to be included in the Contractor's tendered rates and prices.

(a) Safety personnel

The Construction Managers, Assistant Managers Supervisor, Assistant Supervisors, the Construction Health & Safety Officer, Health and Safety Representatives, Health and Safety Committee and Competent Persons referred to in clauses 7.1 to 7.5 shall be members of the Contractor's personnel, and no additional payment will be made for the appointment of such safety personnel.

(b) Records and Registers

The keeping of health and safety-related records and registers as described in 8 is regarded as a normal duty of the Contractor for which no additional payment will be considered, and which is deemed to be included in the Contractor's tendered rates and prices.

PF: ENVIRONMENTAL MANAGEMENT PLAN**PF.1 PLANS**

Prior to establishment of the site camp(s), the Contractor shall produce a plan showing the positions of all buildings, laydown yards, vehicle wash areas, fuel storage areas, batching areas and other infrastructure for approval by the Engineer.

PF.2 USE OF LAND

The Contractor shall not use the land comprising the Works or any land connected to the Works, for any purpose whatsoever other than for the proper carrying out of the Works and shall place any camps that may be required for himself and his employees only on sites approved by the Engineer.

No trees or bushes shall be damaged or cut down by the Contractor or by any of his employees whether for use in the Works or otherwise without the written consent of the Engineer.

PF.3 VEGETATION CLEARANCE**PF.3.1 Woody vegetation**

PF.3.1 .1 Prior to the start of construction, woody vegetative matter shall, where directed in writing by the Engineer, be stripped. This material shall either be spread randomly throughout the surrounding veld so as to provide biomass for other micro-organisms and habitats for small mammals and birds, or it may be stockpiled for later redistribution over the reinstated top soiled surface.

PF.3.1.2 No vegetative matter shall be burnt or removed for firewood.

PF.3.2 Herbaceous vegetation

During clearing of woody vegetation no basal cover or grass and topsoil shall be removed and damage to this layer shall be minimized as far as possible.

PF.4 PROTECTION OF VEGETATION

The Contractor shall ensure that all works are undertaken in such a manner that vegetation outside the Works area is not damaged.

PF.4.1 Vegetation within or adjacent or outside the Works area

The following provisions shall apply with respect to the protection of areas of vegetation.

PF.4.1.1 No tree or shrub shall be felled, lopped, cut or pruned without the prior written approval of the Engineer;

PF.4.1.2 No tree or shrub shall be felled, lopped, cut or pruned until it has been clearly marked for this purpose by the Engineer;

PF.4.1.3 No tree shall be burned for any reason;

PF.4.1.4 For every tree protected by these specifications, which is removed or, in the opinion of the Engineer, is unduly damaged by the Contractor, the Contractor shall pay a penalty of R2000,00 per tree to the Employer;

PF.4.1.5 Trees which have been selected for preservation by the Engineer 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 material storage or as allocation for temporary buildings; and

PF.4.1.6 Where such trees are located within the working width of the pipeline, the pipeline shall be aligned to avoid these trees wherever possible.

PF.4.2 Transplantation of rare and endangered plant species

Prior to vegetation clearing, any rare or endangered plant species which have been identified by the Engineer or his environmental representative must be removed and transplanted as instructed herein.

PF.4.2.1 Transplanting of small trees (1 to 1,5m height) and small shrubs (0,5 to 1m height)

- a. Trees and shrubs shall only be transported between the months of April and September. Deciduous trees and shrubs shall be transplanted only when they are in a leafless condition.
- b. Holes for transplanting trees and shrubs shall be dug before these plants are dug out. Trees shall be planted in holes of 1m x 1m x 1m and shrubs shall be transplanted in holes of 600mm x 600mm x 600mm.
- c. Trees and shrubs shall be planted so that their stems or trunks are at the same depth as in their original location. The orientation of the transplanted plants must be the same as in their original location (i.e. the north-facing side of the plant must remain north-facing after it has been planted.)
- d. Transplanted plants shall be pruned to limit transpiration. Plants shall also be sprayed with an evapotranspiration retardant liquid if they are evergreen.
- e. Transplanted plants shall be watered once a week for 5 weeks and thereafter once every 2 weeks.

PF.4.2.2 Transplanting aloes, succulents and bulbous plants

- a. Aloes, succulents and evergreen bulbous plants may be transplanted at any time of the year.
- b. Aloes and bulbous plants shall be planted in similar conditions and to the same depth as they were before they were removed.
- c. Transplanted aloes and bulbs shall be watered once directly after transplanting to settle the soil.

PF.4.3 Alien vegetation

The Engineer may instruct the Contractor to remove alien vegetation from the works area for the duration of the construction and maintenance period. Such vegetation will be identified by the Engineer or his environmental representative and the method of eradication will be specified by him/her.

The use of topsoil for rehabilitation contaminated with the seed of alien vegetation will not be permitted.

PF.5 PROTECTION OF FAUNA

The Contractor shall ensure that all Works are undertaken in such a manner which minimizes the impact on the local fauna and shall apply the following specifications with respect to fauna management and protection:

- PF.5.1 Under no circumstances shall any animals be handled, removed, killed or interfered with by the Contractor, his subcontractors or his subcontractors' employees;
- PF.5.2 The Contractor and his employees shall not bring any domestic animals onto the site;
- PF.5.3 The contractor shall ensure that the work site is kept clean and tidy and free from rubbish which would attract animal pests;
- PF.5.4 There shall be no feeding of animals;
- PF.5.5 The Contractor shall ensure that domestic and native animals belonging to the local community shall be kept away and are safe from unprotected works; and
- PF.5.6 The Contractor shall advise his workers of the penalty associated with the needless destruction of wildlife, as set out in the Animals Protection Act (Act 71 of 1962) sec. 2 (fine of R2 000 and/or 12 months imprisonment).

PF.6 ARCHAEOLOGICAL ARTIFACTS

- PF.6.1 Known archaeological sites shall be indicated by the Engineer and shall be protected by a three strand fence which will be at least 2m outside the extremities of the site. The fence shall be clearly marked with danger tape.
- PF.6.2 Should the Contractor expose any archaeological artefacts during excavation, work on the area where the artefacts were found shall cease immediately and the Engineer shall be notified as soon as possible.
- PF.6.3 Upon receipt of such notification, the Engineer will arrange for the excavation to be examined by an Archaeologist as soon as practicable. Acting upon the advice from the Archaeologist, the Engineer will advise the Contractor of the necessary actions to be taken.
- PF.6.4 Under no circumstances shall archaeological artefacts be removed, destroyed or interfered with by the Contractor, his employees, his subcontractors or his subcontractors' employees.
- PF.6.5 The Contractor shall ensure that none of his employees gain access to any archaeological areas (whether fenced or unfenced), except when authorised to do so by the Engineer.
- PF.6.6 The Contractor shall stay strictly within the 20m working width of the Works in order to prevent disturbance of possible grave sites and remnant settlements. Should any work be necessary outside of the working width, then this shall only be done in areas approved by the Engineer.

PF.7 SCENIC QUALITY

- PF.7.1 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.
- PF.7.2 No painting or marking of natural features shall be done. Marking for surveying and other purposes shall only be done with pegs and beacons.

PF.7.3 All cut and fill forms shall be rounded at the edges to blend then with the surrounding landforms.

PF.7.4 Where instructed by the Engineer, all packed 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.

PF.7.5 Where instructed by the Engineer, all concrete structures shall be treated so as to blend in with the colours of the surrounding landscape. This shall be done either through painting or through treatment with a staining or coloration compound. All other permanent structures shall have colours which are chosen to blend in with the dominant colours of the surrounding landscape. Painted surfaces shall be painted with non-reflective (matt) colours.

PF.8 WORKING AREA

PF.8.1 The area of construction along any pipeline shall be contained within a 20m working width.

PF.9 ACCESS ROADS AND VEHICLE TURNING AREAS

PF.9.1 No new permanent access roads other than those agreed to by the Engineer shall be developed by the Contractor.

PF.9.2 Existing roads shall be used as far as possible for inspection purposes.

PF.9.3 Topsoil shall be stripped as specified prior to construction and reinstated on completion of the use of the road.

PF.9.4 Any temporary access road shall form part of the 20m working width servitude.

PF.9.5 All new temporary access roads shall be approved by the Engineer. No deviation from the approved access roads shall be allowed.

PF.9.6 Horse and trailer vehicles transporting pipes may not turn in areas of cultivated lands but shall turn in areas specifically identified by the Engineer.

PF.10 MATERIAL LAYDOWN AREAS

Pipe and materials shall be stored within the pipeline servitudes. Where this is not convenient or in the interests of efficiency, other areas may be designated by the Engineer.

PF.11 FIRES

No open fires shall be permitted except in areas specifically prepared and controlled for this purpose.

PF.12 FENCING

PF.12.1 Where instructed by the Engineer, fencing shall be erected around sensitive natural or cultural elements to protect them from damage. No pedestrian or vehicular access shall be allowed into such fenced areas.

PF.12.2 In places where temporary fencing is required, the Contractor shall erect such fencing when and where required by the Engineer and re-erect and maintain temporary fencing as necessary. Temporary fencing shall remain in position either until it is replaced by permanent fencing or until completion of the whole of the Works, unless the Contractor requires, or the Engineer directs its earlier removal.

PF.12.3 If any fencing is removed temporarily for the execution of any part of the Works it shall be reinstated as soon as practicable by the Contractor.

PF.12.4 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 groups of trees. There shall be no removal of the grass cover or topsoil within this width.

PF.12.5 Any fences damaged by the Contractor shall be repaired as soon as practicable at his cost.

PF.13 TOPSOIL

PF.13.1 Source of topsoil

Topsoil shall be stripped from all areas that are to be utilized during the construction period and where permanent structures and access is required. These areas will include all areas to be excavated, the pipeline trench route, temporary and permanent access roads, construction camps, laydown areas, pump sites, valve chambers and borrow pits. Topsoil shall be stripped after clearing of woody vegetation and before excavation or construction commences.

The topsoil is regarded as the top 150mm of the soil profile, irrespective of the fertility appearance, agricultural potential, structure and composition of the soil.

PF.13.2 Topsoil stripping

PF.13.2.1 Soil shall be stripped to the depth indicated in the project specification, or to the depth of the bedrock where soil is shallower than that specified. Herbaceous vegetation, overlying grass and other fine organic matter shall not be removed from the stripped soil.

PF.13.2.2 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.

PF.13.2.3 Topsoil shall preferably be stripped when it is in a dry condition in order to prevent compaction.

PF.13.3 Topsoil stockpiling

PF.13.3.1 Stripped topsoil shall be stockpiled on sites adjacent to where it has been stripped which have been approved by the Engineer. Soil stockpiles shall not take the form of windrows, unless this can be placed far enough away from the working area. This is to prevent the soil from being spread out or mixed with the other spoil during construction.

PF.13.3.2 No vehicles shall be allowed access onto the stockpiles after they have been placed. Topsoil stockpiles shall be clearly demarcated in order to prevent vehicle access and later for identification as being the resource for rehabilitation and vegetation establishment.

PF.13.3.3 Stockpiles shall not be allowed to become contaminated with oil, diesel, petrol, garbage or any other material which may inhibit the later growth of vegetation in the soil.

PF.13.4 Topsoil placement

PF.13.4.1 Topsoil shall be placed to the depth indicated in the project specification over all areas where it has been stripped and over disused borrow pits after construction in those areas has ceased. Topsoil placement shall be done concurrently with construction or as soon as construction in an area has ceased.

- PF.13.4.2 Topsoil shall be placed in the same soil zone from which it has been stripped. However, if there is insufficient topsoil available from a particular soil zone to produce the minimum specified depth, topsoil of similar quality may be bought from other soil zones of similar quality at the approval of the Engineer.
- PF.13.4.3 Topsoil shall be mounded and shaped around manholes and valve chambers which protrude above the ground and over the pipeline to facilitate subsequent consolidation of the backfill. The Contractor shall ensure that stormwater run-off is not channelled alongside the gentle mounding, but is taken diagonally across it.
- PF.13.4.4 Where insufficient topsoil has been stripped by the Contractor to provide the minimum specified depth, the Contractor shall obtain suitable substitute material from other sources at no cost to the employer. The suitability of the substitute material shall be determined by means of a soil analysis which is acceptable to the Engineer or Environmental Officer.
- PF.13.4.5 No vehicles shall be allowed access onto or through topsoil areas after it has been placed.
- PF.13.4.6 After topsoil placement is complete, cleared and stockpiled vegetation matter shall be spread randomly by hand over the topsoiled area as instructed by the Engineer.

PF.14 BORROW PITS AND QUARRIES

- PF.14.1 If a borrow pit is to be developed or an existing one is to be excavated, all topsoil from the area that is to be quarried must be stripped and stored for later rehabilitation of the pit.
- PF.14.2 Stripping and excavation actions shall be progressive in such manner that those parts of the borrow pit or quarry where work is complete can be rehabilitated while other areas are still being quarried.
- PF.14.3 Cut slopes of borrow pits and quarries shall have a vertical: horizontal gradient of not steeper than 1:3 (about 18 degrees), and preferably 1:5.
- PF.14.4 During excavation, work will be carried out in such a way that slopes of open works are not made dangerously steep.
- PF.14.5 Borrow pits shall be used as dump sites for excess rock spoil. On completion of spoiling the pits shall be reshaped and covered with layer of topsoil. On no account may spoil or rock be placed in drainage ways without the prior consent of the Engineer. On sites where old excavations are to be found, rock, waste and mud from new excavations will be used to fill in the old excavations.
- PF.14.6 Stormwater cut off drains shall be provided at the top of the cut slope, where identified as necessary by the Engineer, to prevent erosion of the rehabilitated surface of the borrow pit or quarry.
- PF.14.7 No borrow pit shall be used as a dump site for refuse material or for toxic material e.g. cement, oil, diesel, rubber and similar materials.
- PF.14.8 There will be no workshops, chemical or fuel stores on the borrow pit site.
- PF.14.9 Sufficient soil conservation works for preventing soil erosion will be established at the rehabilitated areas.

PF.15 BATCHING

Concrete shall be mixed only in areas which have been specially demarcated for this purpose. All concrete that is spilled outside these areas, shall be promptly removed by the Contractor and taken to an approved dump site. After all concrete mixing is complete, all waste concrete shall be removed from the batching area and disposed of at an approved dump site. Stormwater shall not be allowed to flow through the batching area. Water laden with cement shall be collected in a retention area for evaporation.

PF.16 EROSION PREVENTION

PF.16.1 The Engineer will instruct the Contractor on the measures to be taken to ensure that there is no undue stormwater damage and soil erosion resulting from the construction activities. The Contractor shall nevertheless take interim measures to ensure that no undue erosion damage occurs and shall advise the Engineer of all potential problem areas.

PF.16.2 Surface stormwater shall, where possible, not be allowed to be concentrated and to flow down cut or fill slopes or along the pipeline route without erosion protection measures being place.

PF.16.3 Stormwater deflection berms or stone pitched channels shall be constructed at regular intervals (plus minus every 15-30m) diagonally across the pipeline servitude on slopes as directed by the Engineer.

PF.17 EARTHWORKS

PF.17.1 All cut and fill forms shall be rounded on the edges to allow them to blend with the surrounding landforms.

PF.17.2 Where the backfill over the pipe trench will impede the natural flow of water, the backfill shall be shaped to allow an even flow across the line.

PF.19 SPOIL AND WASTE MATERIAL

PF.19.1 The Contractor shall load and haul excess spoil to fill in the borrow pits or to dump sites approved by the Engineer. The dumped material must be finally rounded to have slopes not steeper than 1:3.

PF.19.2 The Contractor shall remove all foundations and similar waste and transport all such waste material off site to dump areas which have been approved by the Engineer.

PF.20 REFUSE DISPOSAL

The Contractor shall dispose of all refuse generated by him or his subcontractor on a weekly basis at an approved refuse disposal site.

PF.21 ABLUTION FACILITIES

Portable toilets shall be placed within easy access of the Contractor's employees. These toilets shall be moved to follow the progression of the Works. Waste generated by these toilets shall be disposed of in an acceptable manner following consultation with the Engineer.

PF.22 CLEARANCE OF SITE ON COMPLETION

- PF.22.1 On completion of the Works, the Contractor shall clear away and remove from the works area all constructional plant, signboards, surplus rock and other material, foundations, plumbing and other fixtures, rubbish and temporary works of every kind. Areas thus cleared shall be graded and scarified to restore the ground to its original profile as near as practicable before topsoil placement and re-vegetation.
- PF.22.2 The Contractor shall load and haul excess spoil to fill the borrow pits or to dump sites approved by the Engineer. The dumped material must be finally rounded off to have slopes not steeper than 1:3.

PF.23 ENVIRONMENTAL AWARENESS OF EMPLOYEES

The Contractor shall arrange that all his employees and those of his subcontractors receive environmental awareness and/or training before commencement of construction to the satisfaction of the Engineer, in order that they:

- PF.23.1 acquire a basic understanding of the key environmental features of the work site and environs;
- PF.23.2 are thoroughly familiar with the requirements of these Environmental Protection and Control Specifications as they apply to the Works;
- PF.23.3 if required by the Engineer, receive basic training in the identification of archaeological artifacts, and rare and endangered flora and fauna that may be encountered along the route; and
- PF.23.4 are made aware of any other environmental matters which are deemed to be necessary by the Engineer.

PF.24 COMPLIANCE WITH ENVIRONMENTAL PROTECTION SPECIFICATION

- PF.24.1 All persons employed by the Contractor or his subcontractors shall abide by the requirements of these specification as they apply to the Works.
- PF.24.2 Any employees of the Contractor or his subcontractors found to be in breach of any of the Environmental Protection Specifications may be ordered by the Engineer to leave site forthwith. 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.
- PF.24.3 Supervisory staff of the Contractor and his subcontractor shall not direct any person to undertake any activities which would place such a person in contravention of the Environmental Protection and Control Specification.

