



CIDB Requirements: Tenderers should have a CIDB Contractor grading of **5CE** or **4CE PE** or higher.

Closing of tenders: No tenders will be accepted after closing time of **10:30am** on the closing date Monday, **15th June 2026**.

Submission to Matshidiso Dube: matshidiso.dube@thenbf.co.za

Point scoring system: The 80/20-point scoring system will be applicable to this tender, i.e. 80 points for Price and 20 points for Preferential procurement (based on the principles of Broad-based black economic empowerment (BBBEE)).

Tender Briefing: A non-compulsory online briefing session will be held on Thursday, 4th June 2026, at 09h30.
MS Teams: [Tender Briefing Link](#)

Late tenders: Tender documents received after the closing time and date will be late and will not be accepted under any circumstances.

Selection Process: The selection process will be subject to review of specific contractor rates and functionality criteria, in addition to risk protocols identified by NEPAD Business Foundation

IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY BULK METER INSTALLATION CONTRACTOR

ADVERTISED DATE: 29th May 2026

CLOSING DATE: 15th June 2026 at 10:30am

Name of tenderer:		CIDB CRS no:	
Contact person:		CIDB Grading:	
Telephone no:	Email Address:		



**IMPLEMENTATION OF WATER
CONSERVATION AND WATER DEMAND
MANAGEMENT INTERVENTIONS FOR PIXLEY
KA SEME LOCAL MUNICIPALITY**

**BULK METER INSTALLATION CONTRACTOR
TENDER AND CONTRACT**

Employer:		Contractor :	
Witness:		Witness:	

CHECK-LIST FOR TENDER SUBMISSION

The Tenderer is to indicate in the check-boxes provided that they have completed the required section of the tender document. Completion of this check-list will assist the Tenderer in ensuring that they have attended to all the required items for submission with this tender.

Section	Description	Completed		For office use		
		Yes	No	Yes	No	Comments
Cover	Name of tenderer					
	Contact person					
	Telephone number					
	Email Address					
T2	Returnable Documents: Tenderer must check that he has completed all the schedules and forms listed and attached all the required forms					
	T2.2.2 Complete the Certificate of Authority					
	Current tax clearance certificate					
	JV Agreement (if Applicable)					
	Tax clearance certificate					
	Certified copy of Valid BBBEE certificate (SANAS/ IRBA approved))					
	Certified copy of Valid BBBEE certificate for JV (if applicable)					
C2.2	Annual Financial statements for past 3 years (AFS)					
	Complete the Schedule of Rates and the Summary. Sign the Summary					
C.1.1	Complete the Form of Offer. Do not complete the Form of Acceptance					
	Sign the Form of Offer with 2 witnesses. Do not sign the Form of Acceptance					
C3 (PS7)	Occupational health and safety specification: Draft Site specific occupational health and safety plan to be included with tender					

Name of tenderer _____

Signature _____

Date _____

Employer:		Contractor:	
Witness:		Witness:	

CONTENTS:

Description	Number	Heading
Tender	Part 1: Tender Procedures	
	T1.1	Tender Notice and Invitation to Tender
	T1.2	Tender Data
	Part 2: Returnable Documents	
	T2.1	List of Returnable Documents
	T2.2	Returnable Schedules
Contract	Part 1: Agreement and Contract Data	
	C1.1	Form of Offer and Acceptance
	C1.2	Contract Data
	Part 2: Pricing Data	
	C2.1	Pricing Instructions
	C2.2	Schedule of Quantities
	Part 3: Scope of Work	
	C3	Scope of Work
	Part 4: Site Information	
	C4	Site Information
	Part 5: Drawings	
	C5	Typical Detail Drawings

Employer:		Contractor:	
Witness:		Witness:	



IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY

BULK METER INSTALLATION CONTRACTOR

PART 1: TENDERING PROCEDURES

Employer:		Contractor:	
Witness:		Witness:	

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Employer:		Contractor:	
Witness:		Witness:	

T1.1 TENDER NOTICE AND INVITATION TO TENDER

TENDER NOTICE WCWDM Implementation

NEPAD Business Foundation hereby invites tenders from interested parties for the replacement and installation of bulk meters.

It is estimated that Tenderers should have a CIDB contractor grading designation of **5CE** or higher. **4CE** Potentially Emerging Enterprises who satisfy criteria stated in the Tender Data may submit Tender offers.

The project entails the replacement and installation of battery-operated EMF bulk meters and associated cathodic protection and earthing at various sites and distribution points within the jurisdiction of Pixley Ka Seme Local Municipality.

NEPAD Business Foundation is committed to Gender Equality, Disability Inclusion and Youth Empowerment. Tenderers must demonstrate inclusive employment practices, safeguarding measures at all worksites, good community engagement practices, anti-harassment policies, and where reasonably and practically feasible within the specified Scope of Works, provide opportunities for participation of women-, youth and disability owned enterprises

All submissions to be made to directly too Matshidiso Dube: matshidiso.dube@thenbf.co.za, on or before the closing time and date, being **10:30 on 15th June 2026**.

Enquiries may be directed to: Magdeleen Rabé: magdeleen.rabe@smec.com

Employer:		Contractor:	
Witness:		Witness:	

T1.2 TENDER DATA

T1.2.1 Conditions of Tender

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (January 2009) as published in Government Gazette No 31823, Board Notice 12 of 2009 of 30 January 2009. (See www.cidb.org.za).

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

T1.2.2 Tender Data

The clause numbers in the Tender Data refer to the corresponding clause numbers in the Conditions of Tender (see Annex).

The additional Conditions of Tender are:

Clause number	Tender Data
F.1.1	The Employer is, NEPAD Business Foundation
F.1.2	The tender documents issued by the Employer comprise: Part 1: Tendering Procedures T1.1 Tender Notice and Invitation to Tender T1.2 Tender Data Part 2: Returnable Documents T2.1 List of Returnable Documents T2.2 Returnable Schedules, including the Enterprise Declaration Affidavit which may be bound in a separate volume Part 1: Agreement and Contract Data C1.1 Form of Offer and Acceptance C1.2 Contract Data C1.3 Forms of Securities Part 2: Pricing Data C2.1 Pricing Instructions C2.2 Schedule of Rates Part 3: Scope of Work C3 Scope of Work Part 4: Site Information C4 Site Information Part 5: Typical Detail Drawings C5 Typical Detail Drawings
F.1.4	The Employer's agent is: Contact person : Ms Meghan Brinkley Company name : SMEC South Africa (Pty) Ltd Address : 267 Kent Avenue, Ferndale, 2194 Telephone : 011 369 0600 E-mail address : meghan.brinkley@smec.com

Employer:		Contractor:	
Witness:		Witness:	

Clause number	Tender Data
F.2.1.1	Eligibility criteria and requirements. TO ADEQUATELY SUBSTANTIATE ANY ELIGIBILITY CLAIM FOR CRITERIA BELOW THE TENDERER SHALL SUBMIT INFORMATION OR COMPLETE RETURNABLE SCHEDULES: CIDB registration and grading: 1) Only tenderers who are registered with the CIDB or have a sub-contractor registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 5CE class of construction work, are eligible to submit tenders. 4CE Potentially Emerging Enterprises who satisfy criteria stated in the Tender Data may submit Tender offers. T2.2.13 Certificate of Registration with CIDB to be submitted 2) Joint ventures are eligible to submit tenders provided that: i) every member of the joint venture is registered with the CIDB; ii) the lead partner has a contractor grading designation in the 5CE class of construction work; and iii) the combined contractor grading designation calculated in accordance with the CIDB Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 5CE class of construction work. T2.2.13 Certificates of Registration with CIDB to be submitted
F.2.12	Not Applicable
F.2.13.1	Submit one tender offer only, either as a single tendering entity or as a member in a single joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works.
F.2.13.3	Each tender offer shall be submitted as an original (electronic PDF or scanned), plus 0 copy.
F.2.13.5	Tenders can be submitted to Matshidiso Dube: matshidiso.dube@thenbf.co.za
F.2.13.6 & F.3.5	A two-envelope procedure will not be followed.
F.2.15.1	The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.
F.2.16	The tender offer validity period is 90 days .
F.2.23	The Tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Guarantee to the format included in Part T2.2.22 of this procurement document.
F.2.23	The Tenderer is required to submit with his tender: 1) an original valid Tax Clearance Certificate issued by the South African Revenue Services. 2) a Certificate of Contractor Registration issued by the CIDB. Where a tenderer satisfies CIDB contractor grading designation requirements through joint venture formation, such tenderers must submit the Certificates of Contractor Registration in respect of each partner.

Employer:		Contractor:	
Witness:		Witness:	

Clause number	Tender Data																												
F.3.4.2	Tenders will not be opened in public																												
F.3.11.1 & F.3.11.2	The procedure for the evaluation of responsive tenders is Method 2 (Financial Offer and Preferences). Although quality does not form part of the tender points scoring, quality will be evaluated first (as outlined below) and if the tenderer does not meet the minimum quality criteria, he/she will be eliminated, and the tender will not be evaluated further.																												
F.3.13.1	The quality criteria, maximum score in respect of each of criteria shall be as follows: <table><tr><th>Quality criteria</th><th>Sub-criteria</th><th>Weighting</th></tr><tr><td>Availability of key (major) plant and equipment</td><td></td><td>5</td></tr><tr><td>GEDSI Performance</td><td></td><td>5</td></tr><tr><td rowspan="2">Contract execution and quality</td><td>Contract programme (Material Lead Time)</td><td>10</td></tr><tr><td>Quality Plan and Control</td><td>10</td></tr><tr><td rowspan="2">Experience of the key staff (assigned personnel) in relation to the scope of work (Bulk Meter Installations, 300ND and above)</td><td>Qualifications of Key Personnel</td><td>10</td></tr><tr><td>Experience of Key Staff</td><td>15</td></tr><tr><td>Experience with respect to specific aspects of the project / comparable projects</td><td></td><td></td></tr><tr><td>Experience of Tenderer with respect to similar projects of comparable scope and value</td><td></td><td>45</td></tr><tr><td>Possible score for quality (M_s)</td><td></td><td>100</td></tr></table> Each evaluation criteria will be assessed in terms of five indicators – no response, poor, satisfactory, good and very good. Scores of 0, 30, 50, 70 or 100 will be allocated to no response, poor, satisfactory, good and very good, respectively. The scores of each of the evaluators will be averaged, weighted and then totalled to obtain the final score for quality. The minimum number of evaluation points for quality is: 65 Submissions that do not meet these criteria shall not be considered in further evaluations.	Quality criteria	Sub-criteria	Weighting	Availability of key (major) plant and equipment		5	GEDSI Performance		5	Contract execution and quality	Contract programme (Material Lead Time)	10	Quality Plan and Control	10	Experience of the key staff (assigned personnel) in relation to the scope of work (Bulk Meter Installations, 300ND and above)	Qualifications of Key Personnel	10	Experience of Key Staff	15	Experience with respect to specific aspects of the project / comparable projects			Experience of Tenderer with respect to similar projects of comparable scope and value		45	Possible score for quality (M_s)		100
Quality criteria	Sub-criteria	Weighting																											
Availability of key (major) plant and equipment		5																											
GEDSI Performance		5																											
Contract execution and quality	Contract programme (Material Lead Time)	10																											
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Possible score for quality (M_s)		100																											

Employer:		Contractor:	
Witness:		Witness:	