PF.25 COMPLIANCE AND MONITORING

The Engineer shall be responsible for implementing a consistent monitoring programme to ensure that construction specifications are upheld and that negative environmental impacts are regularly assessed and mitigated against.

The Contractor shall obtain written approval from the Engineer that the site is rehabilitated to their satisfaction at the end of the contract (practical closure) as well as after a 12 month liability period (final closure). If, in the opinion of the Engineer, the Environmental Protection and Control Specifications have not been complied with, further rehabilitation measures can be specified, the costs of which will be borne by the Contractor.

C4 SITE INFORMATION

The following locality sketch is included overleaf:

1:50 000 Site Locality Plan

C5 ANNEXURES

C5.1 ENVIRONMENTAL MANAGEMENT PLAN

Environmental management plan to be implemented as per client instructions.

See attached documentation.

C5.2 DRAWINGS

The drawings issued to tenders as part of the tender documents must be regarded as provisional and preliminary for the tenderer's benefit to generally assess the scope of work.

The work shall be carried out in accordance with the latest available revision of the drawings approved for construction

At commencement of the contract, the Engineer shall deliver to the Contractor copies of the AFC drawings and any instructions required for the commencement of the works. From time to time thereafter during the progress of the works, the Engineer may issue further drawings for construction purposes as may be necessary for adequate construction, completion and defects correction of the works.

All drawings and specifications and copies thereof remain the property of the Employer, and the Contractor shall return all drawings and copies thereof to the Employer at the completion of the contract.

The drawings listed in the table overleaf have been bound into the document.

Tenderers are to ensure that they receive a complete set of the tender drawings and must immediately inform the Engineer of any drawings that are missing so that further copies can be issued.

LIST OF DRAWINGS ISSUED FOR TENDER:

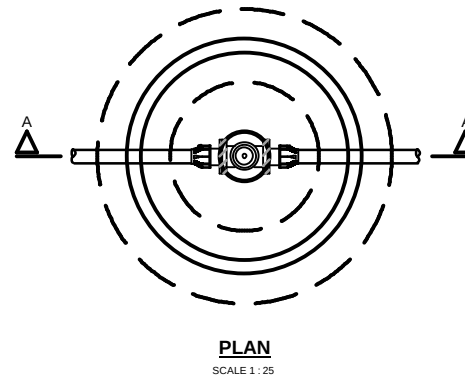
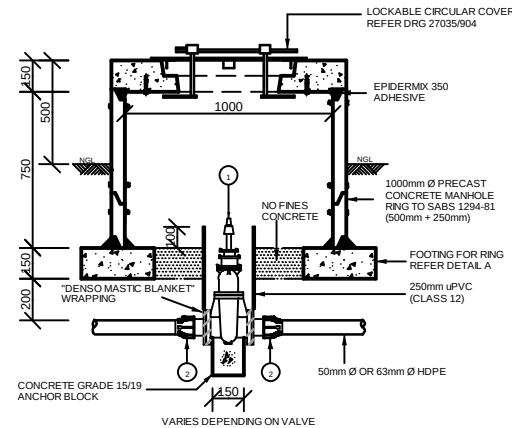
NUMBER	REV	DESCRIPTION
<i>Bound into Contract Document</i>	00	Locality Map 1:50 000

FITTINGS SCHEDULE FOR PIPES

ITEM No.	DIA.	DESCRIPTION	No. OFF
①	50	GATE VALVE CLASS 16	1
②	50 to 2"	* COMPRESSION FLANGE ADAPTER	2

* 1. SIZE AND TYPE OF AIR VALVE IN ACCORDANCE WITH DETAILS SHOWN ON LAYOUT DRAWING

* 2. DIAMETER OF CONNECTING PIPE WORK AND FITTINGS TO SUIT SIZE OF AIR VALVE.



NOTES

- ALL STEEL PIPES & FITTINGS 150 NB AND SMALLER TO BE MEDIUM DUTY TO SABS 62 UNLESS OTHERWISE SPECIFIED.
- ALL STEEL PIPES & FITTINGS LARGER THAN 150 NB TO BE 6mm WALL THICKNESS TO SABS 719 UNLESS OTHERWISE SPECIFIED.
- ALL WELDED FITTINGS & FLANGES TO BE DOCUMENTED AS PER SPECIFICATION WPS & WELDERS MUST BE QUALIFIED TO WQR ALL WELDS MUST BE 100% VISUALLY INSPECTED INSIDE & OUT AND 10% DYE PENETRANT INSPECTED BEFORE GALVANISING.
- ALL WELDS TO BE FULL PENETRATION TO BS 534 & FILLET WELD TO BE 80% OF WALL THICKNESS OR A MINIMUM OF 5 mm.
- ALL FLANGES TO BE MANUFACTURED & DRILLED TO SABS 1123 AS PER SCHEDULE.
- ALL THREADS TO BE BRITISH STANDARD PIPE (BSP) THREADS.
- ALL STEEL PIPES & FITTINGS 150 NB AND SMALLER TO BE HOT DIP GALVANISED TO SABS EN 10240 : 1997 WITH AN AVERAGE THICKNESS OF 70 MICRONS UNLESS OTHERWISE SPECIFIED..
- ALL STEEL PIPES & FITTINGS LARGER THAN 150 NB TO BE EPOXY COATED AND LINED WITH DRY FILM THICKNESS OF AT LEAST 250 MICRONS UNLESS OTHERWISE SPECIFIED.
- ALL STEEL COMPONENTS, BOLTS, NUTS & WASHERS TO BE HOT DIP GALVANISED TO ISO 1461 : 2000
- ALL DIMENSIONS IN MILLIMETRES. ALL PIPEWORKS & FITTINGS TO BE MEASURED & CHECKED ON SITE PRIOR TO INSTALLATION
- ALL BURIED FITTINGS AND PIPES TO BE WRAPPED IN "DENSO MASTIC BLANKET" TAPE.
- SIZE AND TYPE OF ISOLATING/AIR VALVE IN ACCORDANCE WITH DETAILS ON LAYOUT DRAWING OR LONG SECTION.

ZULULAND

DISTRICT
MUNICIPALITY
UMKHANDLU
WESIFUNDA



DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/903		REV Z			

**ISOLATING VALVE DETAILS
FOR 50mm Ø AND 63mm Ø HDPE PIPES**

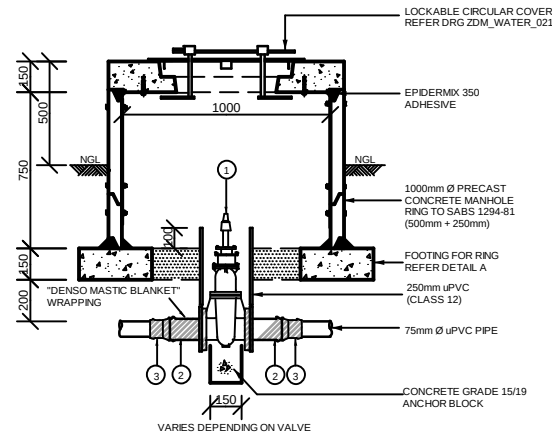
SCALES 1:25

FITTINGS SCHEDULE FOR PIPES

ITEM No.	DIA.	DESCRIPTION	No. OFF
①	80	GATE VALVE CLASS 16	1
②	90	CAST IRON FLANGE ADAPTER	2
②	75/90	CAST IRON MALE/FEMALE REDUCER	2

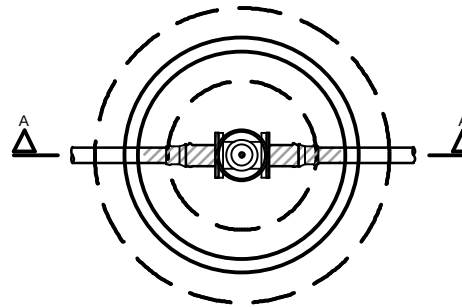
* 1. SIZE AND TYPE OF AIR VALVE IN ACCORDANCE WITH DETAILS SHOWN ON LAYOUT DRAWING

* 2. DIAMETER OF CONNECTING PIPE WORK AND FITTINGS TO SUIT SIZE OF AIR VALVE.



SECTION A-A

SCALE 1 : 25



PLAN

SCALE 1 : 25

NOTES

1. ALL DIMENSIONS IN MILLIMETRES
2. CONCRETE TO BE CLASS 15/19 UNLESS OTHERWISE SPECIFIED
3. COVER TO REINFORCEMENT TO BE 40mm
4. AIR VALVE TO BE POSITIONED ABOVE NGL
5. ALL FLANGES TO MINIMUM 1 600 kPA OR TO SUIT PIPE CLASS
6. ALL THREADS TO BSP STANDARDS
7. ALL BURIED FITTINGS AND HINGES TO BE WRAPPED IN "DENSO MASTIC BLANKET" TAPE
8. ALL STEEL COMPONENTS INCLUDING BOLTS GALVANISED TO ISO 1461 : 2000
9. ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FILLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm

ZULULAND

DISTRICT
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DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/904		REV Z			

**ISOLATING VALVE DETAILS
FOR 75mm Ø uPVC PIPES**

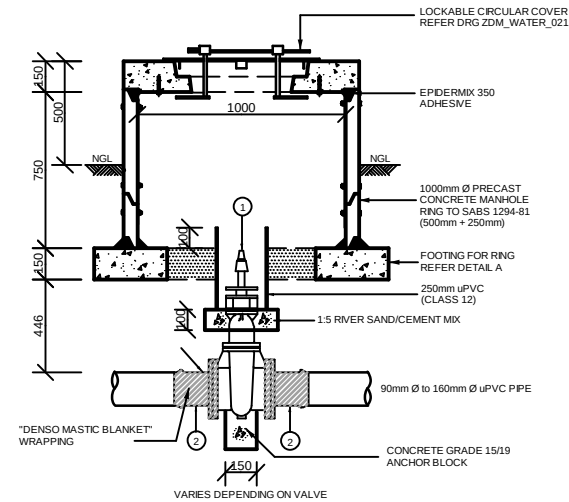
SCALES 1:25

FITTINGS SCHEDULE FOR PIPES

ITEM No.	DIA.	DESCRIPTION	No. OFF
①	80/100/150	GATE VALVE CLASS 16	1
②	90/110/160	CAST IRON FLANGE ADAPTER	2

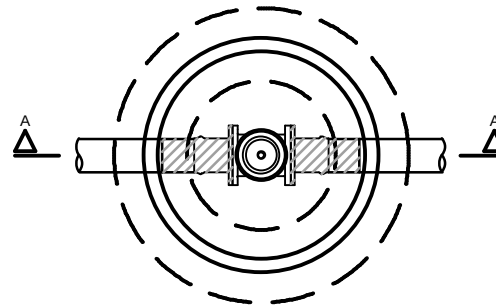
* 1. SIZE AND TYPE OF AIR VALVE IN ACCORDANCE WITH DETAILS SHOWN ON LAYOUT DRAWING

* 2. DIAMETER OF CONNECTING PIPE WORK AND FITTINGS TO SUIT SIZE OF AIR VALVE.



SECTION A-A

SCALE 1 : 25



PLAN

SCALE 1 : 25

NOTES

1. ALL DIMENSIONS IN MILLIMETRES
2. CONCRETE TO BE CLASS 15/19 UNLESS OTHERWISE SPECIFIED
3. COVER TO REINFORCEMENT TO BE 40mm
4. AIR VALVE TO BE POSITIONED ABOVE NGL
5. ALL FLANGES TO MINIMUM 1 600 kPA OR TO SUIT PIPE CLASS
6. ALL THREADS TO BSP STANDARDS
7. ALL BURIED FITTINGS AND HINGES TO BE WRAPPED IN "DENSO MASTIC BLANKET" TAPE
8. ALL STEEL COMPONENTS INCLUDING BOLTS GALVANISED TO ISO 1461 : 2000
9. ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FILLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm

ZULULAND

DISTRICT
MUNICIPALITY
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WESIFUNDA



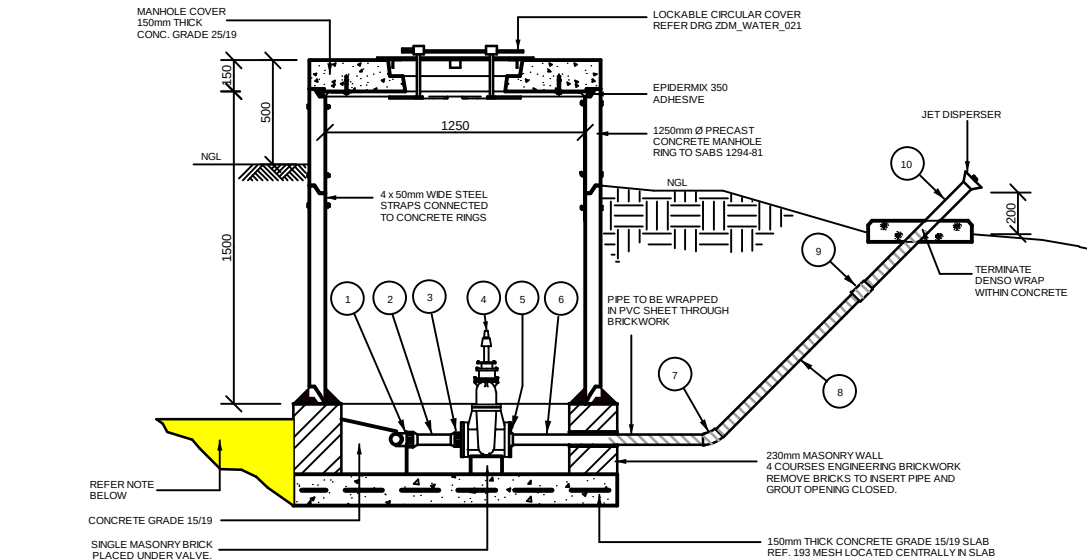
DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/905		REV Z			

**ISOLATING VALVE DETAILS
FOR 90mm Ø TO 160mm Ø uPVC PIPES**

SCALES 1:25

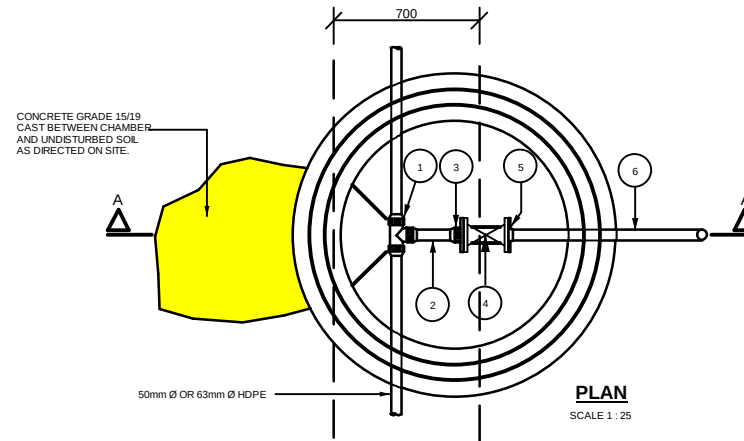
FITTINGS SCHEDULE FOR PIPES

ITEM No.	DIA.	DESCRIPTION	No. OFF
①	63 or 50	60 Ø REDUCING TEE, HDPE COMPRESSION FITTING or 50 Ø EQUAL TEE, HDPE COMPRESSION FITTING	1
②	50	HDPE STRAIGHT PIPE, CLASS 10 220mm LONG	1
③	50	FLANGE ADAPTOR HDPE COMPRESSION FITTING	1
④	50	WATERWORKS GATE VALVE TO SABS 664	1
⑤	50	FLANGE ADAPTOR FOR THREADED GMS PIPE	1
⑥	50	GMS STRAIGHT PIPE, THREADED BOTH ENDS 900mm LONG, CONFIRM LENGTH ON SITE	1
⑦	50	GMS ELBOW, FOR THREADED GMS PIPE	1
⑧	50	GMS STRAIGHT PIPE, THREADED BOTH ENDS 1120mm LONG, CONFIRM LENGTH ON SITE	1
⑨	50	COUPLING, FOR THREADED GMS PIPE	1
⑩	50	JET DISPERSER, THREADED ONE END 800mm, CONFIRM LENGTH ON SITE	1



SECTION A-A

SCALE 1 : 25



NOTES

- ALL DIMENSIONS IN MILLIMETRES
- CONCRETE TO BE CLASS 15/19 UNLESS OTHERWISE SPECIFIED
- COVER TO REINFORCEMENT TO BE 40mm
- AIR VALVE TO BE POSITIONED ABOVE NGL
- ALL FLANGES TO MINIMUM 1 600 kPA OR TO SUIT PIPE CLASS
- ALL THREADS TO BSP STANDARDS
- ALL BURIED FITTINGS AND HINGES TO BE WRAPPED IN "DENSO MASTIC BLANKET" TAPE
- ALL STEEL COMPONENTS INCLUDING BOLTS GALVANISED TO ISO 1461 : 2000
- ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FILLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm

ZULULAND

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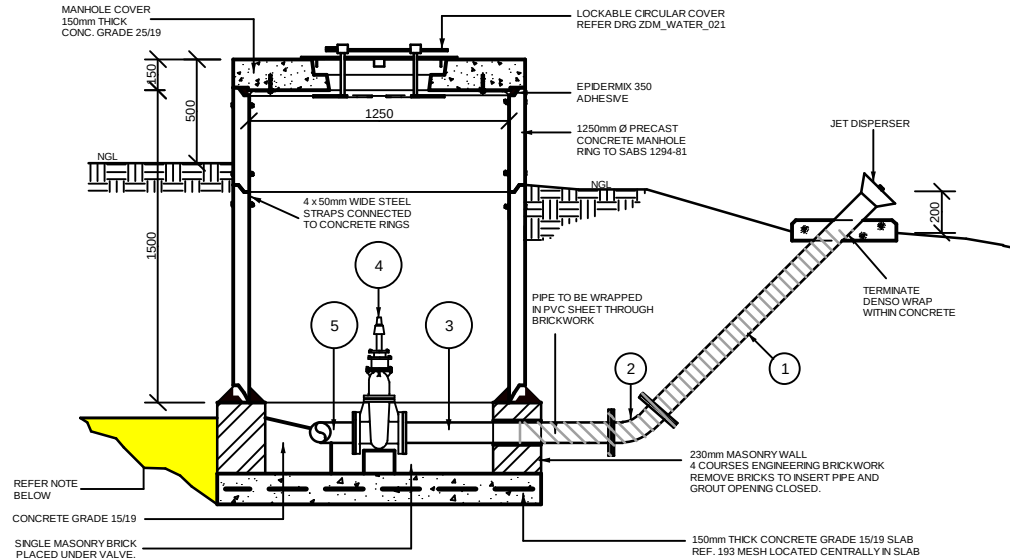
DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF
DRAWN	PP	27 MAR 2007	REV B		
APPROVED	L.R. FRASER		REV C		
CHECKED	S.A. SWANBY		REV D		
DRG. No.	28006/906		REV Z		

SCOUR VALVE DETAILS
FOR 50mm Ø AND 63mm Ø HDPE PIPES

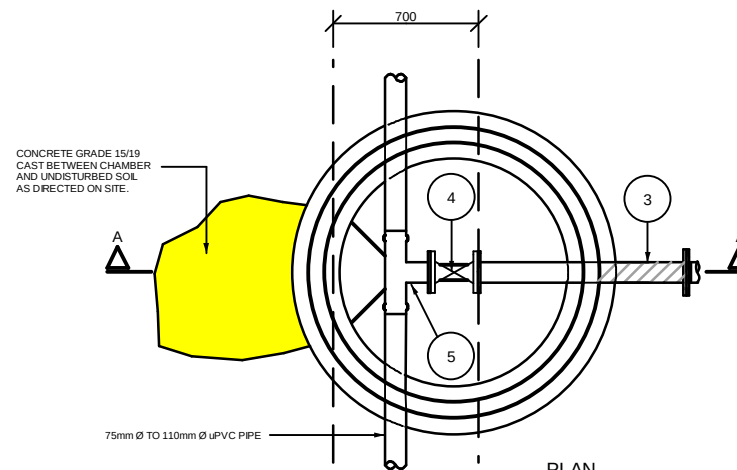
SCALES 1:25

FITTINGS SCHEDULE FOR PIPES

ITEM No.	DIA.	DESCRIPTION	No. OFF
①	80	JET DISPERSER, FLANGED ONE END 1500mm, CONFIRM LENGTH ON SITE	1
②	80	45° ELBOW, FLANGED BOTH ENDS	1
③	80	80 Ø GMS STRAIGHT, FLANGED BOTH ENDS 1000mm, CONFIRM LENGTH ON SITE	1
④	80	80 Ø FLANGED WATER WORKS GATE VALVE TO SABS 664	1
⑤	75 or 90 or 110	CAST IRON HYDRANT TEE	1



SECTION A-A
SCALE 1 : 25



PLAN
SCALE 1 : 25

NOTES

- ALL DIMENSIONS IN MILLIMETRES
- CONCRETE TO BE CLASS 15/19 UNLESS OTHERWISE SPECIFIED
- COVER TO REINFORCEMENT TO BE 40mm
- AIR VALVE TO BE POSITIONED ABOVE NGL
- ALL FLANGES TO MINIMUM 1 600 kPA OR TO SUIT PIPE CLASS
- ALL THREADS TO BSP STANDARDS
- ALL BURIED FITTINGS AND HINGES TO BE WRAPPED IN "DENSO MASTIC BLANKET" TAPE
- ALL STEEL COMPONENTS INCLUDING BOLTS GALVANISED TO ISO 1461 : 2000
- ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FILLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm

ZULULAND
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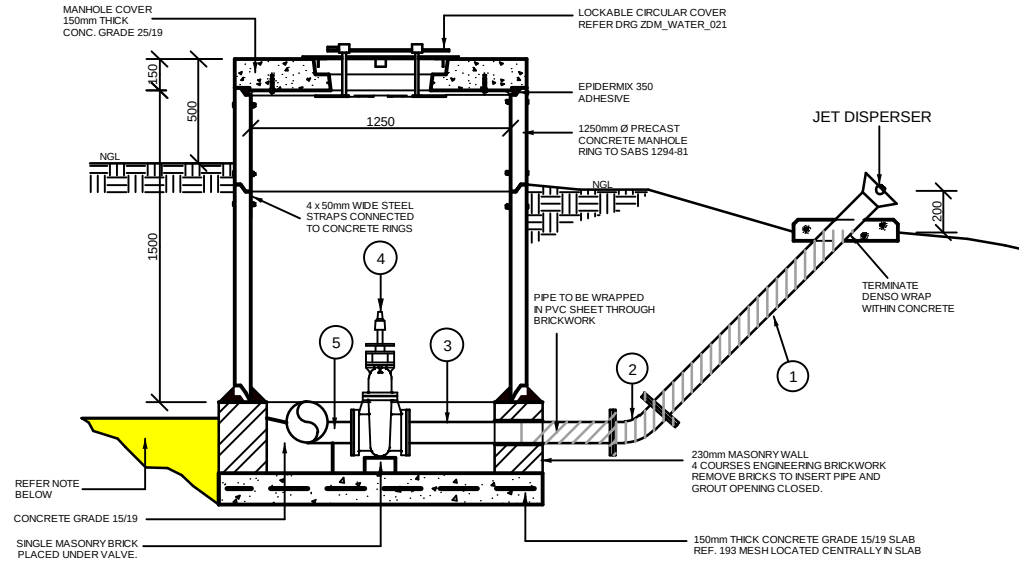
DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/907		REV Z			

SCOUR VALVE DETAILS FOR 75mm Ø TO 110mm Ø uPVC PIPES

SCALES 1:25

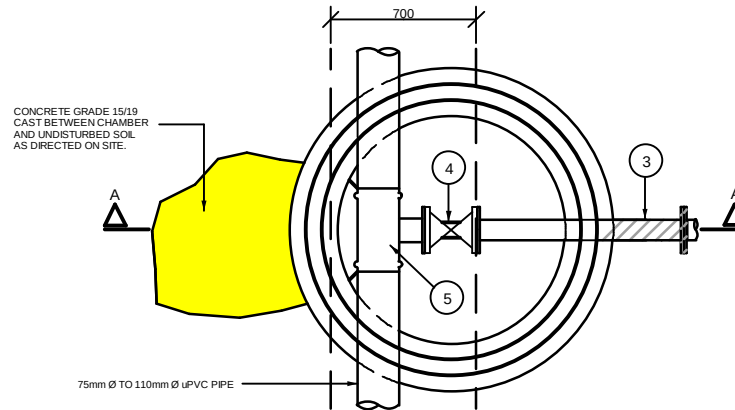
FITTINGS SCHEDULE FOR PIPES

ITEM No.	DIA.	DESCRIPTION	No. OFF
①	100	JET DISPERSER, FLANGED ONE END 1500mm, CONFIRM LENGTH ON SITE	1
②	100	45° ELBOW, FLANGED BOTH ENDS	1
③	100	100 Ø GMS STRAIGHT, FLANGED BOTH ENDS 1000mm, CONFIRM LENGTH ON SITE	1
④	100	100 Ø FLANGED WATER WORKS GATE VALVE TO SABS 664	1
⑤	125 to 250	CAST IRON SCOUR TEE WITH 100 NB SCOUR	1



SECTION A-A

SCALE 1 : 20



PLAN

SCALE 1 : 20

NOTES

- ALL DIMENSIONS IN MILLIMETRES
- CONCRETE TO BE CLASS 15/19 UNLESS OTHERWISE SPECIFIED
- COVER TO REINFORCEMENT TO BE 40mm
- AIR VALVE TO BE POSITIONED ABOVE NGL
- ALL FLANGES TO MINIMUM 1 600 kPA OR TO SUIT PIPE CLASS
- ALL THREADS TO BSP STANDARDS
- ALL BURIED FITTINGS AND HINGES TO BE WRAPPED IN "DENSO MASTIC BLANKET" TAPE
- ALL STEEL COMPONENTS INCLUDING BOLTS GALVANISED TO ISO 1461 : 2000
- ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FILLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm

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DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/908		REV Z			

SCOUR VALVE DETAILS
FOR 125mm Ø TO 250mm Ø uPVC PIPES

SCALES 1:25

NOTES

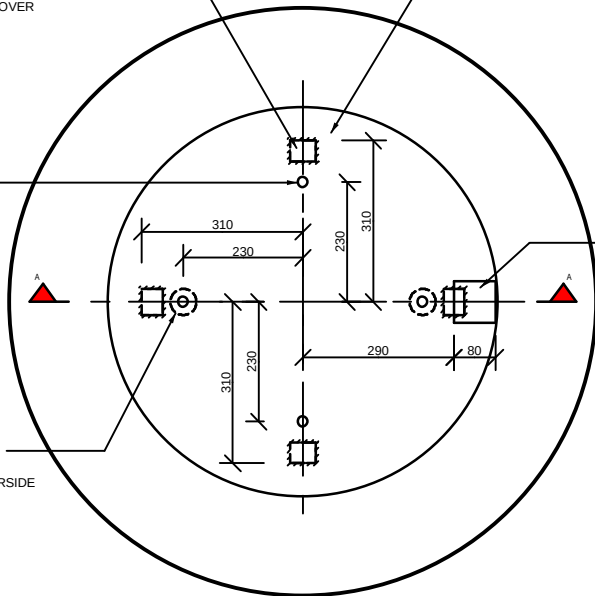
1. ALL DIMENSIONS IN MILLIMETERS
2. ALL COMPONENTS TO BE GALVANISED TO SABS 763-1977
3. DIMENSIONS MUST BE CHECKED PRIOR TO MANUFACTURE
4. 50mm VIRO LOCK TO BE PROVIDED
5. ALL LOCKS IN PROJECT TO BE KEYED ALIKE
6. ENGINEER TO BE CONSULTED IN RESPECT OF APPROPRIATENESS OF DESIGN FOR PIPE PRESSURE OVER
7. ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FLLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm.

4 No. 40x40x3 L x 50 LONG
WELDED TO UNDERSIDE OF
VASTRAP PLATE COVER

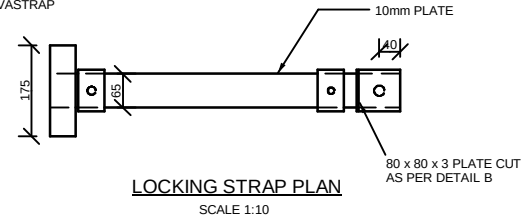
CIRCULAR MANHOLE COVER
(750 Ø) CUT FROM 6 VASTRAP
PLATE

4 No. 20 Ø HOLES
FOR VENTILATION

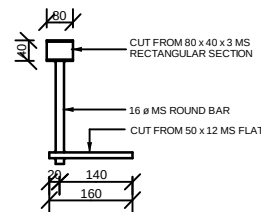
30 HIGH MS BUSH
50 OUTSIDE DIA
18 INSIDE DIA
WELDED TO UNDERSIDE
OF VASTRAP



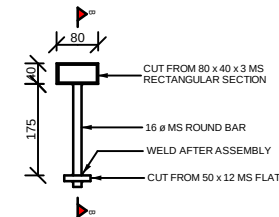
MILD STEEL MANHOLE COVER PLAN
SCALE 1:10



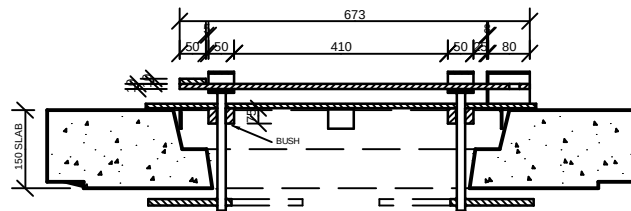
LOCKING STRAP PLAN
SCALE 1:10



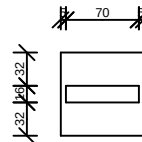
**LOCKING MECHANISM END ELEVATION
SECTION B - B**
SCALE 1:10
(2 No. THROUGH MANHOLE COVER)



**LOCKING MECHANISM
FRONT ELEVATION**
SCALE 1:10
(2 No. THROUGH MANHOLE COVER)



SECTION A - A
SCALE 1:10



DETAIL B
SCALE 1:5

ZULULAND
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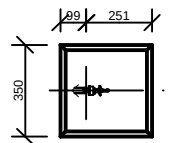
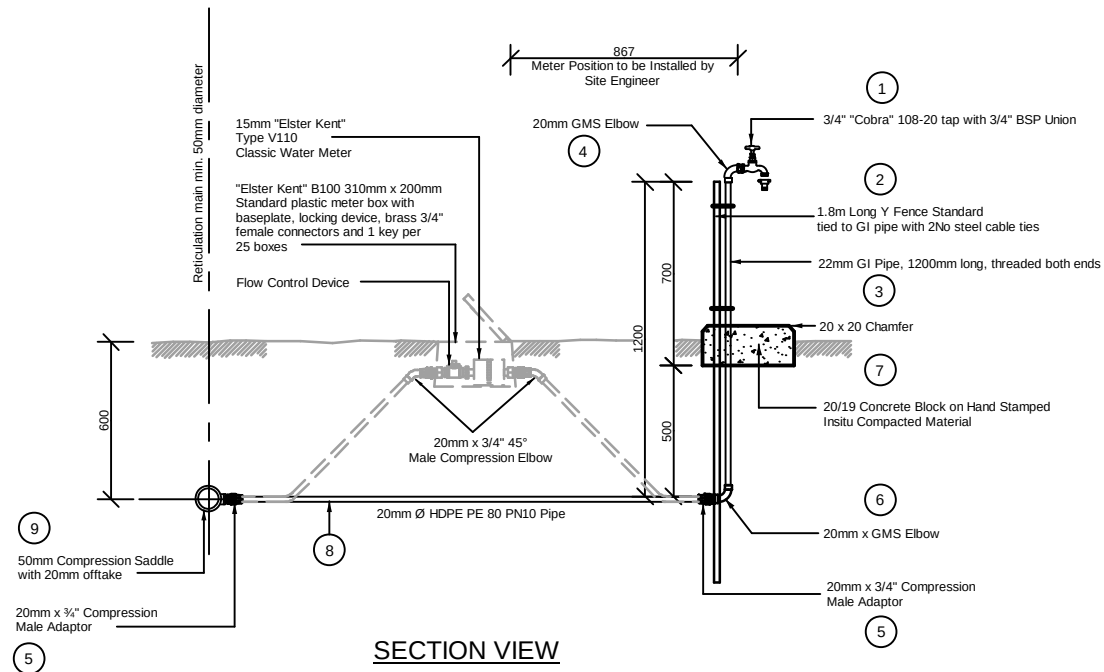
DESIGNED	LRF/SAS	27 MAR. 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR. 2007	REV B			
APPROVED	C.NEL		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/909		REV Z			

CIRCULAR MANHOLE COVER DETAIL

SCALES 1:5 / 1:10

FITTINGS SCHEDULE

ITEM	DESCRIPTION	No. OFF
1	¾" "COBRA" 108-20 TAP WITH ¾" BSP UNION	1
2	1800mm LONG Y FENCE STANDARD TIE TO GALVANISED IRON PIPE WITH No. 2 CABLE TIES	1
3	22mm GALVANISED IRON PIPE 1200mm LONG, THREADED BOTH ENDS	1
4	20mm GMS ELBOW	1
5	20mm x ¾" COMPRESSION MALE ADAPTOR	2
6	20mm x ¾" 45° COMPRESSION ELBOW	1
7	20/19 CONCRETE BLOCK ON HAND STAMPED INSITU COMPACTED MATERIAL	1
8	20mm Ø HDPE PE 80 PN10 PIPE	10m
9	50mm COMPRESSION SADDLE WITH 20mm OFFTAKE	1



PLAN VIEW

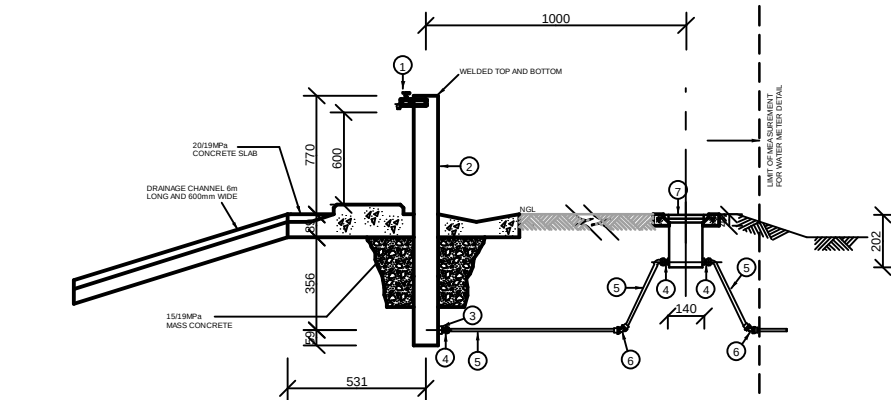
ZULULAND
DISTRICT
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DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/910		REV Z			