Clause number	Tender Data												
	Quality shall be scored by not less than three evaluators in accordance with the following schedules: The scoring of the Tenderer's Availability of key (major) plant and equipment will be as follows: <table> <tr> <td></td><td>Availability of key (major) plant and equipment</td></tr> <tr> <td>(Score 0)</td><td>Failed to address the question / issue.</td></tr> <tr> <td>Poor (score 30)</td><td>Tenderer does not confirm ownership of any (primary and secondary) of the required key (major) plant and equipment, and cannot assure use of hired plant and equipment during the contract period. Proof of Ownership and/or hire was not submitted</td></tr> <tr> <td>Satisfactory (score 50)</td><td>Tenderer owns primary required key (major) plant and equipment or can guarantee use of primary required key (major) plant and equipment for duration of the contract period, but DOES NOT own secondary required key (major) plant and equipment, and CANNOT assure use of hired plant and equipment during the contract period. Proof of Ownership and/or hire to be submitted.</td></tr> <tr> <td>Good (score 70)</td><td>Tenderer owns ALL (primary and secondary) required key (major) plant and equipment or can guarantee use of ALL (primary and secondary) required key (major) plant and equipment for duration of the contract period. Proof of Ownership and/or hire to be submitted</td></tr> <tr> <td>Very good (score 100)</td><td>Tenderer owns primary and secondary that are more advanced and efficient than the required primary and secondary key (major) plant and equipment or can guarantee use of such advanced primary and secondary plant and equipment for duration of the contract period. Proof of Ownership and/or hire to be submitted</td></tr> </table>		Availability of key (major) plant and equipment	(Score 0)	Failed to address the question / issue.	Poor (score 30)	Tenderer does not confirm ownership of any (primary and secondary) of the required key (major) plant and equipment, and cannot assure use of hired plant and equipment during the contract period. Proof of Ownership and/or hire was not submitted	Satisfactory (score 50)	Tenderer owns primary required key (major) plant and equipment or can guarantee use of primary required key (major) plant and equipment for duration of the contract period, but DOES NOT own secondary required key (major) plant and equipment, and CANNOT assure use of hired plant and equipment during the contract period. Proof of Ownership and/or hire to be submitted.	Good (score 70)	Tenderer owns ALL (primary and secondary) required key (major) plant and equipment or can guarantee use of ALL (primary and secondary) required key (major) plant and equipment for duration of the contract period. Proof of Ownership and/or hire to be submitted	Very good (score 100)	Tenderer owns primary and secondary that are more advanced and efficient than the required primary and secondary key (major) plant and equipment or can guarantee use of such advanced primary and secondary plant and equipment for duration of the contract period. Proof of Ownership and/or hire to be submitted
	Availability of key (major) plant and equipment												
(Score 0)	Failed to address the question / issue.												
Poor (score 30)	Tenderer does not confirm ownership of any (primary and secondary) of the required key (major) plant and equipment, and cannot assure use of hired plant and equipment during the contract period. Proof of Ownership and/or hire was not submitted												
Satisfactory (score 50)	Tenderer owns primary required key (major) plant and equipment or can guarantee use of primary required key (major) plant and equipment for duration of the contract period, but DOES NOT own secondary required key (major) plant and equipment, and CANNOT assure use of hired plant and equipment during the contract period. Proof of Ownership and/or hire to be submitted.												
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Very good (score 100)	Tenderer owns primary and secondary that are more advanced and efficient than the required primary and secondary key (major) plant and equipment or can guarantee use of such advanced primary and secondary plant and equipment for duration of the contract period. Proof of Ownership and/or hire to be submitted												

Employer:		Contractor:	
Witness:		Witness:	

Clause number	Tender Data	
		GEDSI Performance
	(Score 0)	Failed to submit information
	Poor (score 30)	The submission demonstrates minimal or no meaningful commitment to GEDSI principles.
	Satisfactory (score 50)	The submission demonstrates basic awareness of GEDSI principles but limited depth: • Some previous experience referenced, but not quantified or evidenced. • General commitment to diversity without clear targets or implementation strategy. • Basic training proposed, but no clear accessibility adaptations. • Compliance with general OHS requirements, but limited inclusive site measures. • Generic HR or conduct policy referencing harassment, without site-specific enforcement mechanisms.
	Good (score 70)	The submission demonstrates structured and implementable GEDSI commitments: • Demonstrated track record with quantified participation of women/youth/disabled persons. • Clear gender-balanced staffing targets across project roles. • Structured training programme with defined outputs and consideration for accessibility. • Inclusive worksite measures included (e.g., appropriate PPE, separate ablutions, grievance mechanism). • Formal GBV/harassment prevention policy with reporting procedures and staff awareness training.
	Very good (score 100)	The submission demonstrates strong, measurable, and impact-driven GEDSI integration: • Extensive, verifiable experience with clear evidence of socio-economic impact and progression pathways. • Ambitious but realistic gender balance targets across management, supervisory, and technical levels. • Comprehensive, accessible training and mentorship programme with certification, employment pathways, and reasonable accommodation measures. • Proactive inclusive worksite framework including safeguarding mechanisms, inclusion audits, supervisor sensitisation training, and ongoing monitoring. • Robust GBV/harassment policy with mandatory induction, confidential reporting channels, designated safeguarding officer, survivor support pathways, and demonstrated enforcement history.

Employer:		Contractor:	
Witness:		Witness:	

Clause number	Tender Data		
	The scoring of the Contract execution and quality shall be as follows:		
		Contract Programme	Quality Plan
	(Score 0)	Failed to address the question / issue.	Failed to address the question / issue.
	Poor (score 30)	The activity schedule omits major activities and sequencing is poor.	Approach Paper, Quality Plan and Control are generic and are not tailored to fit the project's objectives.
	Satisfactory (score 50)	Minor activities are excluded in the activity schedule and activities are in the correct sequence.	Most key activities are included in the Approach Paper, Quality Plan and Control, but are not detailed. There are minor inconsistencies between timing and project deliverables
	Good (score 70)	All activities are listed in the activity schedule and sequencing fits the task at hand.	All key activities are included in the Quality Plan and Control, but are not detailed. There are minor inconsistencies between timing and project deliverables
	Very good (score 100)	All activities are listed in the activity schedule and broken down to detailed activities. Sequencing fits the task at hand.	The quality plan fits the project deliverables well; all important activities are indicated in the Quality Plan and Control plan and is appropriate and consistent with project objectives and requirements. There is a fair degree of detail. Must address items such as material lead times, coating specifications, cathodic protection, shut-down requirements

Employer:		Contractor:	
Witness:		Witness:	

Clause number	Tender Data																					
	The scoring of the experience of key personnel will be as follows:																					
	<table><tr><td></td><td colspan="2">Adequacy of Key Personnel</td></tr><tr><td></td><td>General Qualifications</td><td>Experience</td></tr><tr><td>(Score 0)</td><td>Failed to address the question / issue.</td><td>Failed to address the question / issue.</td></tr><tr><td>Poor (score 30)</td><td>Key staff have limited levels of general qualifications</td><td>Key Personnel have limited project specific experience</td></tr><tr><td>Satisfactory (score 50)</td><td>Key staff have reasonable levels of general qualifications</td><td>Key staff have reasonable levels of project specific experience</td></tr><tr><td>Good (score 70)</td><td>Key staff have extensive levels of general qualifications</td><td>Key staff have extensive levels of project specific experience</td></tr><tr><td>Very good (score 100)</td><td>Key staff have exceptional levels of general qualifications</td><td>Key staff have exceptional levels project specific experience</td></tr></table>		Adequacy of Key Personnel			General Qualifications	Experience	(Score 0)	Failed to address the question / issue.	Failed to address the question / issue.	Poor (score 30)	Key staff have limited levels of general qualifications	Key Personnel have limited project specific experience	Satisfactory (score 50)	Key staff have reasonable levels of general qualifications	Key staff have reasonable levels of project specific experience	Good (score 70)	Key staff have extensive levels of general qualifications	Key staff have extensive levels of project specific experience	Very good (score 100)	Key staff have exceptional levels of general qualifications	Key staff have exceptional levels project specific experience
		Adequacy of Key Personnel																				
		General Qualifications	Experience																			
	(Score 0)	Failed to address the question / issue.	Failed to address the question / issue.																			
	Poor (score 30)	Key staff have limited levels of general qualifications	Key Personnel have limited project specific experience																			
	Satisfactory (score 50)	Key staff have reasonable levels of general qualifications	Key staff have reasonable levels of project specific experience																			
	Good (score 70)	Key staff have extensive levels of general qualifications	Key staff have extensive levels of project specific experience																			
	Very good (score 100)	Key staff have exceptional levels of general qualifications	Key staff have exceptional levels project specific experience																			
	The scoring of the Tenderer's experience will be as follows:																					
	<table><tr><td></td><td>Tenderer's experience</td></tr><tr><td>(Score 0)</td><td>Failed to address the question / issue.</td></tr><tr><td>Poor (score 30)</td><td>Tenderer has limited experience.</td></tr><tr><td>Satisfactory (score 50)</td><td>Tenderer has relevant experience but has not dealt with the critical issues specific to the assignment.</td></tr><tr><td>Good (score 70)</td><td>Tenderer has extensive experience in relation to the project and has worked previously under similar conditions and circumstances.</td></tr><tr><td>Very good (score 100)</td><td>Tenderer has outstanding experience in projects of a similar nature.</td></tr></table>		Tenderer's experience	(Score 0)	Failed to address the question / issue.	Poor (score 30)	Tenderer has limited experience.	Satisfactory (score 50)	Tenderer has relevant experience but has not dealt with the critical issues specific to the assignment.	Good (score 70)	Tenderer has extensive experience in relation to the project and has worked previously under similar conditions and circumstances.	Very good (score 100)	Tenderer has outstanding experience in projects of a similar nature.									
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	Satisfactory (score 50)	Tenderer has relevant experience but has not dealt with the critical issues specific to the assignment.																				
Good (score 70)	Tenderer has extensive experience in relation to the project and has worked previously under similar conditions and circumstances.																					
Very good (score 100)	Tenderer has outstanding experience in projects of a similar nature.																					
F.3.18	The number of paper copies of the signed contract to be provided by the Employer is one.																					
	There are no additional conditions of tender.																					

Employer:		Contractor:	
Witness:		Witness:	

ANNEXURE: STANDARD CONDITIONS OF TENDER

(As contained in Annexure F of the CIDB Standard 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 of tender, 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 fulfill 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

Employer:		Contractor:	
Witness:		Witness:	

- 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 readily read, copied and recorded. Communications 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 submissions 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 tenderers 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.

Employer:		Contractor:	
Witness:		Witness:	

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 satisfies 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 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.

Employer:		Contractor:	
Witness:		Witness:	

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) might 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.

F.2.10.2 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

Do 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 otherwise 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.

Employer:		Contractor:	
Witness:		Witness:	

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 will 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 the 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 competitive position of tenderers 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.

Employer:		Contractor:	
Witness:		Witness:	

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 prequalify 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 a 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 prequalified 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 that tender documents are available 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.

Employer:		Contractor:	
Witness:		Witness:	

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 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.

Employer:		Contractor:	
Witness:		Witness:	

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:

- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
- b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
- c) 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 and discrepancies

F.3.9.1 Check responsive tenders for discrepancies between amounts in words and amounts in figures. Where there is a 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.
Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- 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.

Employer:		Contractor:	
Witness:		Witness:	

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel 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 this subclause is repeated.

F.3.11.3 Methods 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 tender 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 this subclause 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 tender evaluation points to the lowest.
- d) Recommend 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.

Employer:		Contractor:	
Witness:		Witness:	

- 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 this subclause 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, preference claimed, if any, and the quality offered in accordance with the provisions of F.3.11.7 to 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, unless otherwise stated in the Tender Data:

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

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 preferences 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 tender 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 this subclause 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 tender offer. P is the comparative offer of tender offer under consideration.			

Employer:		Contractor:	
Witness:		Witness:	

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 subcriteria 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; and
 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
- b) Employer's procurement,
- c) 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,
- d) has the legal capacity to enter into the contract,
- e) 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 and of the foregoing,
- f) complies with the legal requirements, if any, stated in the tender data, and
- g) is able, in the opinion of the Employer, to perform the contract free of conflicts of interest.

F.3.14 Prepare contract documents

F.3.14.1 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.3.14.2 Complete the schedule of deviations attached to the form of offer and acceptance, if any.

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.

Employer:		Contractor:	
Witness:		Witness:	

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.

Employer:		Contractor:	
Witness:		Witness:	



IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY

BULK METER INSTALLATION CONTRACTOR

PART 2: RETURNABLE DOCUMENTS

Employer:		Contractor	
Witness:		Witness:	

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Employer:		Contractor:	
Witness:		Witness:	

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Employer:		Contractor:	
Witness:		Witness:	

T2.1 LIST OF RETURNABLE DOCUMENTS

NB: The tenderer is required to complete each and every schedule listed below to the best of his ability as the evaluation of tenders and the eventual contract will be based on the information provided by the tenderer. Failure of a tenderer to complete the schedules and forms to the satisfaction of the Employer will inevitably prejudice the tender and may lead to rejection on the grounds that the tender is not responsive.