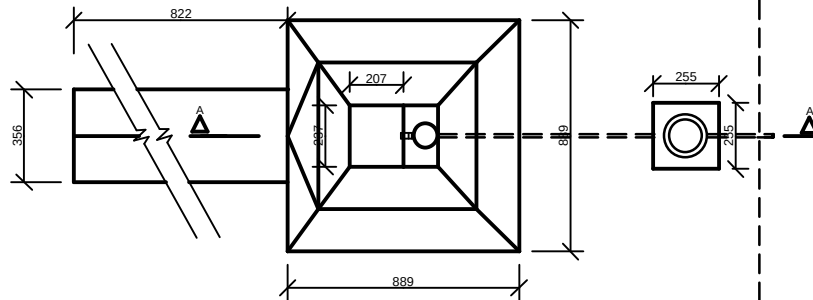
**STANDPIPE : TYPE 1 DETAIL -
YARD CONNECTION WITH FLOW
CONTROL DEVICE**

SCALES 1:20



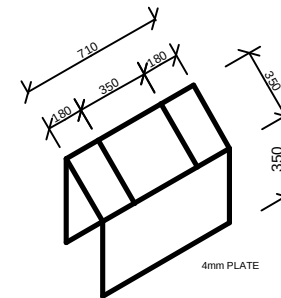
SECTION A-A

SCALE 1 : 20



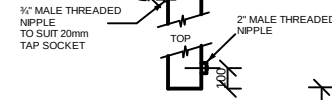
PLAN

SCALE 1 : 20



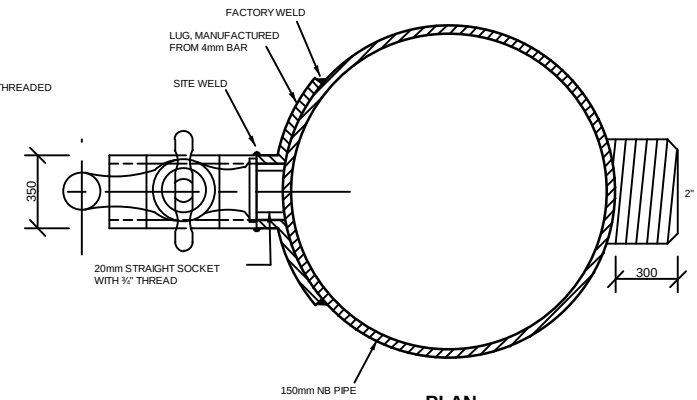
BRACKET ATTACHMENT

SCALE 1 : 25



BOTTOM

SCALE 1 : 25

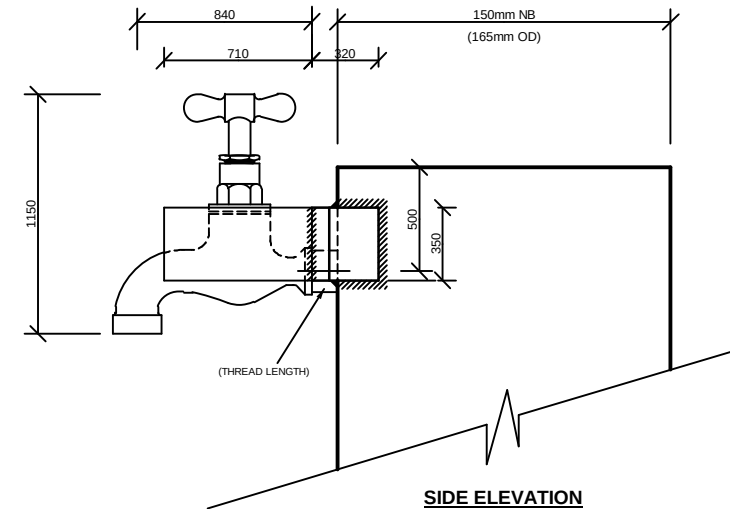


PLAN

SCALE 1 : 25

WELD BRACKET ATTACHMENT ON SITE AFTER INSTALLING TAP GRIND AND MAKE GOOD WITH ZINGA

LUG ON HOST UNIT TO BE PRE-FABRICATED WITH PIPE



SIDE ELEVATION

SCALE 1 : 25

FITTINGS SCHEDULE

ITEM	DESCRIPTION	UNIT	QTY
1	3/4" TAP 108-20 WITH 3/4" HAVE UNION	No.	1
2	150mm NB x 4mm GALVANISED MILD STEEL PIPE, 1620mm LONG, WELDED CLOSED TOP AND BOTTOM, WITH 1/2" MALE NIPPLE WELDED TO TOP AND 2" MALE NIPPLE WELDED TO BOTTOM	No.	1
3	2" x 3/4" REDUCING SOCKET	No.	1
4	3/4" x 20 MALE ADAPTOR COMPRESSION FITTING	No.	3
5	20mm HDPE PIPE CLASS 10	m	2
6	20mm 45° FEMALE ELBOW COMPRESSION	No.	2
7	SINGLE AQUA-LOC WATER METER SYSTEM WITH 10 l/min FRV	No.	1

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DESIGNED

LRF/SAS

27 MAR 2007

REV A

ISSUED FOR APPROVAL

LRF

DRAWN

PP

27 MAR 2007

REV B

APPROVED

L.R. FRASER

REV C

CHECKED

S.A. SWANBY

REV D

DRG. No.

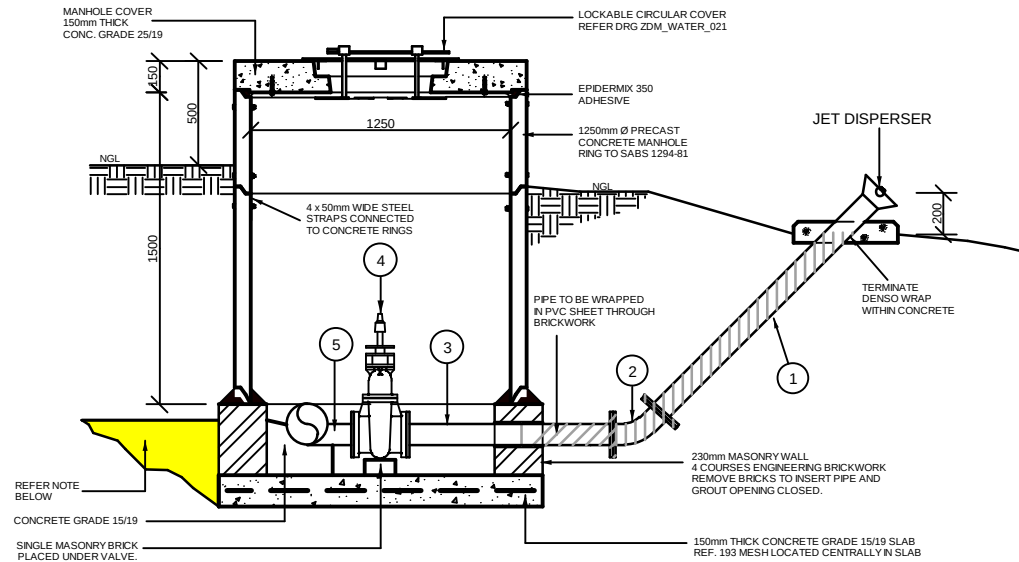
28006/911

REV Z

**STANDPIPE : TYPE 2 DETAIL
(COMMUNITY STANDPIPE)**

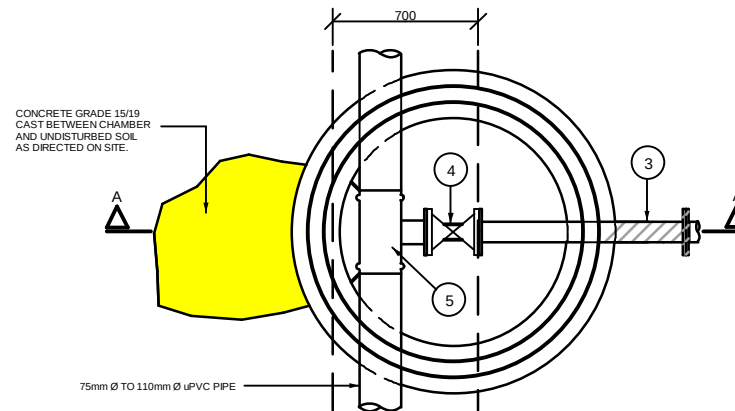
SCALES 1:25

ITEM No.	DIA.	DESCRIPTION	No. OFF
①	100	JET DISPERSER, FLANGED ONE END 1500mm, CONFIRM LENGTH ON SITE	1
②	100	45° ELBOW, FLANGED BOTH ENDS	1
③	100	100 Ø GMS STRAIGHT, FLANGED BOTH ENDS 1000mm, CONFIRM LENGTH ON SITE	1
④	100	100 Ø FLANGED WATER WORKS GATE VALVE TO SABS 664	1
⑤	125 to 250	CAST IRON SCOUR TEE WITH 100 NB SCOUR	1



SECTION A-A

SCALE 1 : 20



PLAN

SCALE 1 : 20

1. ALL DIMENSIONS IN MILLIMETRES
2. CONCRETE TO BE CLASS 15/19 UNLESS OTHERWISE SPECIFIED
3. COVER TO REINFORCEMENT TO BE 40mm
4. AIR VALVE TO BE POSITIONED ABOVE NGL
5. ALL FLANGES TO MINIMUM 1 600 kPa OR TO SUIT PIPE CLASS
6. ALL THREADS TO BSP STANDARDS
7. ALL BURIED FITTINGS AND HINGES TO BE WRAPPED IN "DENSO MASTIC BLANKET" TAPE
8. ALL STEEL COMPONENTS INCLUDING BOLTS GALVANISED TO ISO 1461 : 2000
9. ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FILLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm



DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No. 28006/908			REV Z			

SCOUR VALVE DETAILS FOR 125mm Ø TO 250mm Ø uPVC PIPES

SCALES 1:25

NOTES

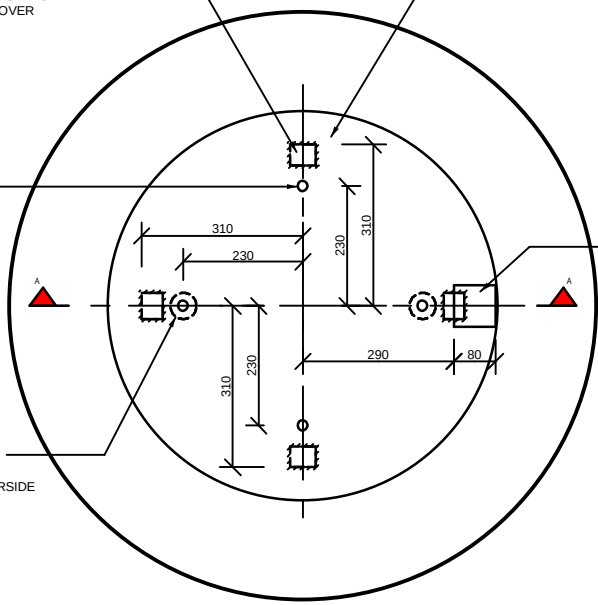
1. ALL DIMENSIONS IN MILLIMETERS
2. ALL COMPONENTS TO BE GALVANISED TO SABS 763-1977
3. DIMENSIONS MUST BE CHECKED PRIOR TO MANUFACTURE
4. 50mm VIRO LOCK TO BE PROVIDED
5. ALL LOCKS IN PROJECT TO BE KEYED ALIKE
6. ENGINEER TO BE CONSULTED IN RESPECT OF APPROPRIATENESS OF DESIGN FOR PIPE PRESSURE OVER
7. ALL WELDS TO BE FULL PENETRATION TO BS 534 AND FLLET WELD TO BE 80% OF WALL THICKNESS OR WITH A MINIMUM OF 5mm.

4 No. 40x40x3 L x 50 LONG
WELDED TO UNDERSIDE OF
VASTRAP PLATE COVER

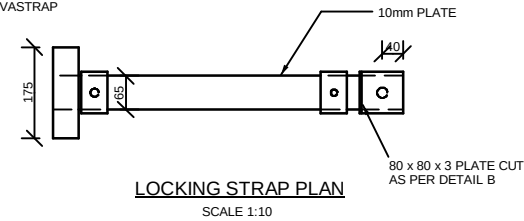
CIRCULAR MANHOLE COVER
(750 Ø) CUT FROM 6 VASTRAP
PLATE

4 No. 20 Ø HOLES
FOR VENTILATION

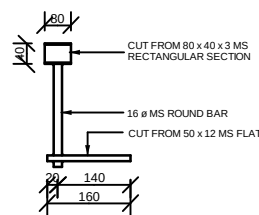
30 HIGH MS BUSH
50 OUTSIDE DIA
18 INSIDE DIA
WELDED TO UNDERSIDE
OF VASTRAP



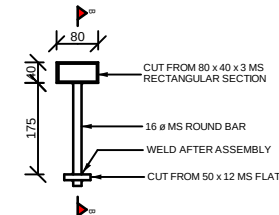
MILD STEEL MANHOLE COVER PLAN
SCALE 1:10



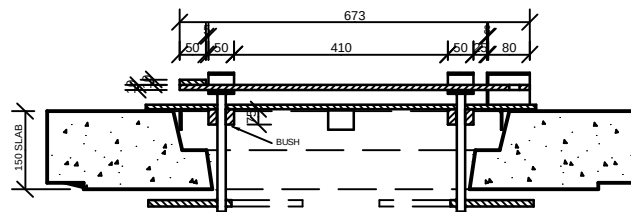
LOCKING STRAP PLAN
SCALE 1:10



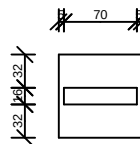
**LOCKING MECHANISM END ELEVATION
SECTION B - B**
SCALE 1:10
(2 No. THROUGH MANHOLE COVER)



**LOCKING MECHANISM
FRONT ELEVATION**
SCALE 1:10
(2 No. THROUGH MANHOLE COVER)



SECTION A - A
SCALE 1:10



DETAIL B
SCALE 1:5

ZULULAND
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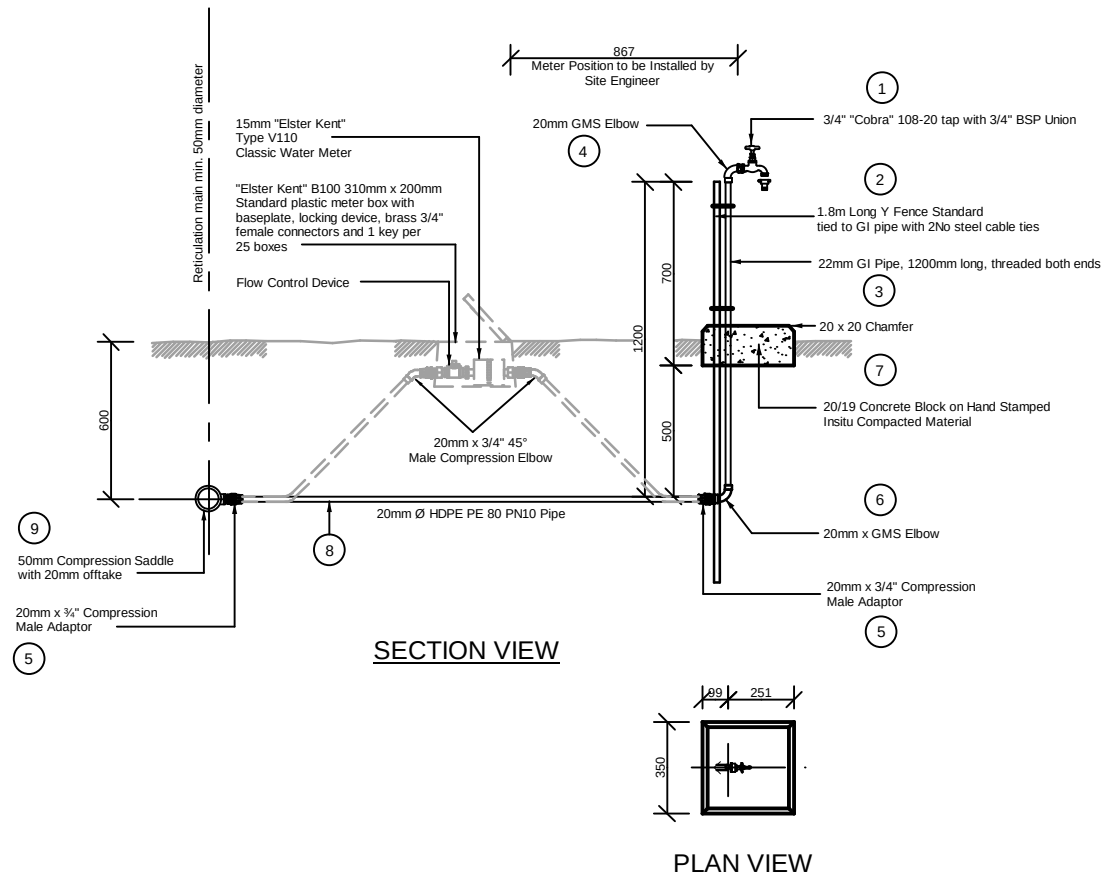
DESIGNED	LRF/SAS	27 MAR. 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR. 2007	REV B			
APPROVED	C.NEL		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/909		REV Z			

CIRCULAR MANHOLE COVER DETAIL

SCALES 1:5 / 1:10

FITTINGS SCHEDULE

ITEM	DESCRIPTION	No. OFF
1	¾" "COBRA" 108-20 TAP WITH ¾" BSP UNION	1
2	1800mm LONG Y FENCE STANDARD TIE TO GALVANISED IRON PIPE WITH No. 2 CABLE TIES	1
3	22mm GALVANISED IRON PIPE 1200mm LONG, THREADED BOTH ENDS	1
4	20mm GMS ELBOW	1
5	20mm x ¾" COMPRESSION MALE ADAPTOR	2
6	20mm x ¾" 45° COMPRESSION ELBOW	1
7	20/19 CONCRETE BLOCK ON HAND STAMPED INSITU COMPACTED MATERIAL	1
8	20mm Ø HDPE PE 80 PN10 PIPE	10m
9	50mm COMPRESSION SADDLE WITH 20mm OFFTAKE	1



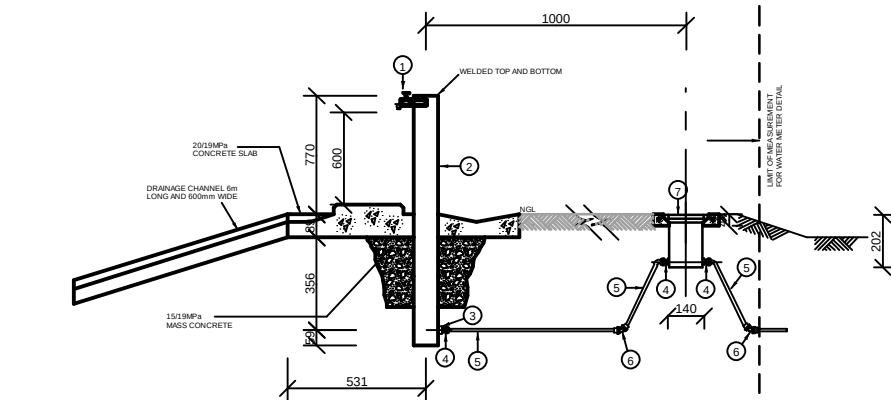
ZULULAND
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MUNICIPALITY
UMKHANDLU
WESIFUNDA



DESIGNED	LRF/SAS	27 MAR 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/910		REV Z			

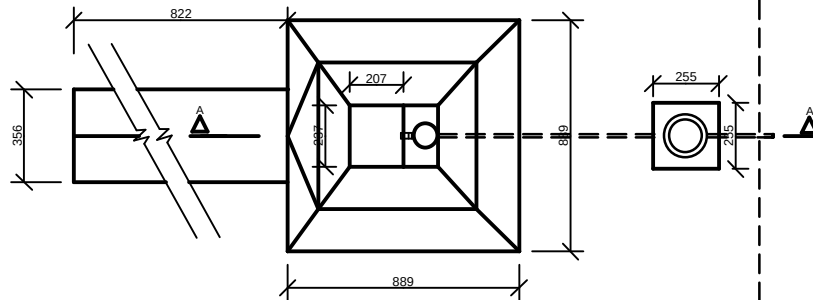
**STANDPIPE : TYPE 1 DETAIL -
YARD CONNECTION WITH FLOW
CONTROL DEVICE**

SCALES 1:20



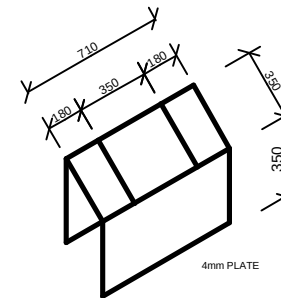
SECTION A-A

SCALE 1 : 20



PLAN

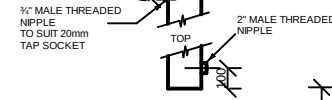
SCALE 1 : 20



BRACKET ATTACHMENT

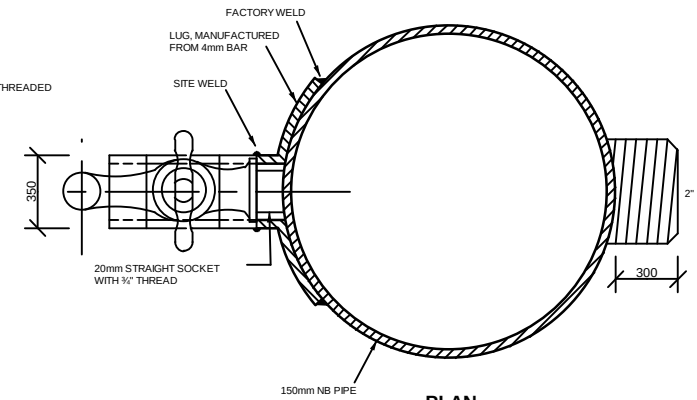
SCALE 1 : 25

FITTINGS SCHEDULE			
ITEM	DESCRIPTION	UNIT	QTY
1	3/4" TAP 108-20 WITH 3/4" HAVE UNION	No.	1
2	150mm NB x 4mm GALVANISED MILD STEEL PIPE, 1620mm LONG, WELDED CLOSED TOP AND BOTTOM, WITH 3/4" MALE NIPPLE WELDED TO TOP AND 2" MALE NIPPLE WELDED TO BOTTOM	No.	1
3	2" x 3/4" REDUCING SOCKET	No.	1
4	3/4" x 20 MALE ADAPTOR COMPRESSION FITTING	No.	3
5	20mm HDPE PIPE CLASS 10	m	2
6	20mm 45° FEMALE ELBOW COMPRESSION	No.	2
7	SINGLE AQUA-LOC WATER METER SYSTEM WITH 10 l/min FRV	No.	1



BOTTOM

SCALE 1 : 25

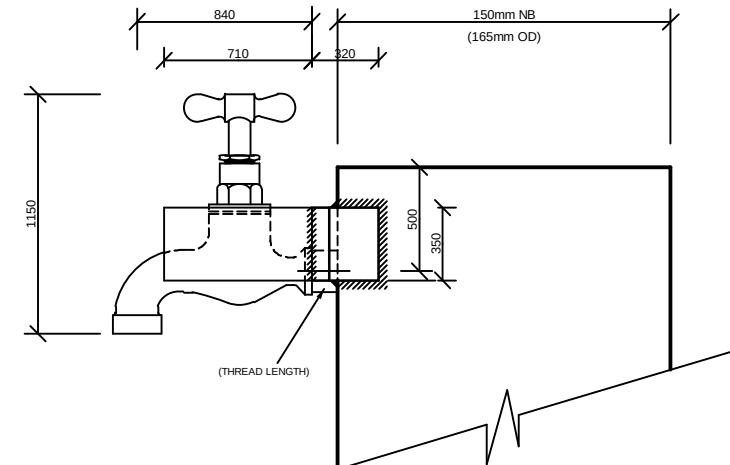


PLAN

SCALE 1 : 25

WELD BRACKET ATTACHMENT ON SITE AFTER INSTALLING TAP GRIND AND MAKE GOOD WITH ZINGA

LUG ON HOST UNIT TO BE PRE-FABRICATED WITH PIPE



SIDE ELEVATION

SCALE 1 : 25

ZULULAND

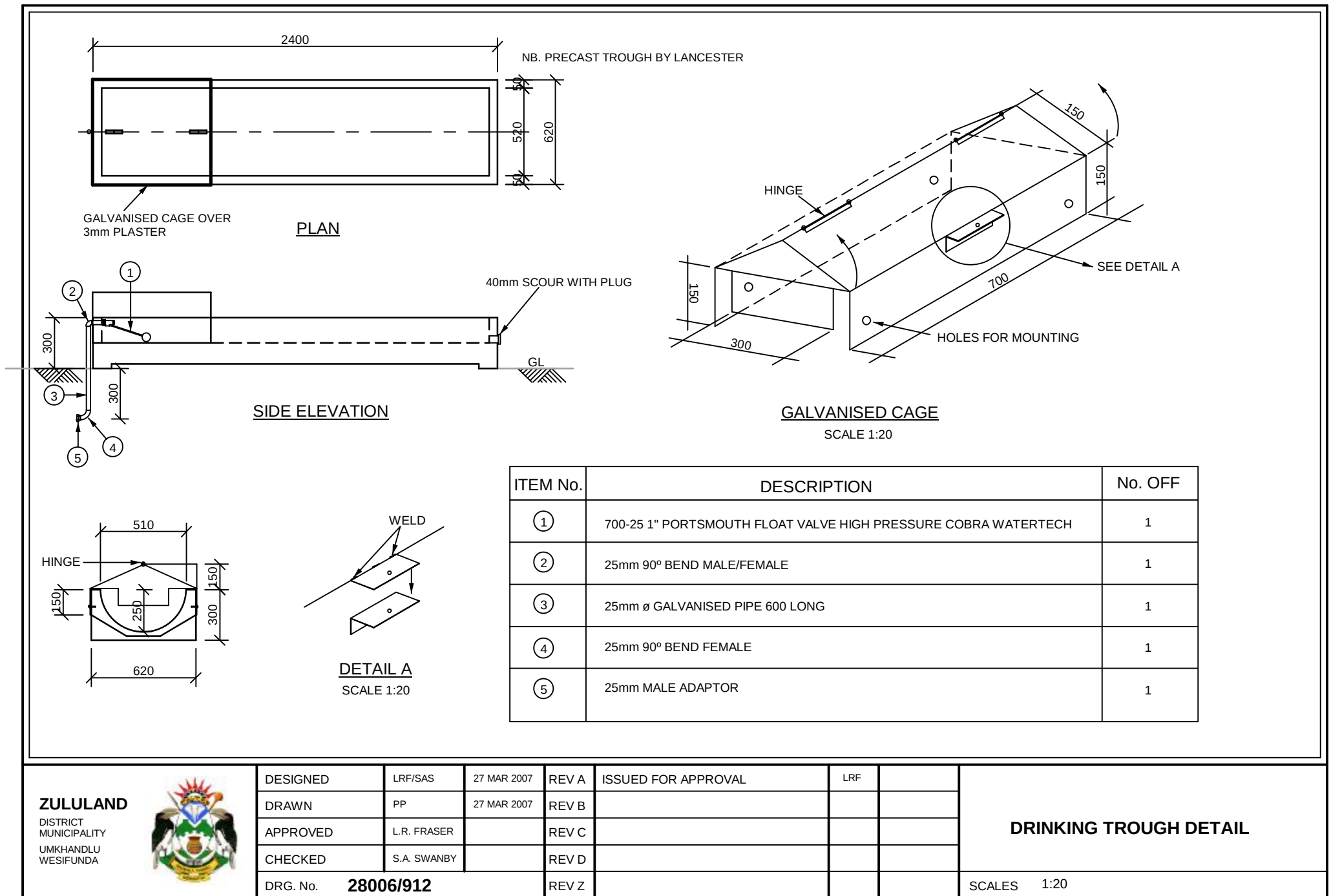
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MUNICIPALITY
UMKHANDLU
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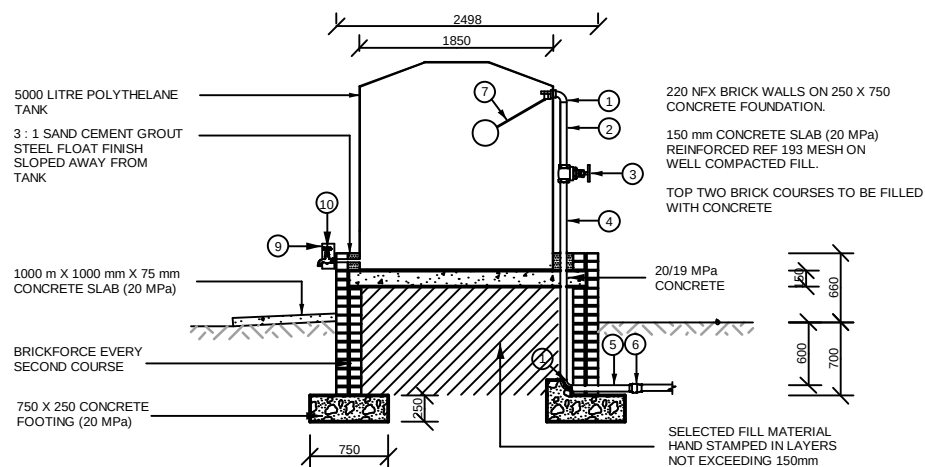


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APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/911		REV Z			

**STANDPIPE : TYPE 2 DETAIL
(COMMUNITY STANDPIPE)**

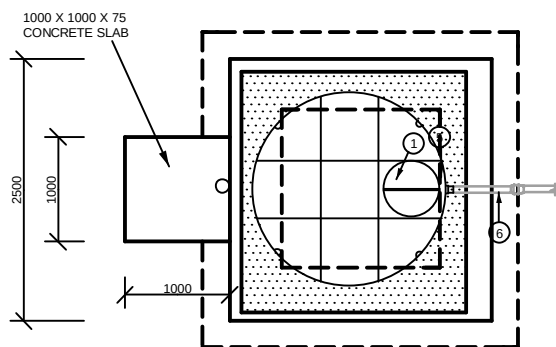
SCALES 1:25





TANK SECTION

SCALE 1:25



PLAN LAYOUT

SCALE 1:25

NOTES:

1. ALL STEEL PIPES AND FITTINGS 150 DIAMETER AND SMALLER TO BE MEDIUM DUTY TO SABS 62 UNLESS OTHERWISE SPECIFIED.
2. PIPES 150 DIAMETER AND SMALLER TO BE HOT DIPPED GALVANISED TO SABS EN 10240 : 1997 WITH AN AVERAGE THICKNESS OF 70 MICRONS.
3. BRICKFORCE EVERY SECOND COURSE

PIPE SCHEDULE

(ALL SPECIALS TO BE SUITABLE FOR 1,6 kPa WORKING PRESURE)

ITEM NO.	SKETCH OF FITTING	DESCRIPTION	NO. OFF
①		50 mm FEMALE GALVANISED ELBOW	2
②		50 mm GALVANISED PIPE	1
③		COBRA WATERTECH 50 mm GATE VALVE 1002/125-50 (1600 kPa)	1
④		50 mm GALVANISED PIPE	1
⑤		50 mm GALVANISED PIPE	1
⑥		50 mm FEMALE ADAPTOR HDPe TO GALVANISED	1
⑦		50 mm COBRA WATERTECH 700-50	1
⑧		50/63 REDUCING TEE	1
⑨	TAP WITH LOCKING MECHANISM, PADLOCK & TWO KEYS		
⑩		"COBRA" 108-20 TAP WITH BSP UNION	1

NOTE: ALL ELBOWS TO BE LONG RADIUS

ZULULAND

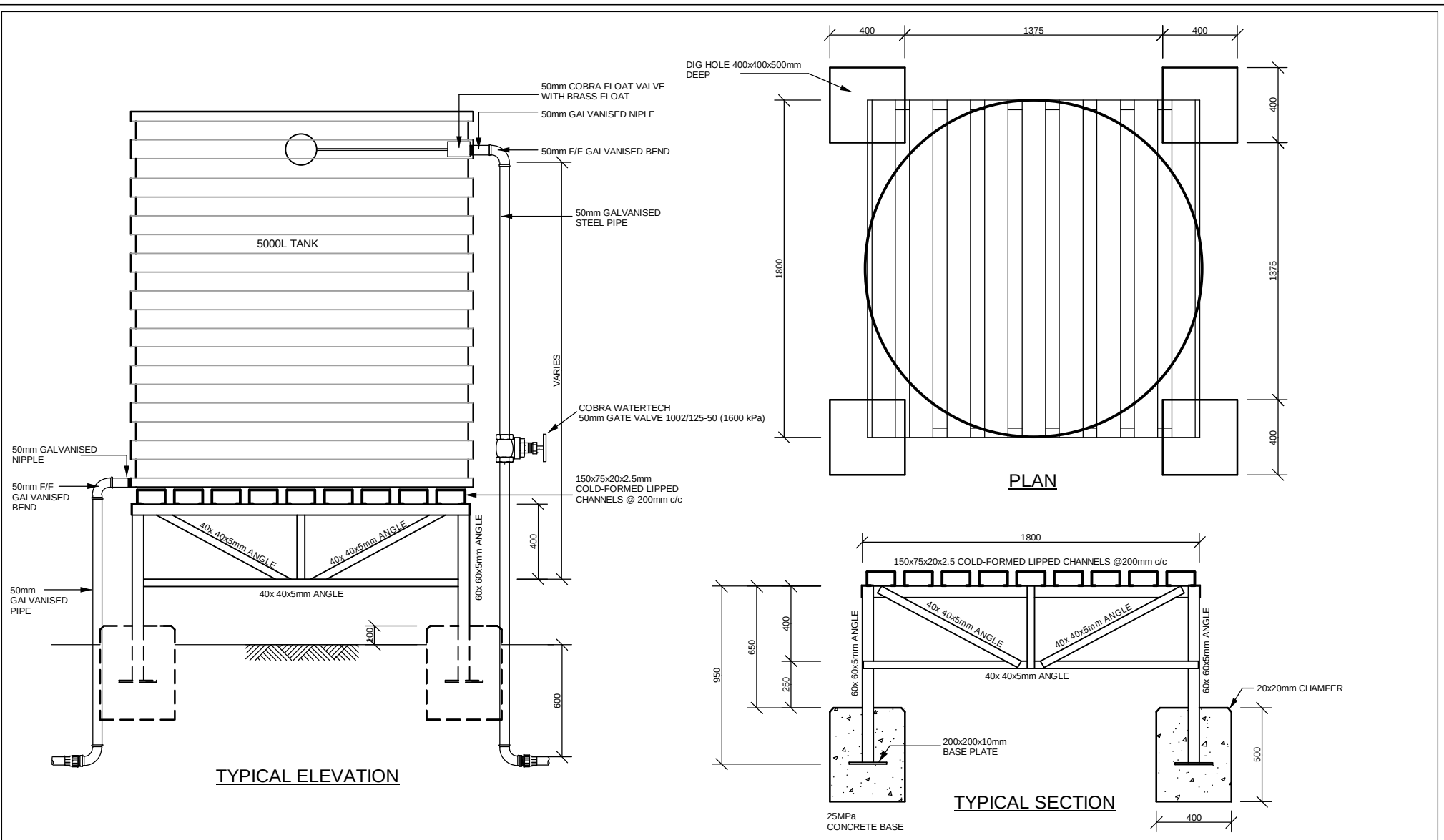
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DESIGNED	LRF/SAS	27 MAR. 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR. 2007	REV B			
APPROVED	C.NEL		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/913		REV Z			