The tenderer must complete the following returnable documents:

T2.1.1 Returnable Schedules required only for tender evaluation purposes

- T2.2.1 Record of addenda to tender documents
- T2.2.2 Certificate of authority
- T2.2.3 Preferential Procurement
- T2.2.4 Declaration of Interest
- T2.2.5 Proposed amendments and qualifications
- T2.2.6 Schedule of proposed subcontractors
- T2.2.7 Schedule of plant and equipment
- T2.2.8 Schedule of the tenderer's experience
- T2.2.9 Schedule of key personnel
- T2.2.10 Curriculum vitae of key personnel
- T2.2.26 GEDSI Performance
- T2.2.28 NEPAD Risk Assessment

T2.1.2 Other documents required only for tender evaluation purposes

- T2.2.11 Certificate of Contractor Registration issued by the Construction Industry Development Board
- T2.2.12 Where the tendered amount inclusive of VAT exceeds R 10 million:
 - i) audited annual financial statement for 3 years, or for the period since establishment if established during the last 3 years, if required by law to prepare annual financial statements for auditing;
 - ii) certificate certifying that the tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days;
 - iii) particulars of any contracts awarded to the tenderer 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;
 - iv) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality or municipal entity is expected to be transferred out of the Republic.
- T2.2.13 Tax clearance certificate
- T2.2.14 Confirmation of employment equity policy from the Department of Labour
- T2.2.15 Proposed joint venture agreement
- T2.2.16 Form of intent to provide a performance guarantee
- T2.2.17 Proof of compliance with Compensation for Occupational Injuries and Diseases Act
- T2.2.18 Registration certificate / Agreement / Powers of attorney / I.D. Document

Employer:		Contractor:	
Witness:		Witness:	

T2.1.3 Returnable Schedules that will be incorporated into the contract

- T2.2.19 Preliminary programme
- T2.2.20 Amendments, Qualifications and Alternatives
- T2.2.21 Materials to be used in the contract
- T2.2.22 Insurance cover to be effected by the contractor
- T2.2.23 Price variation on special materials
- T2.2.24 Site-specific Occupational Health and Safety Plan
- T2.2.25 Quality Plan
- T2.2.26 GEDSI Performance
- T2.2.28 Addenda to the tender documents

T2.1.4 Other documents that will be incorporated into the contract

- T2.2.11 Certificate of Contractor Registration issued by the Construction Industry Development Board
- T2.2.13 Tax clearance certificate (**regularly updated**)
- T2.2.14 Confirmation of employment equity policy from the Department of Labour (**regularly updated**)
- T2.2.15 **Finalised** joint venture agreement
- T2.2.16 Performance guarantee
- T2.2.17 Proof of compliance with Compensation for Occupational Injuries and Diseases Act (**regularly updated**)
- T2.2.18 Registration certificate / Agreement / Powers of attorney / I.D. Document

T2.1.5 C1.1 Form of Offer

T2.1.6 C1.2 Contract Data

Employer:		Contractor:	
Witness:		Witness:	

RETURNABLE SCHEDULES

T2.1.7 Record of Addenda to tender documents

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

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

Attach additional pages if more space is required.

Signed

Date

Name

Position

Tenderer

Employer:		Contractor:	
Witness:		Witness:	

T2.1.8 Certificate of Authority

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 that by resolution of the Board (copy
 attached) taken on 20....., Mr/Ms, acting in the capacity of
, was authorized to sign all documents in connection with the
 tender for Contract No: and any contract resulting from it on behalf of the company.

Chairman:

As Witnesses:

1.....

2.....

Date:

Employer:		Contractor:	
Witness:		Witness:	

(II) Certificate For Close Corporation

We, the undersigned, being the key members in the business trading as
 hereby authorize 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.

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.

Employer:		Contractor:	
Witness:		Witness:	

(III) Certificate For Partnership

We, the undersigned, being the key partners in the business trading as,
....., hereby authorize 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.

NAME	ADDRESS	SIGNATURE	DATE

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

Employer:		Contractor:	
Witness:		Witness:	

(IV) Certificate For Joint Venture

This Returnable Schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in Joint Venture and hereby authorise Mr/Ms . . .

....., authorised signatory of the company

....., acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

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

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

Employer:		Contractor:	
Witness:		Witness:	

(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.....

2.

Date:

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.9 Empowerment and Preferential Points Allocation

BIDDERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF SPECIFIC GOALS, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022.

Certified Copy of BBBEE certificate to be attached

Employer:		Contractor:	
Witness:		Witness:	

T2.1.10 Declaration Of Interest

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**
 - 3.1. Full Name of bidder or his or her representative:.....
 - 3.2. Identity Number:
 - 3.3. Position occupied in the Company (director, trustee, hareholder²):.....
 - 3.4. Company Registration Number:
 - 3.5. Tax Reference Number:.....
 - 3.6. VAT Registration Number:
 - 3.7. The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.
 - 3.8. Are you presently in the service of the state? **YES / NO**
 - 3.8.1.If yes, furnish particulars.....

¹MSCM 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.

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

Employer:		Contractor:	
Witness:		Witness:	

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

3.9.1.If yes, furnish particulars.....

.....

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

3.10.1. If yes, furnish particulars.

.....

.....

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

3.11.1. If yes, furnish particulars

.....

.....

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

3.12.1. If yes, furnish particulars.

.....

.....

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

3.13.1. If yes, furnish particulars.

.....

.....

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

3.14.1. If yes, furnish particulars:

.....

.....

Employer:		Contractor:	
Witness:		Witness:	

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

Full Name	Identity Number	State Employee Number

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.11 Proposed amendments and qualifications

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

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

Page	Clause or item	Proposal

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.12 Schedule of Proposed Subcontractors

We notify you that it is our intention to employ the following sub-contractors for work in this Contract. If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of proposed Sub-contractors in accordance with requirements in the Contract for such appointments. If there are no such requirements in the Contract, then your written acceptance of this list shall be binding between us.

We confirm that all sub-contractors who are contracted to provide civil engineering construction service are registered as civil engineering contractors with the Construction Industry Development Board.

Name and address of proposed Sub-contractor	Nature and extent of work	Previous experience with Subcontractor	CIDB Grading
1)			
2)			
3)			
4)			
5)			

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.13 Schedule of Plant and Equipment

The following are lists of major items of relevant equipment that I / we presently own or lease and will have available for this contract or will acquire or hire for this contract if my / our tender is accepted.

NB: MINIMUM EQUIPMENT OR PLANT FOR THIS CONTRACT SHALL INCLUDE VEHICLES, WATER PUMP(S), GENERATOR(S), COMPRESSOR(S), LIGHTING, WELDING MACHINE(S), GRINDER(S) AND SMALL COMPACTOR(S).

(a) Details of major equipment that is owned by and immediately available for this contract.

Quantity	Description	Size	Capacity

Attach additional pages if more space is required.

(b) Details of major equipment that will be hired, or acquired for this contract if my / our tender is acceptable.

Quantity	Description	Size	Capacity

Attach additional pages if more space is required.

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.14 Schedule of the Tenderer's Experience

The Tenderer shall provide maximum 5 project related references, for works completed in the last 10 years. The Tenderer shall also ensure such references are contactable on contact numbers provided.

[illegible]

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature _____

Capacity for the Tenderer :

Employer:		Contractor:	
Witness:		Witness:	

T2.1.15 Schedule of Key Personnel

In terms of the Project Specification and the Conditions of Tender, unskilled workers may only be brought in from outside the local community if such personnel are not available locally.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel which may have to be brought in from outside if not available locally.

CATEGORY OF EMPLOYEE	NUMBER OF PERSONS					
	KEY PERSONNEL, PART OF THE CONTRACTOR'S ORGANISATION		KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY		UNSKILLED PERSONNEL TO BE RECRUITED FROM LOCAL COMMUNITY	
	HDI	NON-HDI	HDI	NON-HDI	HDI	NON-HDI
Contract Manager, Site Agent, Project Managers						
Foremen, Quality Control and Safety Personnel						
Technicians, Surveyors, etc						
Artisans and other Skilled workers						
Plant Operators						
Unskilled Workers						
Cathodic Protection Specialist						

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.16 Curriculum Vitae of Key Personnel

T2.1.16.1 Curriculum Vitae of Key Personnel (Contract Manager)

Provide separate forms for each position listed in Form: Key Personnel

[illegible]**Certification:**

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Contractor:	
Witness:		Witness:	

T2.1.16.2 Curriculum Vitae of Key Personnel (Site Agent)

Provide separate forms for each position listed in Form: Key Personnel

[illegible]**Certification:**

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Contractor:	
Witness:		Witness:	

T2.1.16.3 Curriculum Vitae of Key Personnel (Safety Officer)

Provide separate forms for each position listed in Form: Key Personnel

[illegible]**Certification:**

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Contractor:	
Witness:		Witness:	

T2.1.16.4 Curriculum Vitae of Key Personnel (Cathodic Protection Specialist)

Provide separate forms for each position listed in Form: Key Personnel

[illegible]**Certification:**

I, the undersigned, certify that, to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.

.....
Signature of person named in the schedule

.....
Date

Employer:		Contractor:	
Witness:		Witness:	

T2.1.17 Contractor's Certificate of Registration with CIDB

The Tenderer shall attach hereto the Contractor's Certificate of Registration with CIDB. Failure to submit the certificate with the tender document will lead to the conclusion that the Tenderer is not registered with the CIDB and therefore not eligible to tender.

Tenderers who have made application to CIDB for registration and are capable of being so registered prior to the evaluation of submissions must attach a notification from CIDB that their application is being considered.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.18 Financial Statements

Where the tendered amount inclusive of VAT exceeds R 10 million the Tenderer shall attach hereto

- i) audited annual financial statement for 3 years, or for the period since establishment if established during the last 3 years, if required by law to prepare annual financial statements for auditing;
- ii) certificate certifying that the tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days;
- iii) particulars of any contracts awarded to the tenderer 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;
- iv) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality or municipal entity is expected to be transferred out of the Republic.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.19 Tax Clearance Certificate

Tax Clearance Certificate & Pin obtained from SARS to be inserted here.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.20 Confirmation of Employment Equity Policy from the Department Of Labour
The Tenderer must attach hereto a copy of the confirmation from the department of labour that their Employment Equity Policy has been submitted.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.21 Proposed Joint Venture Agreement

The Tenderer shall attach hereto a copy of the proposed Joint Venture Agreement (if applicable) for each of the contracting parties (if applicable).

If not tendering as a Joint Venture indicate as such on this page.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.22 Form of Intent to Provide a Performance Guarantee

The Tenderer must attach hereto a letter from the bank or institution with whom he has made the necessary arrangements, to the effect that the said bank or institution will be prepared to provide the required performance guarantee when asked to do so.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.23 Proof of Compliance with COID Act

The Tenderer must attach hereto proof of compliance with the relevant requirements of the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993).

Employer:		Contractor:	
Witness:		Witness:	

T2.1.24 Registration Certificate / Agreement / Powers of Attorney / ID Document (if Applicable)
Important note to Tenderer: Registration Certificates for Companies, Close Corporation and Partnerships, or Agreements and Powers of Attorney for Joint Ventures, or ID Document for Sole Proprietor, all as referred to in the foregoing forms and in T2.1 must be inserted here.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.25 Preliminary Programme

The Tenderer shall attach a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract. The programme shall be in accordance with the information supplied in the Contract, requirements of the Project Specifications and with all other aspects of the Tender.

PROGRAMME														
ACTIVITY	WEEKS / MONTHS													

[Note: The programme must be based on a single bulk meter installation 300DN at a Reservoir inlet. NB: No other completion time to the overall final programme will be considered unless it is listed in Table (b) of the Form hereafter and supported by a detailed statement to that effect, all as specified in the Tender Data]

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer: _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.26 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 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 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 Schedule of Rates, programme, etc, and a detailed statement setting out the salient features of the proposed alternatives must accompany the tender.*

Employer:		Contractor:	
Witness:		Witness:	

(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 tender, failing which, the offer will be prejudiced.*

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.27 Materials to be Used in the Contract

I / We propose to use the following materials in the Works:

ITEM	DESCRIPTION (Brand, type/model, PN rating, manufacturing locality, and delivery lead time)
Battery Operated Magflow (EMF) Meters	
Associated Meter Convertors	
Resilient Seal Gate Valves	
Non-Return Valve	
Pipes (Spool Pieces)	
VJ Couplings	
Flange Adaptors	
Reducers	
Weld-On Flanges	
Screw-On Flanges	
PVC Adapter	
Compression End Plug	
Steel Split Collars	
Lockable Manhole Cover & Frame	
Step Irons	
Cathodic Protection description	
Earthing Protection description	

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.28 Insurance Cover to be effected by the Contractor

The Contractor and his subcontractors shall, in terms of the Contract Data, effect the insurances detailed in clause 35.1 of the Contract Specific Data (C1.2). The prescribed documents (or other satisfactory proof of cover) in respect of these insurances shall be attached hereto and shall include but not be limited to:

- a) Insurance of Constructional Plant;
- b) Insurance under provisions of the COID Act;
- c) Common Law Liability Insurance for an amount not less than that stated in the Project Information Schedule;
- d) Motor Vehicle Liability Insurance; and
- e) Any additional insurance deemed necessary for items not insured in terms of the insurance effected by the Employer.

Should the Contractor, within the prescribed period, not submit the required documents, the Engineer will be entitled to withhold payment certificates in terms of the contract until the Contractor has complied with these requirements.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.29 Price Variation on Special Materials

The following Special Materials are subject to price variation, in accordance with Clause 46.3 of the Conditions of Contract, as detailed below:

ITEM	DESCRIPTION
	<i>NOT APPLICABLE</i>

CERTIFICATION

I, UNDERSIGNED (NAME AND SURNAME) _____

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

Signature : _____

Capacity for the Tenderer : _____

Employer:		Contractor:	
Witness:		Witness:	

T2.1.30 Site Specific Occupational Health and Safety Plan

The Tenderer shall attach to this page the Contractor's Site Specific Health and Safety Plan as required in terms of Regulation 5 of the Occupational Health and Safety Act 1993 Construction Regulations 2003, and referred to in the Contractor's health and safety declaration (see earlier) and PS7 of the Project Specifications.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.31 Quality Plan

The Tenderer shall attach to this page the Contractor's Quality Plan covering the following items as a minimum:

- a) Meter replacement/installation procedure;
- b) Workmanship;
- c) Assembly horizontal and vertical alignment control;
- d) Earthing installations; and
- e) Cathodic protection.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.32 GEDSI Performance

The Tenderer shall attach to this page the Contractor's GEDSI Performance covering the following items as a minimum:

- a) -Previous experience supporting women/youth/disabled persons in construction
- b) -Proposed gender-balanced staffing
- c) -Accessible training and capacity-building commitments
- d) -Commitments to safe, inclusive worksite practices
- e) -Gender Based Violence (GBV)/harassment prevention policy

Employer:		Contractor:	
Witness:		Witness:	

T2.1.33 Addenda to the Tender Documents

Copies of all Addenda to the tender documents which have been issued by the Employer will be inserted here by the Tenderer.