**5000L WATER TANK DETAIL : OPTION 1
(BRICK/CONCRETE PLINTH)**

SCALES 1:50



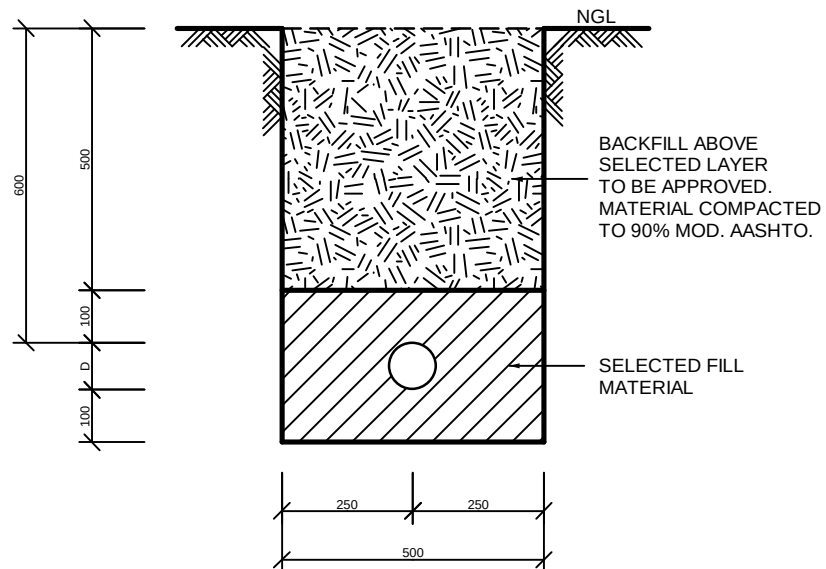
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DESIGNED	LRF/SAS	27 MAR. 2007	REV A	ISSUED FOR APPROVAL	LRF
DRAWN	PP	27 MAR. 2007	REV B		
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CHECKED	S.A. SWANBY		REV D		
DRG. No.	28006/914		REV Z		

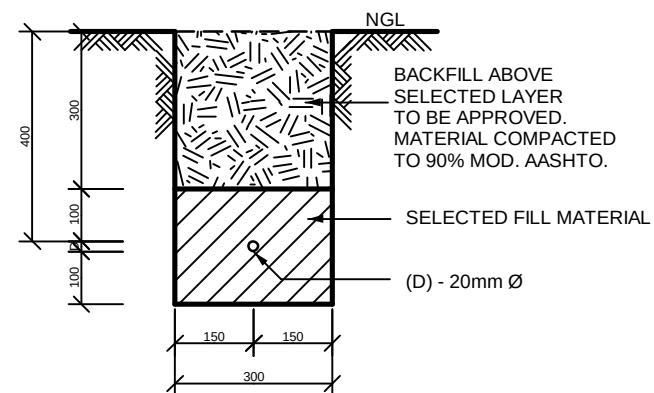
**5000L WATER TANK DETAIL : OPTION 02
(STEEL TANK STAND)**

SCALES 1:20



WATER MAINS 50mm Ø HDPE COVER 800mm

SCALE 1:10



WATER MAIN UP TO 20mm Ø COVER 400mm

SCALE 1:10

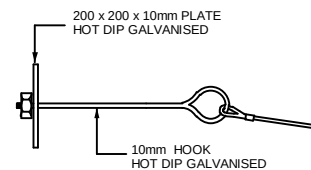
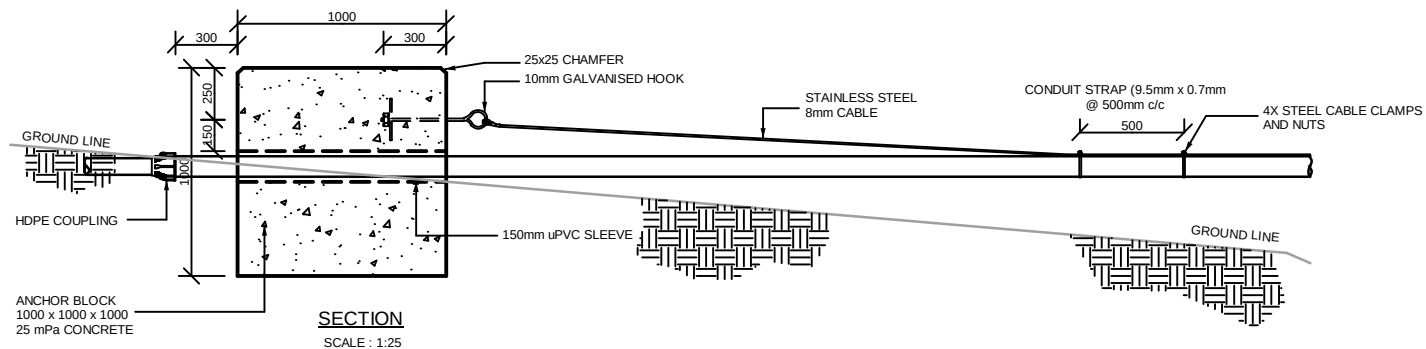
ZULULAND
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MUNICIPALITY
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DESIGNED	LRF/SAS	27 MAR. 2007	REV A	ISSUED FOR APPROVAL	LRF	
DRAWN	PP	27 MAR. 2007	REV B			
APPROVED	C.NEL		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/915		REV Z			

TYPICAL BEDDING DETAIL

SCALES 1:10



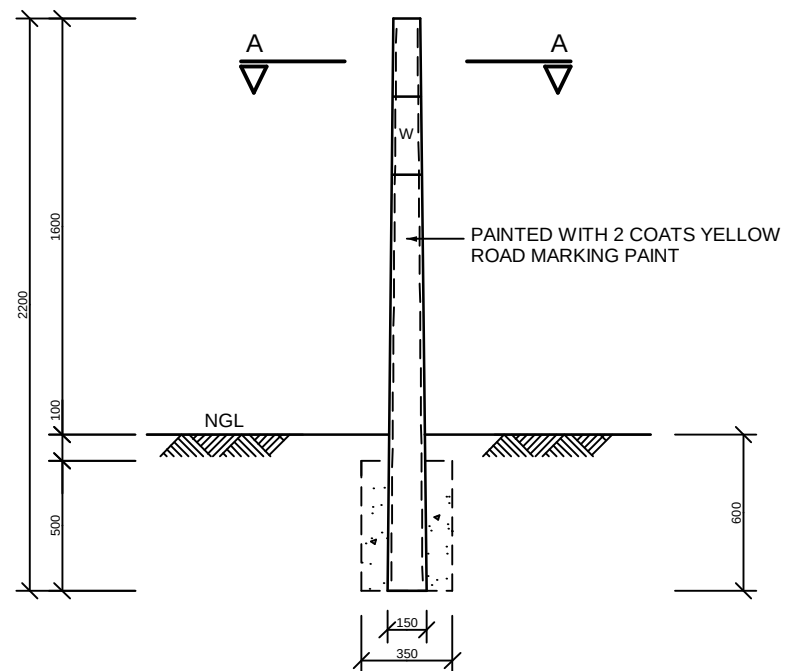
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DRAWN	PP	27 MAR 2007	REV B			
APPROVED	L.R. FRASER		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/916		REV Z			

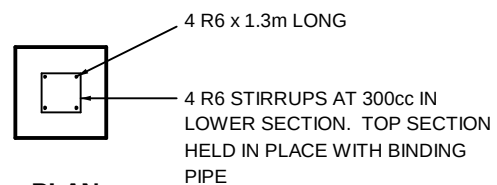
CABLE PIPE BRIDGE DETAIL

SCALES 1:25



SECTION A-A

SCALE 1:20



PLAN

ZULULAND

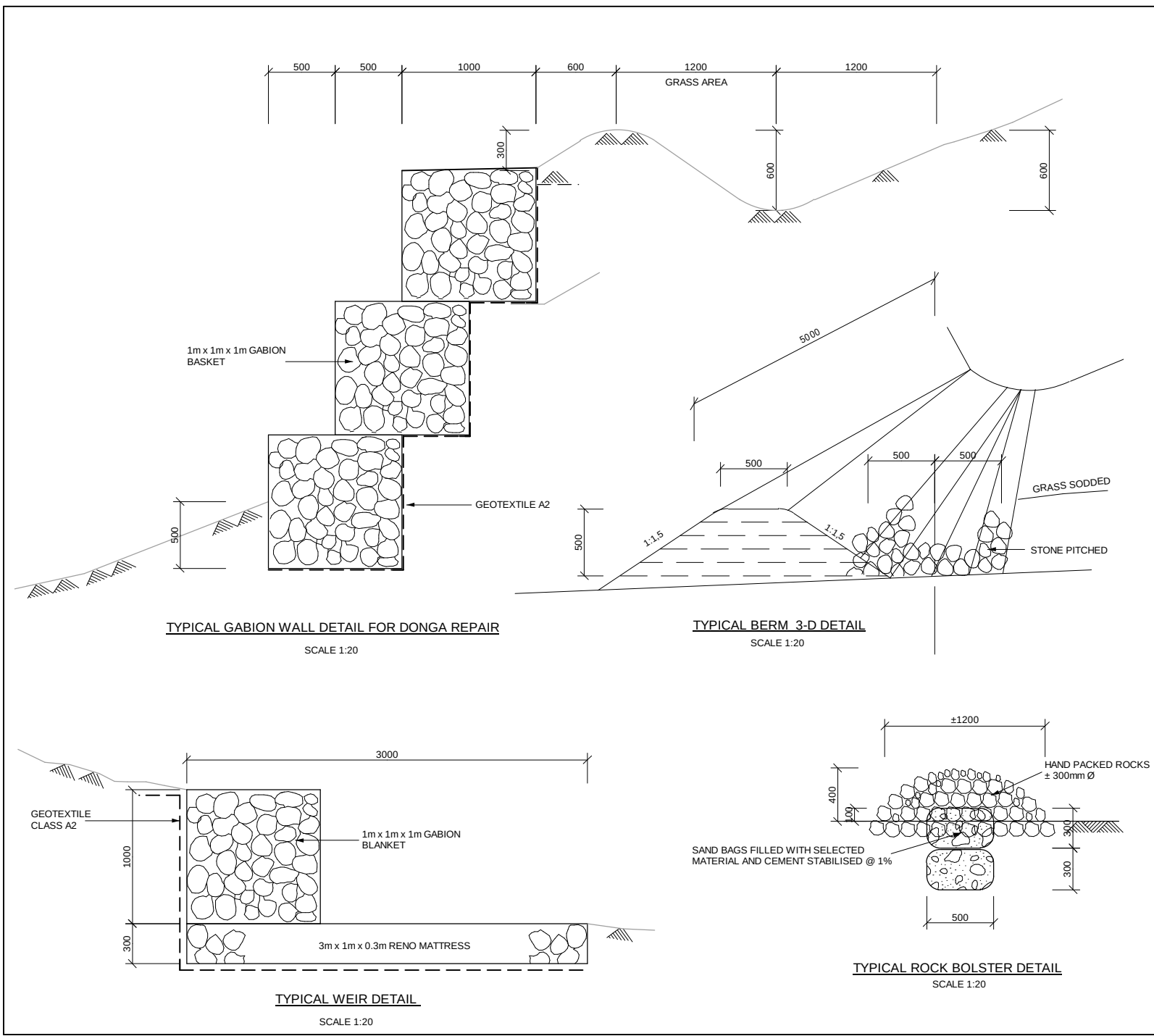
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DRAWN	PP	27 MAR. 2007	REV B			
APPROVED	C.NEL		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/917		REV Z			

PIPE ROUTE MARKER

SCALES 1:20



100mm ON ORIGINAL DRAWING

NOTES

A	ISSUED FOR TENDER	LRF	5/03/09
REV	DESCRIPTION	BY	DATE

CLIENT

ZULULAND
DISTRICT
MUNICIPALITY
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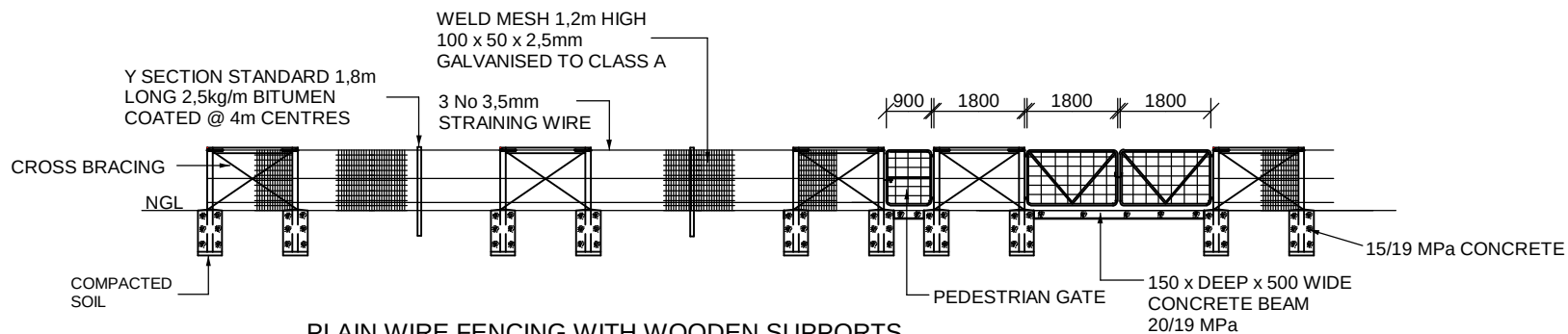
PROJECT
EMERGENCY WATER, SANITATION
AND PLANT HIRE SERVICES

DRAWING
TYPICAL EROSION PROTECTION DETAIL

ZAI CONSULTANTS
PRINCESS MKABAYI STREET, ULUNDI 3838 TEL : 035 - 8700311
P.O.BOX 997, ULUNDI 3838 FAX : 035 - 8700440

INITIAL	DATE	COPYRIGHT RESERVED	DATE
DESIGNED LRF	5/03/09	APP.	
DRAWN PP	5/03/09	PL.	
SCALE 1:50	CLIENT ZDM 799/2009		

DRAWING No. 28006/918 REV. A

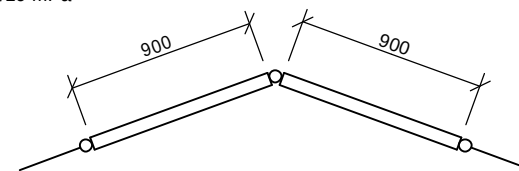


PLAIN WIRE FENCING WITH WOODEN SUPPORTS

SCALE 1:100

NOTES :

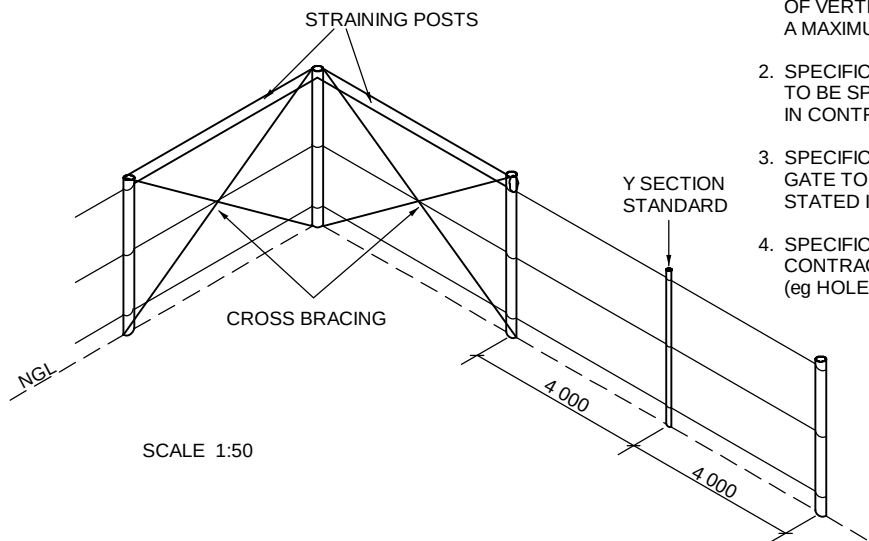
1. STRAINING POSTS TO BE USED AT EVERY CHANGE OF VERTICAL AND HORIZONTAL DIRECTION WITH A MAXIMUM SPACING OF 250 METRES.
2. SPECIFICATIONS FOR TIMBER POSTS TO BE SPECIFIED WHEN ORDERING OR TO BE STATED IN CONTRACT DOCUMENT.
3. SPECIFICATION FOR CORRSION PROTECTION FOR GATE TO BE SPECIFIED WHEN ORDERING OR TO BE STATED IN CONTRACT DOCUMENT.
4. SPECIFICATION OF GATE HINGES TO BE SPECIFIED IN CONTRACT DOCUMENT OR WHEN ORDERING. (eg HOLE TYPE OR BRACKET TYPE).



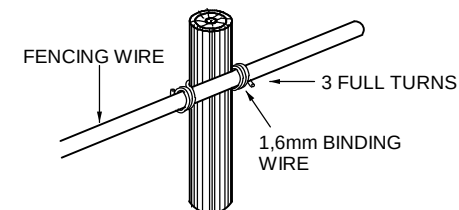
PLAN

SCALE 1:50

STRAINING POSTS AT CHANGE OF DIRECTION



SCALE 1:50



FIXING OF WIRE TO STANDARD AND DROPPERS

SCALE : NTS

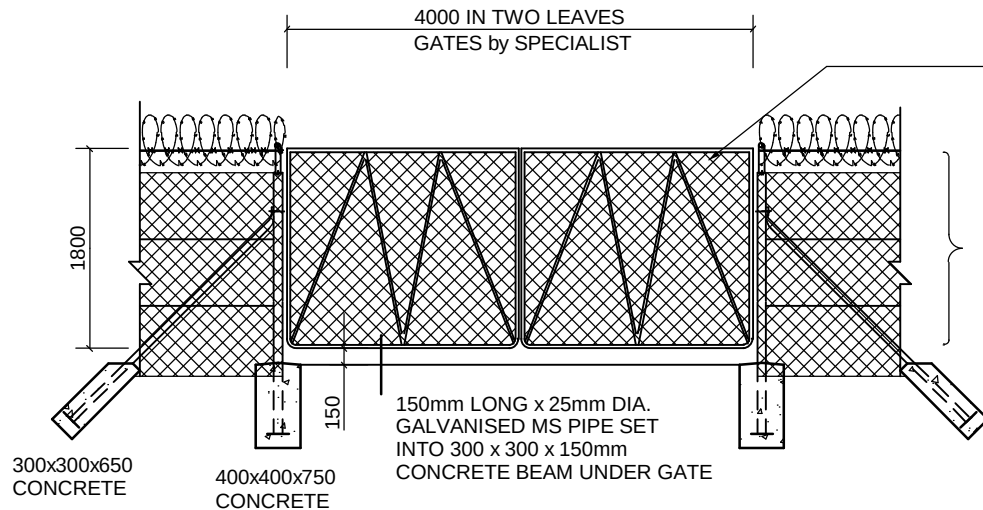
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CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/928		REV Z			

STOCK FENCE DETAIL

SCALES 1:50 / 1:100



SECTION VEHICLE GATE

43x2mm DIA. HOT-DIPPED GALV. PIPE REINFORCED IN A "W" PATTERN

4 x STRAINING WIRES GALVANISED 3,15mm DIA.