Employer:		Contractor:	
Witness:		Witness:	

T2.1.34 NEPAD Risk Assessment

Down Stream Partner Due Diligence Assessment Questionnaire

Risk-Based Assessment Format

Assessment Details

Organisations name:	
Due diligence performed by:	NEPAD Business Foundation
Funding arrangement type:	Subcontract
Name of Project:	UK-SA Municipal Water Partnership
Funders Name:	UK Foreign, Commonwealth & Development Office (FCDO)

SECTION 1: ORGANIZATION PROFILE & LEGAL STATUS

Please provide the following basic information about your organisation:

Legal/Registered Name	
Trading Name (if different)	
Company Registration No.	
Country of Registration	
Legal Entity Type	(e.g., private or public company, partnership, etc)
Not-for-Profit?	☐ Yes ☐ No
Number of Employees	
Website	

Documentation required as part of bid submission:

- Certificate of Incorporation, current CIPC Certificate of Confirmation COR15.2
- Tax compliance certificate or SARS pin
- BBBEE certificate

Documentation that will be required from preferred bidder(s):

- Company structure if part of a group
- Company or divisional organogram
- Audited Financial Statements for last three years
- Certificate of insurance – Public liability, Professional Indemnity, All Risks
- Risk Matrix (up to date)

Employer:		Contractor:	
Witness:		Witness:	

Policies and Procedures of the organisation:

Confirm that you have the following:	Y / N
Code of Conduct	
Procurement	
Human Resources	
Anti-corruption, bribery and fraud	
Risk management	
Health & Safety	
Data Protection	
Whistle-blowing	
Modern Slavery and human trafficking	
Child protection	
Sexual abuse, exploitation and harassment	
Conflict of interest and Ethics	
Environmental safeguards	
Privacy and Data Protection	

These Policies and Procedures may be called on at a later stage of the procurement process.

Please be advised that are more detailed "Down Stream Partner Due Diligence Assessment Questionnaire" will need to be completed by preferred bidder(s).

Employer:		Contractor:	
Witness:		Witness:	



IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY

BULK METER INSTALLATION CONTRACTOR

PART 1: AGREEMENT AND CONTRACT DATA

Employer:		Contractor:	
Witness:		Witness:	

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Employer:		Contractor:	
Witness:		Witness:	

C1.1 FORM OF OFFER AND ACCEPTANCE (AGREEMENT)

C1.1.1 FORM OF OFFER

THE TENDERER IS TO COMPLETE AND SIGN THE FORM OF OFFER

The Employer, identified in the Acceptance signature block, has solicited offers to enter into a contract in respect of the following works:

IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY – BULK METER INSTALLATION CONTRACTOR

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

By the representative of the Tenderer, deemed to be duly authorized, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor/Service Provider 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 and Pricing data.

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

_____ Rand (in words); R _____ (in figures),
(firm)* (adjustable)* *(delete which does not apply)

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(s)

Name(s)

Capacity

For the Tenderer

(Name and address of organisation)

Name and signature of witness

Date _____

Employer:		Contractor:	
Witness:		Witness:	

C1.1.2 FORM OF ACCEPTANCE

THE EMPLOYER IS TO COMPLETE AND SIGN THE FORM OF ACCEPTANCE

By signing this part of the 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 1 Agreement and Contract Data, (which includes this Agreement)
- Part 2 Pricing Data
- Part 3 Scope of Work
- Part 4 Site Information
- Part 5 Drawings

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

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the 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 Agreement. No amendments to or deviations from said documents are valid unless contained in this Schedule, which must be duly signed by the authorised representative(s) of both parties.

The 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 Contact Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date of this Agreement comes into effect. Failure to fulfill any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now the Contractor) within five days after 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 binding contract between the parties,

FOR EMPLOYER OFFICIAL USE ONLY

Signature(s)

Name(s)

Capacity

**For the
Employer**

(Name and address of organisation)

**Name and
signature of
witness**

Date _____

Employer:		Contractor:	
Witness:		Witness:	

C1.1.3 SCHEDULE OF DEVIATIONS

Notes:

1. The extent of deviations from the tender documents issued by the employer prior to the tender closing date is limited to those permitted in terms of the Conditions of Tender;
2. A 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 become 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; and
4. Any change or addition to the tender documents arising from the above arrangements and recorded here shall also be incorporated into the final draft of the Contract.

1 **Subject** _____

Details _____

2 **Subject** _____

Details _____

3 **Subject** _____

Details _____

4 **Subject** _____

Details _____

5 **Subject** _____

Details _____

6 **Subject** _____

Details _____

7 **Subject** _____

Details _____

8 **Subject** _____

Details _____

By the duly authorised representatives signing this Schedule of Deviations, 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 Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during the process of offer and acceptance.

Employer:		Contractor:	
Witness:		Witness:	

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 and signed copy of this Agreement shall have any meaning or effect in the contract between the parties arising from this Agreement.

**For the Tenderer:
Signature(s)**

Name(s) _____

Capacity _____

(Name and address of organisation)

Name and signature of witness _____ **Date** _____

**For the Employer:
Signature(s)**

Name(s) _____

Capacity _____

(Name and address of organisation)

Name and signature of witness _____ **Date** _____

Employer:		Contractor:	
Witness:		Witness:	

C1.2 CONTRACT DATA

The General Conditions of Contract for Construction Works (2025) 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.

C1.2.1 PART 1: DATA PROVIDED BY THE EMPLOYER

GCC Clause	Information
1.1.15	The name of the Employer is NEPAD Business Foundation
1.2.1	The address of the Employer is: Physical: 6 Coombe Place Rivonia Sandton 2128 Postal: 6 Coombe Place Rivonia Sandton 2128 Tel: 010 596 1888 Email: info@thenbf.co.za
1.1.16	The name of the Employer's Agent is Ms Meghan Brinkley of SMEC South Africa (Pty) Ltd.
1.2.1	The address of the Employers Agent is: Physical: 267 Kent Avenue Ferndale Randburg 2194 Postal: P.O. Box 1462 Pinegowrie 2123 Tel: 011 369 0600 Email: meghan.brinkley@smec.com
5.8.1	The special non-working days are All Public Holidays in terms of the Public Holidays Act as amended.
5.8.1	The year-end break commences on 16 December until the first working Monday of January of the succeeding year.
1.1.1.14	The time for achieving Practical Completion for the whole of the Works is 5 months .
6.8.2	Contract Price Adjustment shall NOT BE APPLICABLE . This Contract shall be a FIXED PRICE .
6.8.3	Price adjustments for variations in the costs of special materials are NOT allowed.
6.10.1.5	The percentage advance on materials not yet built into the Permanent Works is 80%.
6.10.3	The percentage retention on the amounts due to the Contractor is 10% .
1.1.1.13	The Defects Liability Period is 12 months (52 weeks).
10.4.2	Dispute resolution shall be by arbitration if amicable settlement has failed.
10.5.3	The adjudication board shall consist of three members.

Employer:		Contractor:	
Witness:		Witness:	

C1.2.1.1 Variations

The variations to the General Conditions of Contract are:

GCC Clause	Information		
8.6	Notwithstanding anything elsewhere contained in the Contract and 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 shall effect and maintain as appropriate in the joint names of the Employer and the Contractor and where relevant Sub-Contractors the following insurances which are subject to the terms, limits, exceptions and conditions of the Policy :		
8.6.1.1	Contract Works Insurance – which will provide cover against accidental and physical loss of or damage to the Works, Temporary Works and Materials intended for incorporation in the Works from whatsoever cause arising other than causes set out in Clause 8.3.1		
8.6.1.1	for which the Contractor is responsible for the Works in terms of Clause 8.2.1, and		
8.6.1.1	for a sum insured which shall, unless otherwise specified in the Contract, be the aggregate of :		
8.6.1.1.1	the Contract Price,		
8.6.1.1.2	a sum to cover the value (specified at the time of delivery to the Contractor) of materials supplied by the Employer for incorporation in the Works and not included in the Contract Price (minimum R2 million), and		
8.6.1.1.3	a sum to cover professional fees, not included in the Contract Price, payable in respect of the repair or reinstatement of damage to the Works (minimum R1million).		
8.6.1.3	Public Liability Insurance which will provide indemnity against legal liability in the event of accidental death of or injury to third party persons and/or loss 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 R5million in respect of all claims arising from any one occurrence or series of occurrences consequent on or attributable to one source or original cause.		
8.6.1.2	Following the introduction of legislation affecting the articles of the South African Special Risks Insurance Association (SASRIA) , insurance cover for loss or damage to the Works caused by any event defined as a risk in terms of the insurance offered by SASRIA, will be provided under a certificate issued by SASRIA.		
8.6.1.4	Full details of the Contract Works and Public Liability insurances effected by the Employer may be obtained from the Employer and the Contractor/Subcontractors are deemed to be aware of the terms, exclusions and conditions of these insurances.		
8.6.4	Any amount which becomes payable to the Contractor or any of his Sub-Contractors as a result of claim under the Contract Works Insurance shall if required by the Employer be paid net of the deductible to the Employer who shall pay the Contractor from the proceeds of such payment upon rectification repair or reinstatement of the loss or damage but this provision shall not in any way affect the Contractor's obligations liabilities or responsibilities in terms of the Contract.		
Employer:		Contractor:	
Witness:		Witness:	

C1.2.1.2 Additions

The additional Conditions of Contract are:

GCC Clause	Information		
2.4	Ambiguity in documents Add clause 2.4 The Employer or the Contractor shall notify the other as soon as either becomes aware of an ambiguity or inconsistency in or between the documents, which are part of this Contract. Governed by the spirit and intention of the Contract, the Employer shall give a binding instruction resolving the ambiguity or inconsistency.		
5.6	Programme of the Works Add clause 5.6 Date falling on public holiday or weekend Where under the terms of the Contract any act is to be done or any period is to expire upon a certain day and that day or that period fall on a day of rest or recognized holiday or weekend, the Contract shall have effect as if the act were to be done or the period to expire upon the working day following such day.		
5.9.1	Instructions and drawings Add clause 5.9.1 5.9.1 Source of instructions The Contractor shall neither seek nor accept instructions from any authority external to the Employer, the Employers Agent or their authorized representatives in connection with the performance of his services under this Contract. The Contractor shall refrain from any action which may adversely affect the Employer and shall fulfill his commitments with fullest regard for the interest of the Employer.		
5.9.1	Instructions and drawings Add clause 5.9.1 5.9.1.1 Instructions The Employers Agent may issue contract instructions to the Contractor regarding: 5.9.1.2 Alteration to design, quality or quantity of the works provided that such contract instructions shall not substantially change the scope of the works. 5.9.1.3 Rectification of discrepancies, errors in description or omissions in contract documents other than this document. 5.9.1.4 Removal of any materials and goods from the site and the substitution of any other materials and goods therefor. 5.9.1.5 Removal or re-execution of any work. 5.9.1.6 Opening up of work for inspection. 5.9.1.7 Provision and testing of samples of materials and goods, specimens of finished and assemblies of elements of the works. 5.9.1.8 Protection of the works. 5.9.1.9 Making good physical loss and repairing damage to the works. 5.9.1.10 Removal from the site of any party employed on the works. 5.9.1.11 Removal from the site of any persons not engaged on or connected with the works. 5.9.1.12 The appointment of nominated subcontractors, the nominated subcontract amounts and the work to be executed thereunder. 5.9.1.13 Proof of payment to nominated subcontractors. 5.9.1.14 Notices to nominated subcontractors. 5.9.1.15 Prime cost amounts and the purchase of materials and goods included therein. 5.9.1.16 Budgetary allowances and work executed by the contractor thereunder.		
Employer:		Contractor:	
Witness:		Witness:	

GCC Clause	Information
5.9.1	Instructions and drawings Add clause 5.9.1 5.9.1.17 Default of Contractor in carrying out Employer's Agent or his duly authorized representative Instructions In case of default on the part of the Contractor in carrying out an instruction of the Employers Agent or his duly authorized representative, the Employer shall be entitled to employ and pay other persons to carry out the same and all expenses consequent thereon or incidental thereto shall be borne by the Contractor and shall be recoverable from him by the Employer and may be deducted by the Employer from any monies due or which may become due to the Contractor.
5.13	Penalties Add clause 5.13 During the Contract Period should the Contractor: 5.13.1.1 Fail to comply with the specifications a) The Employer shall levy a penalty on the Contractor, should the latter fail to perform any ordered Works that complies at minimum with the specification as highlighted per the Scope of Work. b) The value of the penalty shall be determined cumulative as R1,000.00 per site, but not exceeding a total amount of R10,000.00. Should the penalty reach the maximum specified limit the Employer shall reserve the right to: 1) terminate the Contract; 2) perform the Works internally or through another Contractor; and 3) deduct additional costs incurred by the Employer from monies owed to the Contractor or from the Contractor's Guarantee. Additional costs incurred by the Employer shall include all claims from Contract affected parties, claims such as but not be limited to claims from customers, any costs associated with the loss of water, and all costs associated with the procurement of an alternative Contractor. No liability in terms of this clause shall be attached to the Contractor if he can prove to the satisfaction of the Employer that the nature of the failure is due to fire, war, riot, strikes, act of God, lockout, accident or other unforeseen occurrence or circumstances beyond the Contractor's control, provided, however, that in all cases the Contractor has notified the Employer in writing within 24 hours of it first coming to his notice, that delivery shall be delayed or become impossible for the above-mentioned reasons. 5.13.1.2 Fail to provide support, management and coordination a) The Employer shall levy a penalty on the Contractor, should the latter fail to provide the undertaken management, coordination and support. b) The value of the penalty shall be determined cumulative as R1,000.00 per day per site, but not exceeding a total amount of R10,000. Should the penalty reach the maximum specified limit the Employer shall reserve the right to: 1) terminate the Contract; 2) perform the Works internally or through another Contractor; and 3) deduct additional costs incurred by the Employer from monies owed to the Contractor or from the Contractor's Guarantee. Additional costs incurred by the Employer shall include all claims from Contract affected parties, claims such as but not be limited to claims from customers, any costs associated with the loss of water, and all costs associated with the procurement of an alternative Contractor.