100 x 50mm CLASS "A" GALVANISED STEEL WELDMESH 2,5mm DIA. WIRE FIXED WITH 1,8mm DIA. BINDING WIRE TO STRAINING WIRES AT 450 c/c

100mm DIA. x 2mm THICK STRAINING POSTS AT 60m c/c MAX. END MIN. 700mm DEEP INTO 400 x 400 x 750mm CONCRETE BASE POSTS WITH 150 x 150 x 3mm STEEL BASE-PLATES WELDED ON POSTS CAPPED AT TOP AND HOT DIPPED GALVANISED STRUTS DRILLED AND BOLTED ON.

STRAINING POSTS ALSO AT EVERY CHANGE IN DIRECTION AND AT ALL GATES AND OPENINGS.

1 STRAINING WIRE

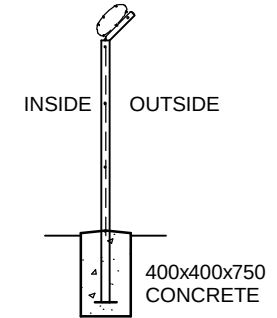
MESH TO BE SUPPORTED AGAINST 4 x 4mm FULLY GALVANISED STRAINING WIRE AT 600mm VERTICAL CENTRES.

2 FIXING

2mm Ø GALVANISED BINDING WIRE UTILISED TO BIND RAZOR MESH AGAINST THE STRAINING WIRES. BINDING AT 450mm INTERVALS ON TOP AND BOTTOM STRAINING WIRE AND 900mm INTERVALS ON CENTRE WIRES.

3 MESH JOINTS

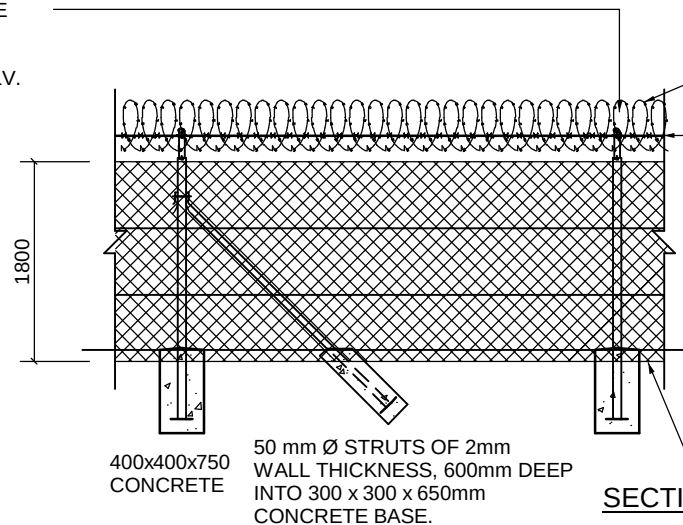
CARE SHOULD BE TAKEN TO FIT PANELS TOGETHER SO THAT THE APERTURES INTERLOCK. THE MESH IS JOINED BY BINDING EACH APERTURE IN TWO PLACES WITH 2mm GALVANISED WIRE. HEAVY DUTY CLIPS 10mm x 2mm ARE AVAILABLE FOR THIS PURPOSE.



FENCE SECTION

50mm DIA. x 2mm THICK INTERMEDIATE POSTS AT 4m c/c MAX. 600mm DEEP INTO 300 x 300 x 650mm BASE POST, CAPPED AT TOP AND HOT DIPPED GALV.

HIGH DENSITY MESH : RIPPER RAZOR WIRE BLADE STRIP : 0.4/5mm THICK GALVANISED STEEL. CORE WIRE : 2.5mm Ø GALVANISED WIRE. REINFORCING SHOULDER : 8mm WIDE. GRADE : STAINLESS



HEAVY ZINC COATED (240 gm/m) BAYONET BARBED TAPE IN 450 mm DIAMETER ROLLS EXTENDED TO A MAXIMUM OF 13 METERS FIXED TO BARBED WIRE WITH PLASTIC COATED TIE WIRES AT 150 CENTERS

2 WIRES "IOWA" CLASS A HEAVY ZINC COATED BARBED WIRE WITH 2 x 2.0mm Ø STRANDS END TAKEN AT LEAST TWICE AROUND A STRAINING POST AND THE OTHER END PASSED AT LEAST TWICE THROUGH THE EYE OF A STRAINING BOLT, THE FREE ENDS OF THE WIRES SHALL BE TWISTED AT LEAST THREE TIMES BACK AROUND THE BARBED WIRES

3 x STRAINING WIRES GALVANISED, 3.15mmØ

100 x 50mm CLASS "A" GALVANISED STEEL WELDMESH 2.5mm Ø WIRE FIXED WITH 1.8mm Ø BINDING WIRE TO STRAINING WIRES AT 450 c/c

LOWER 100mm OF WELDMESH EMBEDDED IN GROUND

SECTION RAZOR MESH FENCE DETAILS

ZULULAND

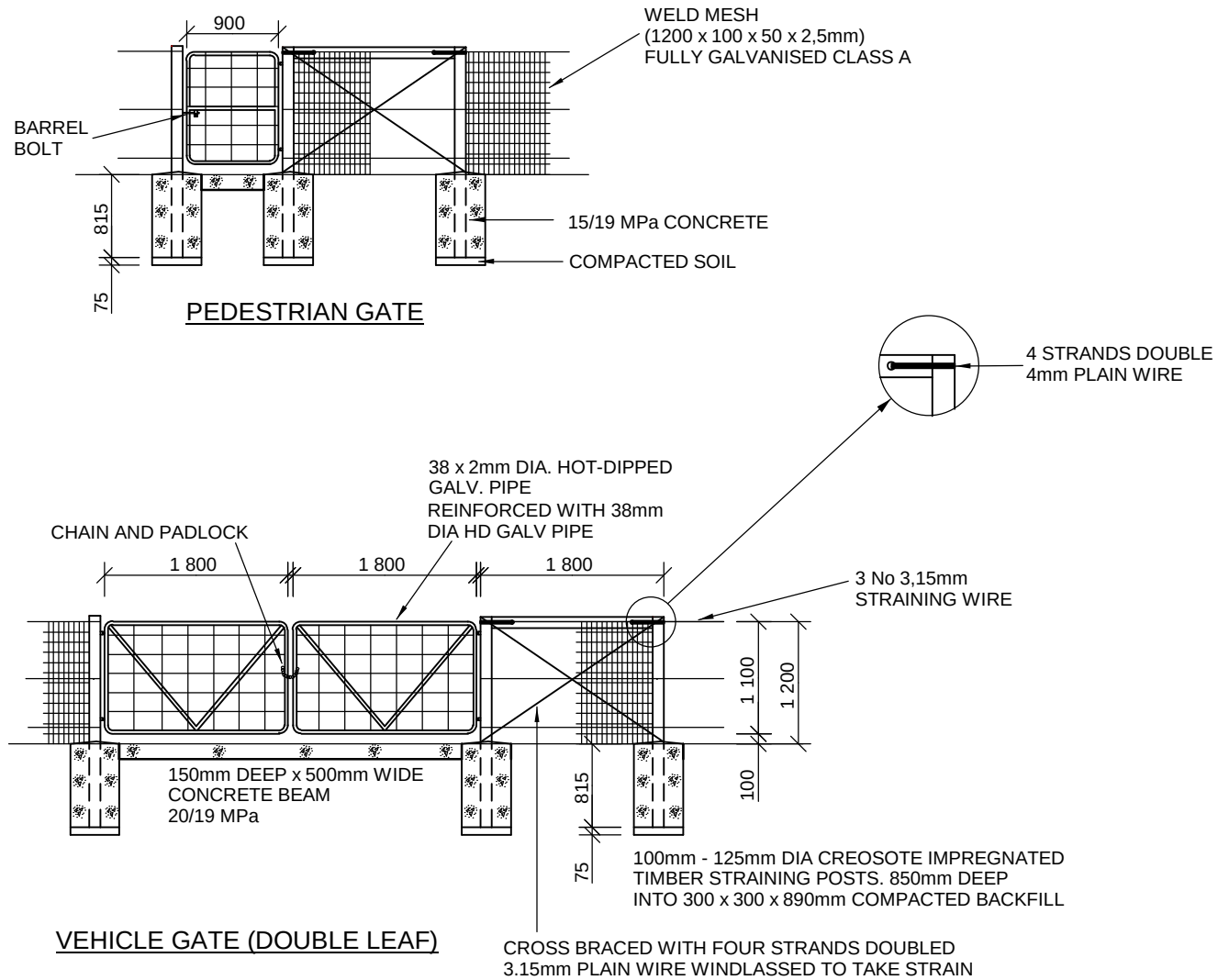
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DRG. No.	28006/929		REV Z			

**SECURITY FENCE DETAIL
(1.8m HIGH)**

SCALES 1:50



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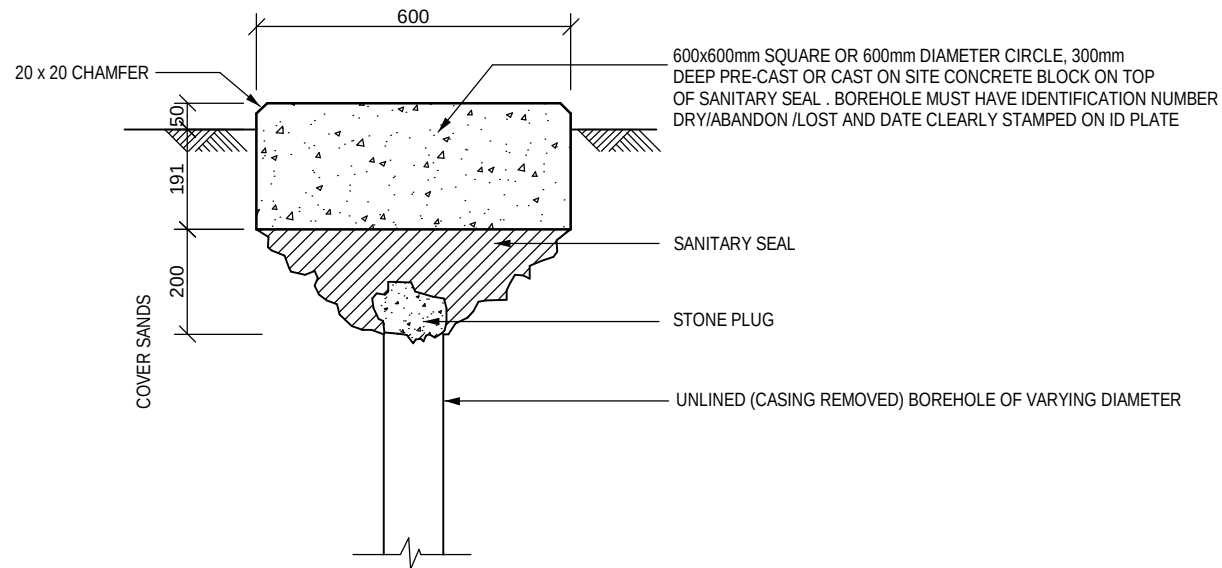
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CHECKED	S.A. SWANBY		REV D			
DRG. No.	26008/930		REV Z			

GATE DETAIL - (1.2m HIGH)

SCALES 1:50

NOTES :

WHERE THE UNSUCCESSFUL BOREHOLE IS CONSIDERED A POTENTIAL POLLUTION POINT, THE EMPLOYER'S REPRESENTATIVE MAY ISSUE INSTRUCTIONS TO BACK FILL OR EFFECTIVELY SEAL THE BOREHOLE



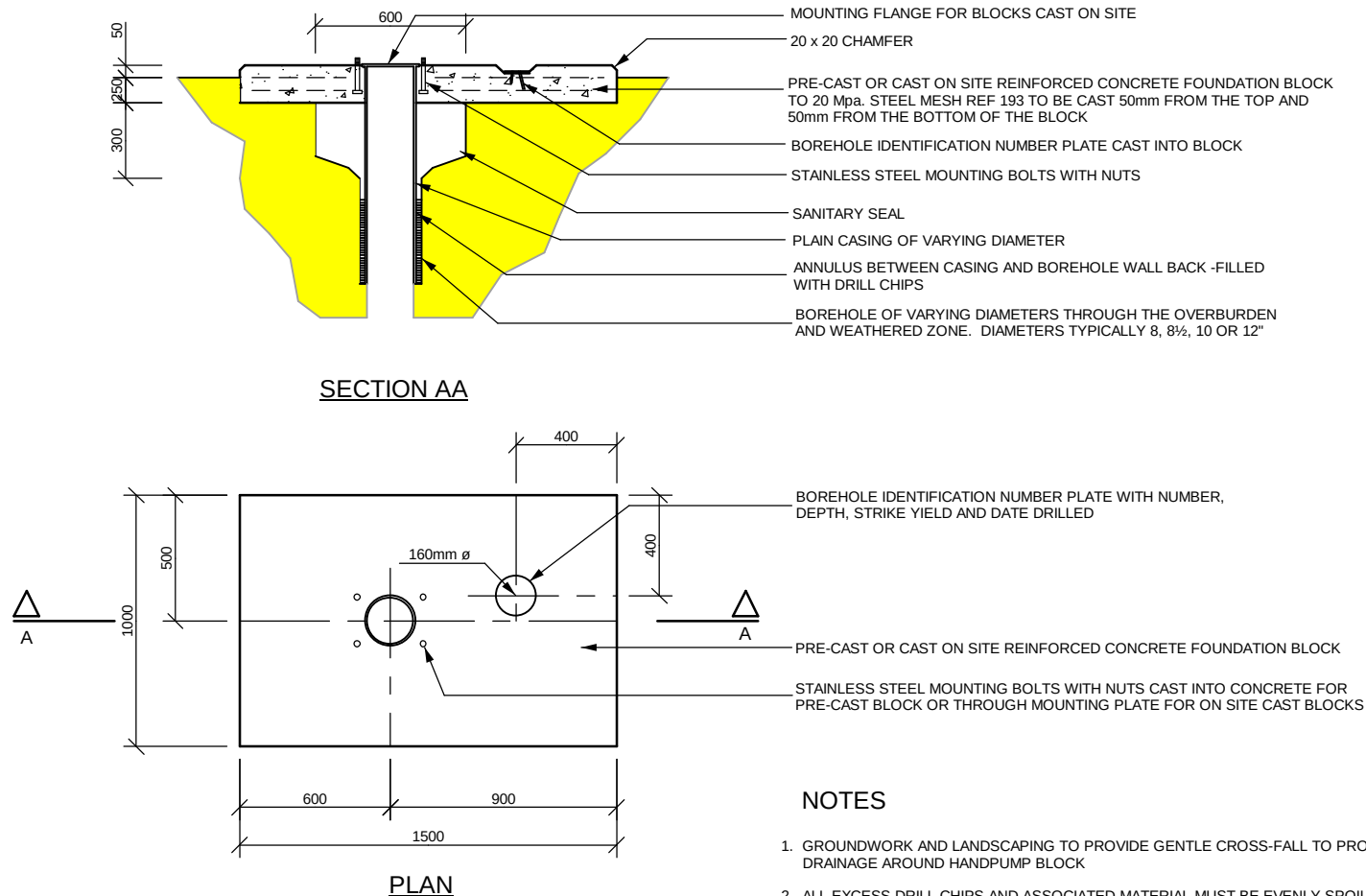
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APPROVED	C.NEL		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/935		REV Z			

STONE PLUGGING DETAIL

SCALES 1:10



NOTES

1. GROUNDWORK AND LANDSCAPING TO PROVIDE GENTLE CROSS-FALL TO PROVIDE FREE DRAINAGE AROUND HANDPUMP BLOCK
2. ALL EXCESS DRILL CHIPS AND ASSOCIATED MATERIAL MUST BE EVENLY SPOILED A MINIMUM OF 15m AWAY FROM THE INSTALLATION
3. WHERE THE GROUND IS FLAT AND DRAINAGE AWAY FROM THE BOREHOLE DIFFICULT, A DRAINAGE CHANNEL IS TO BE CAST IN CEMENT TO DIVERT WATER FROM THE INSTALLATION