Employer:		Contractor:	
Witness:		Witness:	

GCC Clause	Information
	No liability in terms of this clause shall be attached to the Contractor if he can prove to the satisfaction of the Employer that the nature of the failure is due to fire, war, riot, strikes, act of God, lockout, accident or other unforeseen occurrence or circumstances beyond the Contractor's control, provided, however, that in all cases the Contractor has notified the Employer in writing within 24 hours of it first coming to his notice, that delivery shall be delayed or become impossible for the above-mentioned reasons. 5.13.1.3 Penalties irreversible The Contractor shall note that all penalties once imposed shall be non-recoverable or reversible, even if the default is remedied.
New	Add clause 11: 11 Confidential nature of documents All maps, drawings, photographs, mosaics, plans, reports, recommendations, estimates, documents and all other data compiled by or received by the Contractor under the Contract shall be the property of the Employer and Employer Agent, shall be treated as confidential and shall be delivered only to the Employer Agent or his duly authorized representative on completion of the Works; their contents shall not be made known by the Contractor to any person other than the personnel of the Contractor performing services under this Contract without the prior written consent of the Employer.
New	Add clause 12: 12 Officials not to benefit The Contractor warrants that no official of the Employer has been or shall be admitted by the Contractor to any direct or indirect benefit arising from this Contract or the award thereof. The Contractor agrees that breach of this provision is a breach of the Contract.
New	Add clause 13: 13 Prevention of corruption The Employer shall be entitled to cancel the Contract and to recover from the Contractor the amount of any loss resulting from such cancellation, if the Contractor has offered or given any person any gift or consideration of any kind as an inducement or reward for doing or intending to do any action in relation to the obtaining or the execution of the Contract or any other contract with the Employer or for showing or intending to show favour or disfavour to any person in relation to the Contract or any other contract with the Employer, if the like acts shall have been done by any persons employed by him or acting on his behalf whether with or without the knowledge of the Contractor in relation to this or any other Contract with the Employer.
New	Add clause 14: 14 False claims by the Contractor 14.1 Failure, by the Contractor, to demonstrate or present any feature declared during the procurement stage shall constitute grounds for Contract termination or the market related equivalent price discount, if no market related value is available, the Employer shall give a final ruling on the amount. This shall be at the discretion of the Employer based on the implication of such omission. Should the Contractor refuse to accept the Employer's price, the Contract shall be terminated.

Employer:		Contractor:	
Witness:		Witness:	

GCC Clause	Information
	14.2 Any false claims, by the Contractor or his staff (with or without his knowledge), based on Works to be performed or completed shall constitute grounds for Contract termination and result in blacklisting on the Employer's database. 14.3 The Contractor shall note that any of the above shall constitute non-performance on the part of the Contractor, further resulting in him forfeiting his full Contract Guarantee.

Employer:		Contractor:	
Witness:		Witness:	

C1.2.2 PART 2: DATA PROVIDED BY THE CONTRACTOR

GCC Clause	Information
Clause 1.1.1.9	The name of the Contractor is
Clause 1.2.1.2	The address of the Contractor is: Physical: Postal: Tel: Email:
Clause 6.8.3	The variation in cost of special materials is Type Unit Rate <i>NOT APPLICABLE</i>

Employer:		Contractor:	
Witness:		Witness:	



IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY

BULK METER INSTALLATION CONTRACTOR

PART 1: FORMS AND SECURITIES

Employer:		Contractor:	
Witness:		Witness:	

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Employer:		Contractor:	
Witness:		Witness:	

C1.3 FORMS AND SECURITIES

FORMS FOR COMPLETION BY THE CONTRACTOR

THE FOLLOWING FORMS ARE TO BE COMPLETED BY THE CONTRACTOR AFTER THE TENDER HAS BEEN AWARDED TO THE SUCCESSFUL TENDERER

- a) Form of Guarantee
- b) Agreement in terms of the Occupational Health and Safety Act
- c) Occupational Health And Safety Indemnity Undertaking

The forms will be completed by the Contractor who will be instructed to do so in the Form of Acceptance. The completed forms will become part of the Contract.

The Form of Guarantee is a pro forma document. The Contractor will provide an original document, from a financial institution, with the same text within the time stated in the Contract Data. Only a Bank or approved Insurance Company or Guarantee Corporation is acceptable as Guarantor.

Employer:		Contractor:	
Witness:		Witness:	

C1.3.1 Form of Guarantee

TO BE PRINTED ON THE OFFICIAL LETTERHEAD OF THE GUARANTOR.

PERFORMANCE GUARANTEE

IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY – BULK METER INSTALLATION CONTRACTOR

WHEREAS NEPAD Business Foundation (hereinafter referred to as “the Employer” or “beneficiary”) entered into a Contract with

_____ (hereinafter called “the Contactor”)

on the _____ day of _____, 20____, for the construction of

_____ at _____

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

AND WHEREAS _____ has/have at the request of the Contractor, agreed to give such guarantee; NOW THEREFORE WE, _____

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

1. The Employer shall, without reference and/or notice to us, have complete liberty of action to act in any manner authorized and/or contemplated by the terms of the said Contract, and/or to agree to any modifications, variations, alterations, directions or extensions of the completion date of the works under the said Contract, and that its rights under this guarantee shall in no way be prejudiced nor our liability hereunder be affected by reason of any steps which The Employer may take under such Contract, or of any modification, variation, alterations of the completion date which The Employer may make, give, concede or agree to under the said Contract.
2. This guarantee shall be limited to the payment of a sum of money.
3. The Employer shall be entitled, without reference to us, to release any guarantee held by it, and to give time to or compound or make any other arrangement with the Contractor.
4. This guarantee shall remain in full force and effect until the issue of the Certificate of Completion in terms of the Contract, unless we are advised in writing by The Employer before the issue of the said Certificate of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated.
5. Our total liability hereunder shall not exceed the Guaranteed Sum of _____ (R _____)

Employer:		Contractor:	
Witness:		Witness:	

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

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

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

As witnesses:

1. _____ Signature _____

2. _____ Signature _____

Duly authorized to sign on behalf of _____

Address _____

Employer:		Contractor:	
Witness:		Witness:	

C1.3.2 Health and Safety Contract Between Employer and Contractor in terms of Section 37(2) of the Occupational Health and Safety Act No 85 Of 1993

Written agreement between NEPAD Business Foundation (hereinafter referred to as "the Employer)

and _____ (hereinafter referred to as "the mandatory") as envisaged by Section 37(2) of the Occupational Health and Safety Act, No. 85, of 1993 as amended.

I _____ representing

_____ (mandatory) do hereby acknowledge that

_____ (mandatory) is an employer in its own right and shall be regarded as the employer for purposes of the contract work specified in the body of the principal agreement with duties as prescribed in the Occupational Health and Safety Act, No. 85 of 1993 as amended so as to ensure that all work will be performed or machinery and plant used in accordance with the provisions of the said Act. I furthermore agree to comply with the requirements of the Employer and the Occupational Health and Safety Act and to liaise with the employer should I, for whatever reason, be unable to perform in terms of this agreement.

Signed this _____ day of _____ at _____

Signature on behalf of mandatory _____

Signature on behalf of Employer _____

Compensation Fund Registration No. of mandatory _____

Good Standing Certificate : ☐ yes ☐ no (tick one box)

Employer:		Contractor:	
Witness:		Witness:	

C1.3.3 Health and Safety Contract: General Information

1. The Occupational Health and Safety Act comprise Sections 1 to 50 and all un-repealed regulations promulgated in terms of the former Machinery and Occupational Safety Act No 6 of 1983 as amended, as well as other regulations which may be promulgated in terms of the OHS Act.
2. 'Mandatory' is defined as including an agent, a contractor or a subcontractor for work, but without derogating from their status in their own right as an employer or user of plant and machinery
3. Section 37 of the Occupational Health and Safety Act potentially punishes employers (principals) for the unlawful acts or omissions of mandataries (contractors) save where a written agreement between the parties has been concluded containing arrangements and procedures to ensure compliance with the said Act by the mandatory.
4. All documents attached or referred to in the above agreement form an integral part of the agreement.
5. To perform in terms of this agreement mandataries must be familiar with the relevant provisions of the Act.
6. Mandataries who utilise the services of their own mandataries (subcontractors) are advised to conclude a similar written agreement.
7. Be advised that this agreement places the onus on the mandatory to contact the Employer in the event of inability to perform as per this agreement. The Employer, however, reserves the right to unilaterally take any steps as may be necessary to enforce this agreement.
8. The contractor shall be responsible for the full and proper implementation of the terms and provisions of the Act and its regulations in the area in which the work is to be undertaken by the Contractor.
9. The Contractor shall be responsible for the well-being, in relation to health and safety, of all persons coming upon or into such area in accordance with that legislation, including the implementation of any directives issued by management of the Employer in this respect.
10. The work to be done is _____
11. The area in which the work is to be conducted is _____
12. The Contractor shall familiarise himself with such area and all risks existing thereon and undertakes to report to the representative of the Employer any hazard or risk to health and safety which arises during the contract work in the area concerned and over which the Contractor may have no control. All necessary and appropriate safety / health equipment shall be issued by the Contractor to all persons working on or coming into the area.

Employer:		Contractor:	
Witness:		Witness:	

C1.3.3.1 Occupational Health and Safety Indemnity Undertaking

I, the undersigned _____
in my capacity as _____
of the firm _____

- 1.0 hereby undertake to ensure that I/my firm and/or employees and/or subcontractors and/or their employees -
- 1.1 comply strictly with the provisions of the Occupational Health and Safety Act of 1993 (as amended) and/or the regulations promulgated in terms thereof, with specific reference to section 37(2) of the said act, as well as any relevant legislation, in the course of the performance/execution of any service and/or work in, to or on any of the Employer's buildings, construction sites and/or premises;
 - 1.2 ensure that consultants and/or visitors comply with any instructions and measures relating to occupational health and safety, as prescribed by the Employer; and
 - 1.3 comply strictly with the statutorily prescribed work systems, operational equipment, machinery and occupational health and safety conditions;
- 2.0 and as an independent employer and contractor, hereby indemnify, in terms of the above undertakings, the Employer -
- 2.1 in respect of any costs that I/my firm and/or employees and/or subcontractors and their employees may incur of necessity in compliance with the above undertakings; and
 - 2.2 against any claims that may be instituted against the Employer and/or any liability that the Employer may incur, whether instituted and/or caused by me/my firm's employees, agents, consultants, subcontractors and/or their employees and visitors or the Employer's clients or neighbours in respect of any incidents related to my/my firm's activities and as a result of which the occupational health and safety of the persons involved have been detrimentally affected; and
 - 2.3 against similar claims that I, managers or directors of my firm may have against the Employer and any damages for which I, managers or directors of my firm hold the Employer liable.
- 3.0 My firm's compensation commissioner number is _____
and I confirm that my firm and its subcontractors' fees have been paid up and obligations in respect of the compensation commissioner have been complied with and further that I shall furnish proof thereof in writing on request.

Employer:		Contractor:	
Witness:		Witness:	

4.0 I hereby confirm that I have the authority to sign this indemnity undertaking and that the Employer is not obliged to confirm such confirmation.

Signed at _____ this _____ day
of _____

Signature

Capacity

As witnesses:

1 _____
2 _____

Employer:		Contractor:	
Witness:		Witness:	



**IMPLEMENTATION OF WATER
CONSERVATION AND WATER DEMAND
MANAGEMENT INTERVENTIONS FOR PIXLEY
KA SEME LOCAL MUNICIPALITY**

BULK METER INSTALLATION CONTRACTOR

PART 2: PRICING DATA

Employer:		Contractor:	
Witness:		Witness:	

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Employer:		Contractor:	
Witness:		Witness:	

C2 PRICING DATA

C2.1 PRICING INSTRUCTIONS

C2.1.1 GENERAL PREAMBLE TO THE BILL OF QUANTITIES

- a) All items in the Schedule of Rates, except where otherwise specified in the Project Specification, shall be measured and shall cover operations as recommended in the standard system of measurement of civil engineering quantities, published under the title "Civil Engineering Quantities", by the South African Institution of Civil Engineering.
- b) The Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification or the Scope of Work, conflict with the terms of the Schedule of Rates, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
- c) Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- d) The Schedule of Rates is estimated quantities of the Contract Works, unless indicated as Rate Only, but the Contractor shall be required to undertake whatever quantities may be directed by the Employer's Agent from time to time. The Contract Price for the completed Works shall be computed from the actual quantities of work done, valued at the relevant unit rates and/or prices.
- e) The rates and/or prices to be inserted in the Schedule of Rates are to be the full inclusive prices for the work described under the several items. Such rates and/or prices shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents, as well as overhead charges and profit. Reasonable charges shall be inserted as these shall be used as a basis for assessment of payment for additional work that may have to be carried out.
- f) A price or rate is to be entered against each item in the Schedule of Rates, whether the quantities are stated or not. An item against which no price is entered will be considered to be covered by the other prices or rates in the Schedule.
- g) The units of measurement described in the Schedule of Rates are metric units. Alternatives used are as follows :

%	=	percent	sum	=	lump sum
P Sum	=	Provisional sum	No.	=	number
hr	=	hour	t	=	ton (1000kg)
mm	=	millimetre	m	=	metre
m ²	=	square metre	m ³	=	cubic metre
- h) For the purpose of this Schedule of Rates, where applicable, the following words shall have the meanings hereby assigned to them:

Unit : The unit of measurement for each item of work
 Quantity : The number of units of work for each item.
 Rate : The agreed payment per unit of measurement.
 Amount : The product of the quantity and the agreed rate for an item.
 Lump sum : An agreed amount for an item, the extent of which is described in the Bills of Quantities but the quantity of work of which is not measured in any units.

- i) Arithmetical errors in the Schedule of Rates shall be corrected in accordance with Clause F3.9 of the Conditions of Tender. Should there be any discrepancy between rates and/or prices written in the Assessment Schedule and the Schedule of Rates, the latter shall govern.
- j) The Schedule of Rates shall be completed by hand or typed in **BLACK PEN INK.**

C2.1.2 Sufficiency of tender

The Contractor shall be deemed to have satisfied themselves before tendering as to the correctness and sufficiency of their Tender for the construction of the Works and of the rates and prices, which rates and prices shall, except in so far as it is otherwise provided in the Contract, cover all their obligations

Employer:		Contractor:	
Witness:		Witness:	

under the Contract and all matters and things necessary for the proper execution and completion of the Works.

C2.1.3 Special payment conditions

This clause shall be read in conjunction with the 'Penalties' clause(s). Where the penalty clause shall always receive precedence over this clause, should it be found that duplicative financial corrective measures exist.

C2.1.3.1 Applicability of payment items

All payment items forming part of this Contract shall not apply to ordered Works completed by the Contractor under this Contract, where completed Works:

- were not completed to acceptable quality;
- were not issued by the Employer's Agent;
- are still within the defects and liability period; or
- were not accepted by the Employer's Agent or their duly authorised representative.

C2.1.3.2 Working outside normal hours

The additional costs, if any, to perform works outside normal working hours shall be deemed to have been allowed for in the provided activity pricing rates and/or prices. The applicable working times are stipulated in the Contract Data.

C2.1.3.3 Materials and equipment**C2.1.3.3.1 Materials**

The Employer shall not provide any materials, as this shall be provided by the Contractor and deemed to have been included in the various provided activity rates and prices.

C2.1.3.3.2 Equipment

The Employer shall not provide any works equipment, as this shall be provided by the Contractor and deemed to have been included in the various provided activity rates and prices.

C2.1.3.3.3 Damage to materials provided by the Employer

Where the Contractor or public damage any materials, provided by the Employer, whilst in the care of the Contractor, they shall immediately report such damage, arrange for the replacement, and all replacement costs shall be at their expense.

C2.1.3.4 Permits and way-leaves

All associated costs to obtain permits and way-leaves as required for the execution of the works, where such affect other services, shall be deemed to have been included in the scheduled rates for where pricing provision for such items have been allowed for in the pricing schedules, alternatively it shall be deemed to be included the various scheduled activity rates or prices provided by the Contractor.

C2.1.3.5 Locating existing service

The cost to locate existing services shall be included in the various works activity pricing rates and/or prices, including any excavations required and the provision and use of service detection personnel and equipment.

C2.1.3.6 Confined space

The Contractor shall note that some work activities might be executed within confined spaces and it shall be deemed that allowance has been made in all provided activity pricing rates and/or prices.

C2.1.3.7 Testing

The cost of testing of the ordered Works shall be included the various applicable Works items. In particular those:

- clearly intended by or provided for in the specifications.
- involving testing or tests to ensure that the design of the whole of the Works or any part of the Works is appropriate for the purpose which it was intended to fulfil.

Employer:		Contractor:	
Witness:		Witness:	

No additional or separate payment for testing shall be entertained by the Employer.

C2.1.3.8 Cost of samples

All samples shall be supplied by the Contractor at their own cost unless the supply thereof is clearly intended in the specifications or Bill of Quantities to be at the cost of the Employer. Payment shall not be made for samples which do not comply with the specifications.

C2.1.3.9 Assessment of meter and/or fittings

The cost of assessing a meter and/or fitting(s) not forming part of the ordered Works, whilst executing ordered work shall be included the various Works items. No additional or separate payment for this assessment shall be entertained by the Employer.

C2.1.3.10 Return of removed meters and fittings

The Employer's Agent or their duly authorised representative shall only approve payment for ordered Works, where the Contractor provides proof that the removed meter and/or fitting has been returned to the designated municipality depot.

Where the Contractor fails to return any removed meter and/or fitting to the area depot, on completion of the ordered Works, they shall not be paid for the entire ordered Works at the associated site location.

C2.1.3.11 Failure to submit reports and associated visual media

The Contractor's payment certificate shall be accompanied by confirmation from the Employer's Agent or their duly authorised representative that items listed for payment have been successfully executed and/or delivered as required. Failure to obtain such confirmation from the Contract, and thus the Employer's Agent or their duly authorised representative, shall result in non-payment of the Contractor's payment certificate until the default has been corrected or the deemed incomplete items are excluded from the payment certificate.

C2.1.3.12 Payment ONLY for works completed

The Contractor shall note that payment shall only be made for Works activities successfully (delivering the end result) executed, complying with the quality requirements and provided to the Employer's Agent or their duly authorized representative.

C2.1.3.13 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 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 their obligations either in contract or in delict.

C2.1.3.14 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

Employer:		Contractor:	
Witness:		Witness:	

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 following information shall be maintained by the Contractor and submitted in electronic/hard copy formats:

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

C2.1.4 Fixed-Charge Items

Unit: Sum

The lump sum for Fixed-Charge Items shall cover all once-off contractual and compliance obligations not specifically measured elsewhere in the Bill of Quantities. No additional payment shall be made for items deemed to be included in this lump sum.

C2.1.5 Time Related Supervision and Administration

Unit: Month

This rate shall cover the costs of on-site supervision, project management, and such administration as the Contractor considers necessary for the proper execution and completion of the Works during periods where active work is being executed under issued Works Order.

The rate shall include the cost of salaries, wages, allowances, transport and related expenses for the site agent, foremen, supervisory staff, timekeepers, and any other personnel required for supervision and management of the Works.

The rate shall further include supervision of works executed during shutdown periods or outside normal working hours.

Payment shall only be made for the actual duration during which Works Orders are active and work is being executed.

C2.1.6 Provisional Sums

Unit: P.Sum

Provisional Sums are included for budgeting purposes only. Expenditure under these items shall only be made upon written instruction of the Employer's Agent. Any unused portion of a Provisional Sum shall not be payable and shall revert to the Employer.

Payment shall be based on the actual cost of the work executed under the Provisional Sum, plus the percentage for overheads and profit as tendered.

C2.1.7 Additional fittings and specials provision and installation

Unit: P.Sum

On the Employer's Agent's instruction, the Contractor shall be required to provide a quotation for the complete provision and/or installation of additional fittings and specials not allowed for elsewhere in this document as part of this Contract, based on the minimum specification provided elsewhere in this Contract documentation or as specified by the Employer's Agent.

A provisional sum is provided here, but the unit of measurement shall be based on the various items required.

C2.1.8 Temporary works

C2.1.8.1 Establish pipe diameter and material type

Unit: No

Employer:		Contractor:	
Witness:		Witness:	

The rate shall include all costs associated with locating, exposing where necessary, confirming, recording, and reporting on the diameter and material type of existing pipes and associated fittings. The rate shall further include any minor excavation, backfilling, reinstatement, and making good required to complete the investigation.

This item shall apply to isolated investigative exposures only and shall not apply to bulk trench excavation measured elsewhere.

C2.1.9 Water Pumps
(a) Pumping

Unit: hr

The rate shall cover the cost of supplying, installing, operating and removing temporary water pumps required for dewatering flooded chambers or excavations, including all labour, fuel, hoses, discharge piping, fittings, transportation, environmental management, health and safety compliance, and supervision. The rate shall further include maintaining pumping operations and submission of records of pumping durations to the Employer's Agent.

The pump shall have a minimum discharge capacity of 12 L/s, and a total dynamic head of 10m, unless otherwise approved by the Employer's Agent.

Payment shall be made for actual hours of effective pumping.

(b) Standby Pump

Unit: Day

The rate shall cover the cost of providing a standby pump of equal minimum capacity on site, fully operational and immediately available for use, including delivery, collection, and maintenance.

C2.1.10 Clearing and Surface Removals

The rates for clearing and surface removals shall include for setting out, saw cutting where required, breaking out, removal, loading, transportation, disposal to an approved site, and stockpiling where specified. The rates shall further include reinstatement of disturbed areas where not measured separately.

(a) Remove topsoil to depth of 200mm

Unit: m²

The rate shall include stripping, stockpiling on site for re-use where specified, or disposal of surplus material.

(b) Saw cut, remove and dispose of asphalt and crushed stone base not exceeding 200mm thick

Unit: m²

The rate shall include saw cutting to neat edges, breaking out, loading, disposal, and making safe.

(c) Saw cut, remove and dispose of unreinforced concrete not exceeding 300mm thick

Unit: m²

The rate shall include saw cutting, breaking out, loading, disposal and making good of edges.

(d) Saw cut, remove and dispose of reinforced concrete not exceeding 300mm thick

Unit: m²

The rate shall include saw cutting, breaking out, removal of reinforcement, loading, disposal and making good.

(e) Remove and temporarily store paving block units

Unit: m²

The rate shall include careful removal, stacking, protection and storage for re-use.

Employer:		Contractor:	
Witness:		Witness:	

(f) Remove and temporarily store grass sods

Unit: m²

The rate shall include careful removal and stockpiling for re-use.

(g) Remove and temporarily store kerbs

Unit: m

The rate shall include lifting, stacking and protection for reinstallation.

C2.1.11 Excavations (LI) and Ancillaries

The rate shall include excavation in all materials, temporary stockpiling, keeping excavations free of water, backfilling with selected excavated material, compaction, trimming of trench bottoms and disposal of surplus material to an approved spoil site. Unsuitable material below founding level shall be measured under the relevant item.

C2.1.11.1 Unsuitable Material from Trench Bottom

Unit: m³

The rate shall apply only to material below specified trench bottom level deemed unsuitable by the Employer's Agent.

C2.1.11.2 Make Up Deficiency in Backfill

Unit: m³

The rate shall include supply, transport, placing and compaction of approved selected backfill material.

C2.1.11.3 Shore trench opposite structure or service

Unit: m

The rate shall include the full cost of supplying, installing, maintaining, and removing temporary trench support systems required opposite existing structures or services. The rate shall include all labour, plant, equipment, materials, transport, health and safety compliance, and making good after removal.

C2.1.11.4 Services Intersecting / Adjoining

(a) Intersecting Services

Unit: No.

The rate shall include exposing, supporting, protecting and backfilling around the service.

(b) Adjoining

Unit: m

The rate shall include trimming, supporting and protecting the service during excavation.