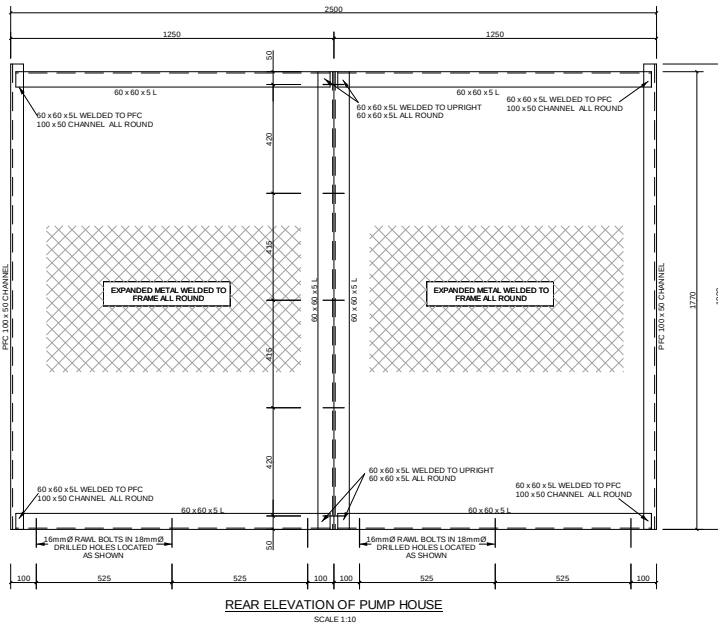
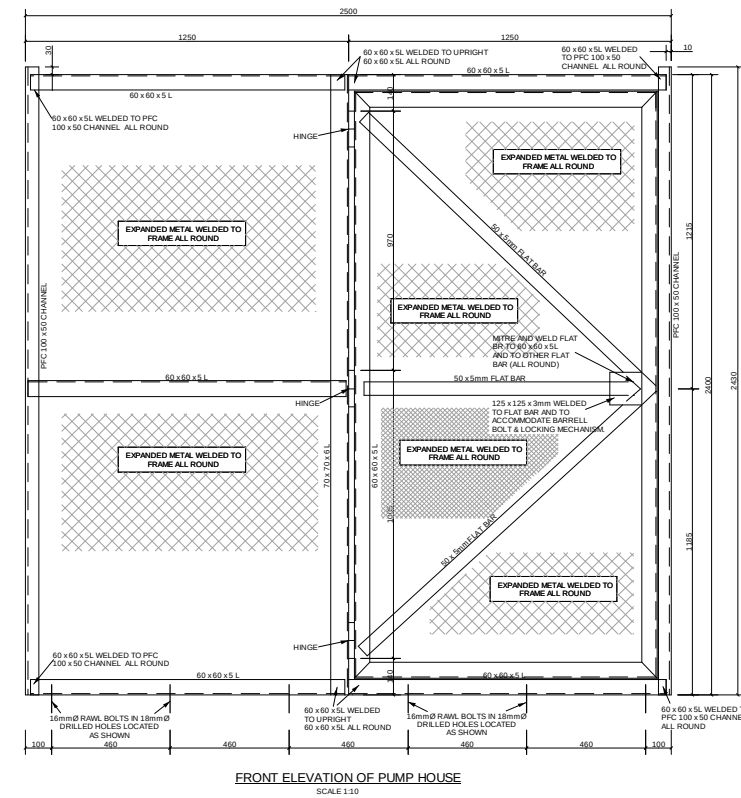
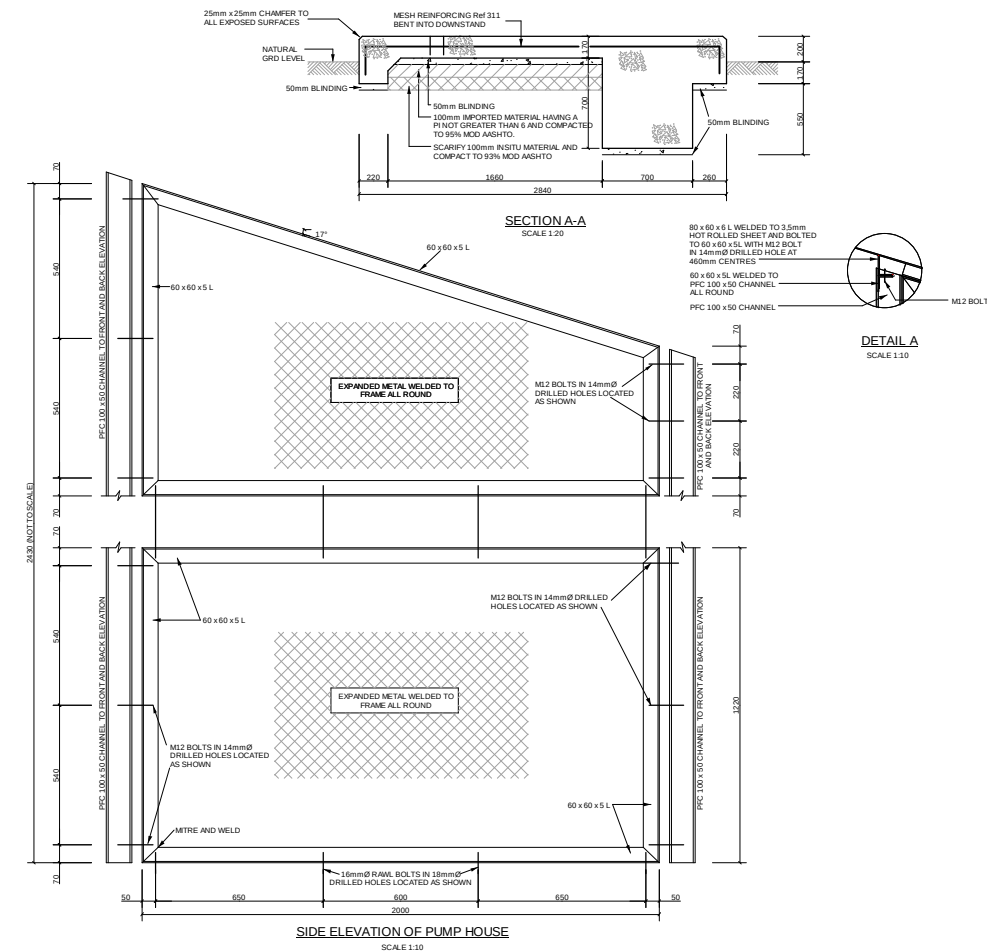
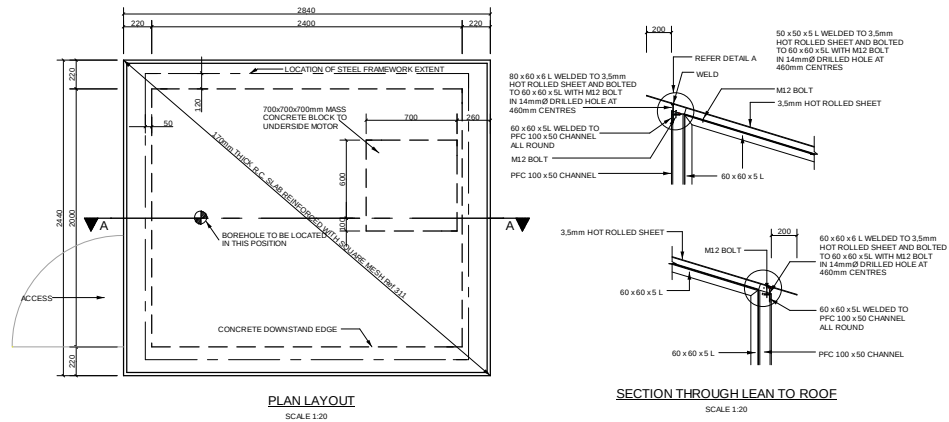
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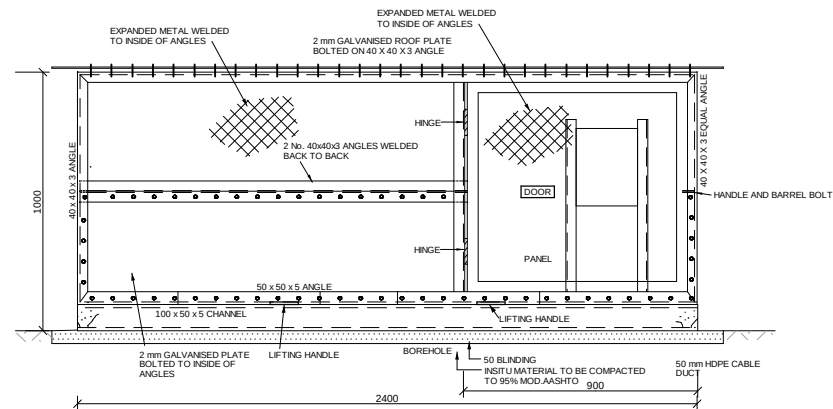
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APPROVED	C.NEL		REV C			
CHECKED	S.A. SWANBY		REV D			
DRG. No.	28006/936		REV Z			

**FOUNDATION BLOCK :
HANDPUMP OPTION**

SCALES 1:20



																				cms			
100mm ON ORIGINAL DRAWING																							
NOTES:																							
STRUCTURAL STEEL																							
1. STRUCTURAL STEEL SHALL COMPLY WITH SABS 0162 1984 GA300W																							
2. ALL SHOP DRAWINGS TO BE SUBMITTED TO THE ENGINEER AND APPROVED IN WRITING BEFORE FABRICATION COMMENCES.																							
3. ALL WELDS TO BE 6mm FILLET WELD UNLESS OTHERWISE STATED.																							
4. ALL BOLTS TO BE M2 U.O.S.																							
5. ALL DIMENSIONS AND LEVELS TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO COMMENCING FABRICATION AND ANY DISCREPANCIES BROUGHT TO THE NOTICE OF THE ENGINEER.																							
6. COLD ROLLED SECTIONS AND TUBES TO BE COMMERCIAL QUALITY.																							
7. HOLDING DOWN BOLTS TO BE M2 RAWL BOLTS DRILLED INTO CONCRETE.																							
8. ALL STEEL TO BE HOT DIPPED GALVANISED TO SABS EN 10240																							
CONCRETE																							
1. ALL CONCRETE TO BE 30/19 MPa																							
2. 25mm x 25mm CHAMFER ON ALL EXPOSED CONCRETE EDGES.																							
3. THE DIMENSIONS OF THE CONCRETE BASE ARE TO BE CHECKED IN RELATION TO THE REQUIREMENTS OF THE ENGINEER. HOLE ARRANGEMENT PRIOR TO FABRICATION OF THE CAGE. ADJUSTMENTS WILL BE MADE BY THE ENGINEER.																							
4. THE ENGINE MAY NOT BE INSTALLED UNTIL THE BASE HAS BEEN CURED FOR A MINIMUM OF 14 DAYS.																							
5. CONCRETE TO BE CURED BY AN APPLICATION OF AN APPROVED CURING COMPOUND.																							
GENERAL																							
1. CONTRACTORS TO PROVIDE LOCK AND 2 SETS OF KEYS.																							
NOTE:																							
SLAB AND BLOCK DIMENSIONS TO SUIT ENGINE SIZE AND PULLY ARRANGEMENT																							

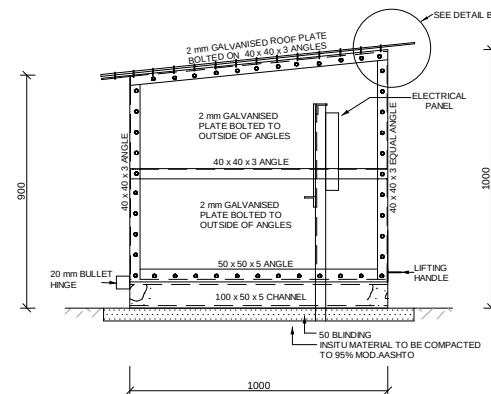


FRONT ELEVATION

SCALE 1:10

(GALVANISED PLATE AND EXPANDED METAL OMITTED FOR CLARITY)

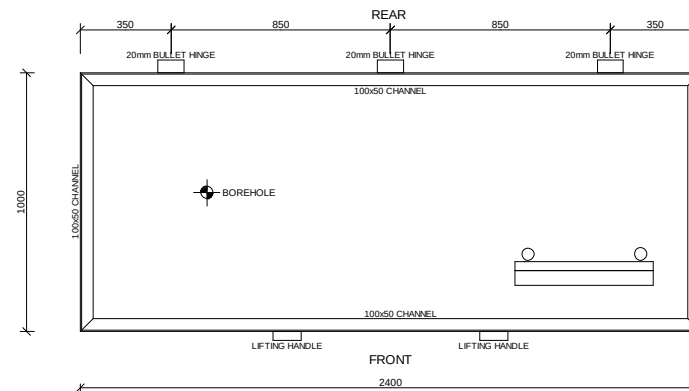
FINISHED LEVEL OF CONCRETE
PUMP PLINTHS IS 942.80



SIDE ELEVATION

SCALE 1:10

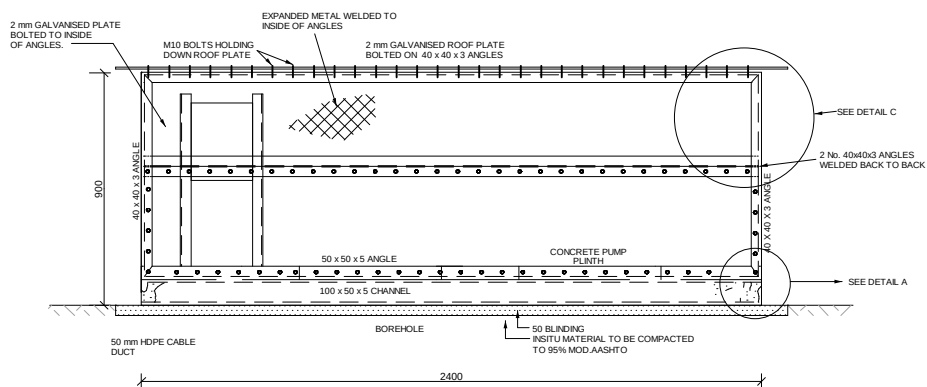
(GALVANISED PLATE OMITTED FOR CLARITY)



PLAN

SCALE 1:10

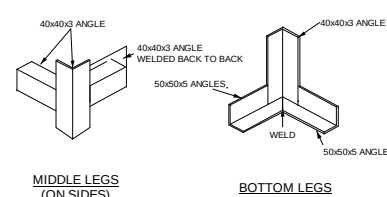
(ROOF OMITTED FOR CLARITY)



REAR ELEVATION

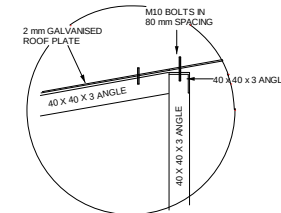
SCALE 1:10

(GALVANISED PLATE AND EXPANDED METAL OMITTED FOR CLARITY)

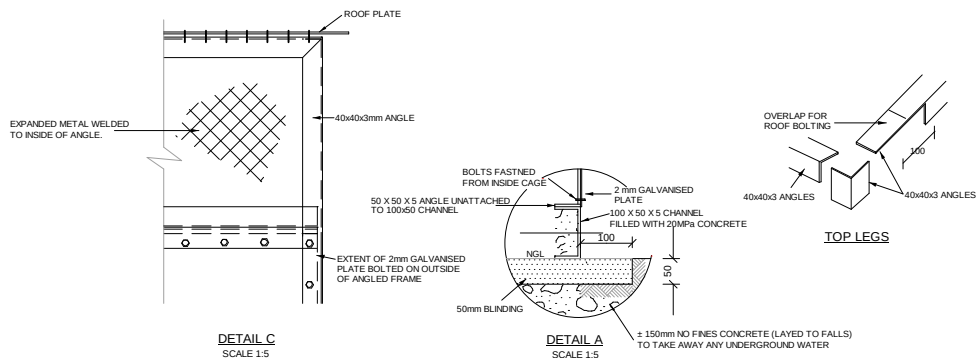


MIDDLE LEGS
(ON SIDES)

40 x 40 x 3
CONNECTION DETAIL
SCALE 1:5



DETAIL B
SCALE 1:5



DETAIL C
SCALE 1:5

100mm ON ORIGINAL DRAWING

cms

A	ISSUED FOR APPROVAL	LRF	27/3/07
REV	DESCRIPTION	BY	DATE

CLIENT

ZULULAND
DISTRICT
MUNICIPALITY
UMKHANDLU
WESIFUNDA



PROJECT
EMERGENCY WATER, SANITATION
AND PLANT HIRE SERVICES

DRAWING
GALVANISED STEEL CAGE DETAIL :
ELECTRIC MOTORS



ZAI CONSULTANTS
PRINCESS MKABAYI STREET, ULUNDI 3838
P.O. BOX 987, ULUNDI 3838

DESIGNED	DATE	COPYRIGHT RESERVED	DATE
LRF	03/3/09	APP.	
DRAWN	DATE	CLIENT	
PP	03/3/09		
SCALE			
1:10			

DRAWING No. 28006/939

REV. A

QUESTIONNAIRE ON CONTRACTORS' PERFORMANCE ON A SPECIFIC PROJECT FOR TENDER RECOMMENDATION PURPOSES

EMPLOYER : ZULULAND DISTRICT MUNICIPALITY
PROJECT : ZDM EMERGENCY REPAIRS AND MAINTENANCE

SCOPE OF WORKS : Emergency Repairs and Maintenance

TENDER VALUE : _____ (As per Contractor Estimate)

CONSTRUCTION : 36 Months

CONTRACTOR : _____

PROJECT UNDER EVALUATION : _____

EMPLOYER : _____

PROJECT VALUE : _____

DATE COMPLETED : _____

GENERAL PROJECT DETAILS	VERY POOR	POOR	FAIR	GOOD	EXCELLENT
Quality of Management					
Quality of Workmanship					
Ability to complete work on time					
Overall rating					

SPECIFIC PROJECT DETAILS	YES/NO
Was the project completed on time?	
Was the approved safety plan fully complied with?	
Was the environmental management plan complied with in all respects?	
Were the labourers, sub-contractors and suppliers paid within the time frames agreed?	
Was the contractor competent and capable of executing the work without qualifications?	
Would you recommend the contractor as being competent and capable of executing the work without qualification.	
If No above, but with minor qualifications which are manageable. (Please state qualification below if applicable)	

Any other comments deemed necessary in the evaluation of the Contractor:

.....
.....

Consultant : Company :
Telephone No: : Fax No :
Signature : Date :

Kindly assist us by providing comments on the performance of this company on the above project(s) undertaken by your firm.