C2.1.12 Finishes (LI)

Rates for reinstatement items shall include preparation of subgrade, compaction, matching existing levels, and making good to the satisfaction of the Employer's Agent.

C2.1.13 Provision and Installation of meters

Unit: No.

NB: All meter types must be specified and product datasheets provided

The rate shall cover the cost of supplying, handling and installing a battery-operated EMF meter (for a secure, leak-free connection), additional pipe material as required, labour, transportation, cutting, threading, jointing (including new washers and gaskets at the joints), testing, commissioning, environmental management, health and safety, and submitting a record of installations to the Employer's Agent for various listed sizes.

The associated remote converters should be completely covered in the rate. The rate shall cover the cost of supplying, handling and installing the converter compatible with the specified meter type, including removal of the existing unit (if applicable), mounting to existing brackets, chambers or structures (or provision of minor mounting hardware where required), reconnection to existing cabling or telemetry infrastructure, configuration, pairing and integration into the existing telemetry system.

Employer:		Contractor:	
Witness:		Witness:	

The rate shall further include minor clearing of existing sleeves and the replacement of pull-through wires where necessary to facilitate reconnection to existing infrastructure. This item shall not include new trenching, installation of new sleeves, or major civil works, which shall be measured separately where applicable.

The rate shall include testing, commissioning, verification of signal communication to the receiving system, environmental management, health and safety compliance, and submission of installation and commissioning records to the Employer's Agent.

The Employer will not entertain any claims regarding standing time, if shut-downs with the relevant municipality depot have not been arranged timeously in order to facilitate installation of meters. If materials fail to meet specifications it will be for the contractor's expense to rectify.

Refer to Standard Drawings and Specification documents appended.

C2.1.14 Removal and Transport of existing meters/fittings of various diameters

Unit: No

The rate shall include the complete cost of removing existing meters and/or fittings of the specified diameters, including labour, plant, tools, temporary isolation where required, environmental management, health and safety, handling, loading, transportation and delivery to the designated Municipal Depot (or such location as instructed by the Employer's Agent which is within a 20km radius of the municipal offices).

C2.1.15 Supply and Installation of Valves and Specials

Unit: No.

All valves and specials shall comply with the applicable SANS standards, and specifications as set out in the contract, and shall meet the local content requirements as stated in the Contract.

If materials fail to meet the specified requirements, it shall be for the Contractor's account to rectify, replace and retest such materials at no additional cost to the Employer.

The Employer will not entertain any claims regarding standing time if shut-downs with the relevant Municipal depot have not been arranged timeously to facilitate installation.

Refer to Standard Drawings and Specification documents appended.

C2.1.15.1 Supply and Installation of Valves

The rate shall cover the complete cost of supplying, handling and installing valves of the specified sizes, including labour, transportation, cutting, jointing, testing, commissioning, environmental management, health and safety, and submission of installation records to the Employer's Agent.

C2.1.15.2 Supply and Installation of Pipework

The rate shall cover the cost of supplying, handling and installing all additional pipe work including the labour, transportation, cutting, jointing, testing, commissioning, environmental management, health and safety and submitting a record of installations to the Employer's Agent for various listed sizes and lengths.

C2.1.15.3 Supply and Installation of Couplings and Connecting Joints

The rate shall cover the cost of supplying, handling and installing Couplings and Connecting Joints of the specified types and sizes, including the labour, transportation, cutting, jointing, testing, commissioning, environmental management, health and safety and submitting a record of installations to the Employer's Agent for various listed sizes and lengths.

C2.1.15.4 Weld-On Flanges

The rate shall cover the complete cost of supplying, handling, welding and installing weld-on flanges of the specified sizes, including cutting of existing pipework, preparation of pipe ends, alignment, welding

Employer:		Contractor:	
Witness:		Witness:	

by qualified welders, consumables, jointing, coating and lining repair (internal and external where applicable), testing, commissioning, environmental management, health and safety, and submission of installation records to the Employer's Agent.

All welding shall comply with the applicable SANS standards and approved welding procedures. Welders shall be suitably qualified, and welding procedure specifications (WPS) and welder qualifications shall be submitted for approval prior to commencement of works.

Where required, non-destructive testing (NDT) and pressure testing of the affected pipeline section shall be undertaken, and the cost thereof shall be deemed to be included in the rate.

C2.1.15.5 Steel Split Collars

In the event that the existing pipe is damaged or brittle from age, steel collars will be welded onto the existing pipe to improve the structural integrity thereof. This will only be completed on instruction by the Employer's Agent or their Duly Authorised Representative.

The rate shall cover the cost of supplying, handling and installing steel split collars of the specified sizes on steel pipes, including the labour, transportation, cutting, jointing, testing, commissioning, environmental management, health and safety and submitting a record of installations to the Employer's Agent for various listed sizes and lengths.

C2.1.16 Encasing Joints and/or Pipe

Unit: m

The rate shall include the complete cost (labour, materials, plant, equipment and transportation) for the surface preparation and encasing of joints and/or pipe sections as required.

Encasing shall include thorough cleaning and preparation of the pipe and fittings, application of petrolatum primer, petrolatum tape (Denso-type wrap) and outer protective wrap in accordance with the corrosion protection specifications and the manufacturer's recommendations.

The rate shall further include environmental management, health and safety compliance, quality control, and submission of installation records to the Employer's Agent.

C2.1.17 Manholes (LI)

C2.1.17.1 Removal of Existing Chamber

Unit: No.

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost to demolish, remove and dispose of brick or concrete chambers, including all excavation, removal and reinstatement of all surfacing for chambers of various sizes, environmental management, health and safety and submitting a record of works to the Employer's Agent.

This item shall also apply to chambers that require demolition for enlargement purposes.

C2.1.17.2 Meter/Valve Chamber

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost for chamber installations or repairs for the various material requirements.

- | | |
|-------------------------------------|----------------------------|
| a) Concrete | Unit: m³ |
| b) Brickwork | Unit: m² |
| c) Formwork | Unit: m² |
| d) Reinforcing steel | Unit: t |
| e) Lockable manhole cover and frame | Unit: No |
| f) Step irons | Unit: No |
| g) Sump | Unit: No |
| h) Sump pump | Unit: No |

C2.1.17.3 Anchor/thrust blocks and pedestals

Unit: No

Employer:		Contractor:	
Witness:		Witness:	

The rate shall include the complete cost (labour, materials, plant, equipment and transportation) for the supply and construction of anchor blocks, thrust blocks and pedestals in accordance with the standard drawings and approved design details.

The rate shall include excavation, preparation of founding surface, formwork, reinforcement (where required), concrete supply and placement, curing, backfilling and compaction, as well as reinstatement of disturbed surfaces.

Concrete shall comply with the relevant specifications contained in the Contract, and installation shall be carried out in accordance with the applicable SANS 2001 standards.

C2.1.17.4 Relocation of existing valves and fittings

Unit: No

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of the relocation of existing valves and fittings as required during construction including cutting, threading, jointing (including new washers and gaskets at the joints), testing, commissioning, environmental management, health and safety, and submitting a record of installations to the Employer's Agent for various listed fitting types.

C2.1.18 Cathodic Protection

Unit: No.

Refer to Standard Drawings and Specification documents appended.

The rate shall include the complete (labour, qualified operators, material, plant, equipment and travelling) cost of installation of the cathodic protection as per the various specified items by a cathodic protection specialist.

C2.1.18.1 Continuity Bond at Isolation Chamber

The rate shall include the complete (labour, qualified personnel, material, plant, equipment and travelling) cost for supply and installation of complete continuity bonding across isolation joints, including copper cable, lugs or exothermic welds, terminations, protective sleeving, fixing, testing of electrical continuity, and making good of coatings at connection points.

One unit shall apply per bonded isolation joint.

Coating/Lining repair requirements - When cut-outs and or welding on any steel water mains occur, the contractor must ensure that the coating and lining damage is reduced as far as possible and that any damage that may occur is made good prior to the installation of the water meter. The relevant Material Data Sheets of the material to be used and Method Statements for the making good of the damaged coating and lining must be submitted to the Employer's Agent and Municipal Technical Representative for approval prior to any meter installations on the project. This item must be factored into your price submission as no additional funds will be made available to carry out this activity.

C2.1.18.2 Sacrificial Anodes

The rate shall include the complete (labour, qualified personnel, material, plant, equipment and travelling) cost of supply and installation of one sacrificial anode (up to 5kg) in accordance with the approved cathodic protection design and standards specified in the contract. The rate shall include the anode, cable, backfill material, excavation (where required), connections to pipework, protective sleeving, testing and commissioning.

One unit shall apply per anode installed.

C2.1.18.3 Bonding of Flanges

The rate shall include the complete (labour, qualified personnel, material, plant, equipment and travelling) cost of supply and installation of bonding across flanged joints, including copper bonding conductors, lugs, fasteners, fixing, coating repair at connection points, and testing of electrical continuity.

Employer:		Contractor:	
Witness:		Witness:	

One unit shall apply per bonded flange joint.

C2.1.19 Earthing Protection

Refer to Standard Drawings and Specification documents appended.

C2.1.19.1 Earthing Protection

Earthing shall be designed and installed in accordance with the standards specified in the contract and the approved cathodic protection design. Payment shall be based on the individual items measured below:

Earthing spike → Unit: No.

Earth bar → Unit: No.

Basic earth kit → Unit: No.

The rate for each item shall include the complete for supply of all materials and components, installation and connections, testing and commissioning, recording of test results, reinstatement and making good, and all labour, plant, equipment, transport, supervision and incidentals necessary to complete the works.

The Contractor shall provide a detailed description of the materials and components allowed for in the rate. All items shall comply with standards specified in the contract and the approved design.

C2.1.19.2 Decouplers

Unit: No.

The rate shall include the complete (labour, qualified personnel, material, plant, equipment and travelling) cost for supply, installation, wiring (as applicable), testing and commissioning.

All items shall comply with the standards specified in the contract and the approved design.

C2.1.19.3 Insulator Flange Kit

Unit: No.

The rate shall include the complete (labour, qualified personnel, material, plant, equipment and travelling) cost of supply and installation of an insulator flange kit of the specified diameter, including insulating gasket, sleeves, washers and associated components, bolt tensioning, alignment, testing of electrical isolation, recording of test results, and making good of any protective coatings disturbed during installation.

One unit shall apply per insulator flange kit installed for the specified diameter.

Employer:		Contractor:	
Witness:		Witness:	

C2.2 SCHEDULE OF RATES

Employer:		Contractor:	
Witness:		Witness:	

SUMMARY	
SCHEDULE NO.1: PRELIMINARY AND GENERAL	R
SCHEDULE NO. 2: PROVISIONAL SUMS	R
SCHEDULE NO. 3: TEMPORARY WORKS	R
SCHEDULE NO. 4: CLEARING AND EXCAVATION	R
SCHEDULE NO. 5: METER & FITTINGS	R
SCHEDULE NO. 6: CATHODIC PROTECTION	R
Sub-Total 1	R
15% VAT	R
Total (including VAT)	R

WCWDM IMPLEMENTATION						
Item	Payment Reference	Description	Unit	Quantity	Rate	Amount
					R.c	R.c
1		<u>SCHEDULE NO. 1: PRELIMINARY AND GENERAL</u>				
1.1	C2.1.4	FIXED-CHARGE ITEMS Contractual obligations, including Contractor's management, supervision, administration, insurances, health and safety compliance, quality assurance, reporting, coordination, and fulfilment of all general responsibilities necessary for the execution and completion of the Works.	Sum	1		
1.2	C2.1.5	TIME RELATED CHARGES Contractual obligations, including supervision, management, administration, reporting, coordination, health and safety maintenance, quality assurance, and all other time-related responsibilities for the duration of the Works.	Month	5		
SCHEDULE NO. 1: TOTAL CARRIED TO SUMMARY OF SCHEDULES					R	

WCWDM IMPLEMENTATION						
Item	Payment Reference	Description	Unit	Quantity	Rate	Amount
					R.c	R.c
2		<u>SCHEDULE NO. 2: PROVISIONAL SUMS</u>				
2.1	C2.1.6	PROVISIONAL SUMS				
		(a) Payment of surveyors, geologists, etc, but excluding land/topographical surveying	P.Sum	1	R 10 000.00	R 10 000.00
		(b) Ground stabilisation	P.Sum	1	R 50 000.00	R 50 000.00
		(c) Traffic Accommodation	P.Sum	1	R 10 000.00	R 10 000.00
		(d) Protection of various structures until construction in vicinity is complete	P.Sum	1	R 10 000.00	R 10 000.00
		(e) PPE for EPWP Labours	P.Sum	1	R 5 000.00	R 5 000.00
	C2.1.7	(f) Additional fittings and specials provision and installation	P.Sum	1	R 100 000.00	R 100 000.00
		(g) Cathodic Protection Works	P.Sum	1	R 50 000.00	R 50 000.00
2.2		Overheads charges and profit on items (a) to (g) above (Max 10%)	%			
SCHEDULE NO. 2: TOTAL CARRIED TO SUMMARY OF SCHEDULES					R	

WCWDM IMPLEMENTATION						
Item	Payment Reference	Description	Unit	Quantity	Rate	Amount
					R.c	R.c
3		<u>SCHEDULE NO. 3: TEMPORARY WORKS</u>				
3.1	C2.1.8	TEMPORARY WORKS				
3.1.1		Existing services				
3.1.1.1		(a) Detection and locating of existing services, including supply or hire of specialist equipment.	Day	1		Rate Only
3.1.1.2		(b) Excavation by hand in all material to expose existing services	m ³	1		Rate Only
3.1.1.3		(c) Temporary protection of exposed services, including support, marking, and reinstatement as required	No.	1		Rate Only
3.1.1.4	C2.1.8.1	(d) Establish pipe diameter and material type by exposure and/or approved investigation.	No.	1		Rate Only
3.2	C2.1.9	WATER PUMPS				
		(a) Pumping	hr	1		Rate Only
		(b) Standby Pump	Day	1		Rate Only
SCHEDULE NO. 3: TOTAL CARRIED TO SUMMARY OF SCHEDULES					R	

WCWDM IMPLEMENTATION						
Item	Payment Reference	Description	Unit	Quantity	Rate R.c	Amount R.c
4		<u>SCHEDULE NO. 4: CLEARING AND EXCAVATION</u>				
4.1	C2.1.10	CLEARING AND SURFACE REMOVALS (LI)				
		a) Remove topsoil to depth of 200mm	m ²	1		Rate Only
		b) Saw cut, remove and dispose of asphalt and stone crush base up to 200mm thickness	m ²	1		Rate Only
		c) Saw cut, remove and dispose of unreinforced concrete of up to 300mm thickness	m ²	1		Rate Only
		d) Saw cut, remove and dispose of reinforced concrete of up to 300mm thickness	m ²	1		Rate Only
		e) Remove and temporarily store paving block units	m ²	1		Rate Only
		f) Remove and temporarily store grass sods	m ²	1		Rate Only
		g) Remove and temporarily store all types of kerbs	m	1		Rate Only
4.2	C2.1.11	EXCAVATIONS (LI)				
4.2.1		Excavate in all materials for trenches, backfill, compact, and dispose of surplus / unsuitable material	m ³	14		
4.2.2		Extra-over items for				
		i) Intermediate excavation	m ³	1		Rate Only
		ii) Hard rock excavation (including blasting etc.)	m ³	1		Rate Only
4.2.3	C2.1.11.1	Excavate and dispose of unsuitable material from trench bottom	m ³	0.675		
4.3	C2.1.12	EXCAVATION ANCILLARIES				
4.3.1	C2.1.11.1	Unsuitable material from trench bottom	m ³	1		Rate Only
4.3.2	C2.1.11.2	Make up deficiency in backfill material				
		(a) Supply and place selected backfill material from commercial source	m ³	1		Rate Only
4.3.3	C2.1.11.3	Shore trench opposite structure or service	m	1		Rate Only
4.3.4	C2.1.11.4	Existing services that intersect or adjoin a pipe trench				
		a) Services that intersect a trench	No.	1		Rate Only
		b) Services that adjoin a trench	m	1		Rate Only
4.4	C2.1.12	FINISHES (LI)				
		a) Reinstatement of road crossings complete, including asphalt and base layers to match existing pavement structure for reinstatement	m ²	1		Rate Only
		b) Re-instate unreinforced concrete, complete	m ²	1		Rate Only
		c) Re-instate paving block units, complete	m ²	1		Rate Only
		d) Re-instate grass sods, complete	m ²	1		Rate Only
		e) Re-instate all types of kerbing, complete	m	1		Rate Only
		f) Topsoiling and trimming of disturbed areas using stockpiled material, including removal of debris and levelling	m ²	1		Rate Only
SCHEDULE NO. 4: TOTAL CARRIED TO SUMMARY OF SCHEDULES					R	

WCWDM IMPLEMENTATION						
Item	Payment Reference	Description	Unit	Quantity	Rate R.c	Amount R.c
5		SCHEDULE 5: METERS & FITTINGS <i>Contractor to provide specifications/product datasheets for meters and fittings allowed for in rate provided</i>				
5.1		NEW METERS				
	C2.1.13	Provision and installation of <u>battery operated EMF meters</u> and associated remote converters: <i>Refer to Scope of Work for detailed specifications (Flowmetrix Batmag or equivalent)</i>				
		(a) 150mm diameter	No.	2		
		(b) 200mm diameter	No.	1		
		(c) 250mm diameter	No.	1		
		(d) 300mm diameter	No.	4		
5.2		EXISTING METERS & FITTINGS				
	C2.1.14	Removal and Transport of existing meters/fittings of various diameters and delivery to the designated Municipal Depot	No.	8		
5.3	C2.1.15	SUPPLY AND INSTALLATION, VALVES AND SPECIALS <i>Refer to Scope of Work for detailed specifications</i>				
5.3.1	C2.1.15.1	Supply and installation of Valves				
		(a) 150mm diameter. i) Resilient Seal Gate Valve (RSV)	No.	1		Rate Only
		ii) Non-Return Valve (NRV)	No.	1		
		(b) 200mm diameter. i) Resilient Seal Gate Valve (RSV)	No.	1		Rate Only
		ii) Non-Return Valve (NRV)	No.	1		
		(c) 250mm diameter. i) Resilient Seal Gate Valve (RSV)	No.	1		Rate Only
		ii) Non-Return Valve (NRV)	No.	1		
		(d) 300mm diameter. i) Resilient Seal Gate Valve (RSV)	No.	4		
		ii) Non-Return Valve (NRV)	No.	1		Rate Only
5.3.3	C2.1.15.2	Supply and installation of Pipework: Steel pipe section flanged at both ends:				
		(a) 150mm diameter pipe, 0.75m long	No.	2		
		(b) 150mm diameter pipe, 0.5m long	No.	1		Rate Only
		(c) 150mm diameter pipe, 0.45m long	No.	2		
		(d) 200mm diameter pipe, 1m long	No.	1		
		(e) 200mm diameter pipe, 0.5m long	No.	1		Rate Only
		(f) 200mm diameter pipe, 0.6m long	No.	1		
		(g) 250mm diameter pipe, 1.25m long	No.	1		
		(h) 250mm diameter pipe, 0.5m long	No.	1		Rate Only
		(i) 250mm diameter pipe, 0.75m long	No.	1		
		(j) 300mm diameter pipe, 1.5m long	No.	4		
Sub-total Carried Forward					R	

WCWDM IMPLEMENTATION						
Item	Payment Reference	Description	Unit	Quantity	Rate	Amount
					R.c	R.c
Sub-total Brought Down					R	
5.3.4	C2.1.15.3	(k) 300mm diameter pipe, 0.5m long	No.	1		Rate Only
		(l) 300mm diameter pipe, 0.9m long	No.	4		
		Supply and Installation of Couplings and Connecting Joints <i>Refer to Scope of Work for detailed specifications</i> <i>All coupling to be compatible with cathodic protection requirements (as applicable)</i>				
		VJ Couplings <i>Refer to Scope of Work for detailed specifications</i>				
5.9		(a) 150mm diameter	No.	1		
		(b) 160mm diameter	No.	1		
		(c) 200mm diameter	No.	1		
		(d) 250mm diameter	No.	1		
		(e) 300mm diameter	No.	2		
		(f) 315mm diameter	No.	2		
		Reducers <i>Refer to scope of work for detailed specifications</i>				
		(a) 160mm to 150mm	No.	1		
		(b) 315mm to 300mm	No.	2		
		Screw-on Flanges <i>Refer to Scope of Work for detailed specifications</i>				
		(a) 160mm diameter	No.	1		
		(b) 315mm diameter	No.	1		
		Male to female threaded PVC Adapter <i>Refer to Scope of Work for detailed specifications</i>				
		(a) 160mm diameter	No.	1		
		(b) 315mm diameter	No.	1		
		Compression End Plug <i>Refer to Scope of Work for detailed specifications</i>				
		(a) 160mm diameter	No.	1		
		(b) 315mm diameter	No.	1		
5.3.5	C2.1.15.4	Weld-On Flanges <i>Refer to Scope of Work for detailed specifications</i>				
		(a) 150mm diameter	No.	1		
		(b) 200mm diameter	No.	1		
		(c) 250mm diameter	No.	1		
		(d) 300mm diameter	No.	2		
		(e) 315mm diameter	No.	1		
5.3.6	C2.1.15.5	Steel Split Collars <i>Refer to Scope of Work for detailed specifications</i>				
		(a) 150mm diameter	No.	1		Rate Only
		(b) 200mm diameter	No.	1		Rate Only
		(c) 250mm diameter	No.	1		Rate Only
		(d) 300mm diameter	No.	1		Rate Only
Sub-total Carried Forward					R	

WCWDM IMPLEMENTATION						
Item	Payment Reference	Description	Unit	Quantity	Rate	Amount
					R.c	R.c
Sub-total Brought Down					R	
5.4	C2.1.16	Encasing Joints and/or Pipe (wrapping, 150mm wide)	m	16		Rate Only
5.6	C2.1.17	MANHOLES (LI)				
	C2.1.17.1	Removal of existing chamber				
		(a) Concrete	No.	5		
		(b) Brickwork	No.	2.5		
	C2.1.17.2	Meter/Valve chamber (Refer to applicable detail drawings)				
		(a) Concrete	m ³	6		
		(b) Brickwork (230mm thick)	m ²	16		
		(c) Formwork	m ²	42		
		(d) Reinforcing steel	t	1		
		(e) Lockable Manhole Cover & Frame	No.	4		
		(f) Step irons	No.	24		
		(h) Sump	No.	4		
		(i) Sump pump	No.	1		
	C2.1.17.3	Anchor/thrust blocks and pedestals	No.	8		
5.7	C2.1.17.4	Relocation of existing valves and fittings	No.	5		
SCHEDULE NO. 5: TOTAL CARRIED TO SUMMARY OF SCHEDULES					R	

WCWDM IMPLEMENTATION						
Item	Payment Reference	Description	Unit	Quantity	Rate	Amount
					R.c	R.c
6		SCHEDULE 6: CATHODIC PROTECTION <i>Refer to Standard Drawings and Specifications</i>				
6.1	C2.1.20	Cathodic Protection Supply and install cathodic protection at chambers				
	C2.1.18.1	(a) Supply and install continuity bond at isolation chambers	No.	8		
	C2.1.18.2	(b) Supply and install sacrificial anodes	No.	8		
	C2.1.18.3	(c) Bonding of flanges	No.	8		
6.2	C2.1.21	Earthing Protection Supply and install earthing at chambers				
6.4.1	C2.1.19.1	(a) Earthing protection <i>Contractor to provide detailed description of items allowed for in cost estimate</i> <i>Selection from below options will vary per site based on approved design</i>				
		i) Earthing Spike (crow foot)	No.	1		Rate Only
		ii) Basic Earth Kit (with Crow foot)	No.	1		Rate Only
		iii) Earth Bar (wall mounted)	No.	1		Rate Only
6.4.2	C2.1.19.2	(b) Decouplers				
		i) Solid State Decoupler (SSD)	No.	8		
6.4.3	C2.1.19.3	(c) Insulator Flange Kit				
		(b) 150mm diameter	No.	2		
		(c) 200mm diameter	No.	1		Rate Only
		(d) 250mm diameter	No.	1		Rate Only
		(e) 300mm diameter	No.	4		
SCHEDULE NO. 6: TOTAL CARRIED TO SUMMARY OF SCHEDULES					R	



IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY

BULK METER INSTALLATION CONTRACTOR

PART 3: SCOPE OF WORK

Employer:		Contractor	
Witness:		Witness:	

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Employer:		Contractor	
Witness:		Witness:	

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Employer:		Contractor	
Witness:		Witness:	

C3 SCOPE OF WORK

GENERAL

This section specifies and describes the supplies, services and engineering and construction works which are to be provided and any other requirements and constraints relating to the manner in which the contract work is to be performed.

SCOPE

The Scope of the Work is set out in two portions:

Portion 1: PROJECT SPECIFICATION covers a general description of the project, the facilities available and the requirements to be met.

Portion 2: VARIATIONS AND ADDITIONS TO THE STANDARDISED SPECIFICATIONS covers variations to the standardised specifications and particular specifications, which are applicable to the contract.

Should any requirement of the Project Specification conflict with any requirement of the standardised or particular specifications, the requirements of the Project Specifications shall prevail.

Employer:		Contractor	
Witness:		Witness:	

DEFINITIONS

For the purpose of this Contract the following shall have the associated meaning:

- a) Unless inconsistent with the context, an expression which denotes:
 - i) any gender includes the other genders;
 - ii) a natural person includes a juristic person and vice versa; and
 - iii) the singular includes the plural and vice versa.
- b) '**Service Provider**' shall mean either a consultant or contractor appointed to provide a particular service, i.e. investigations, design, labour provision and/or construction.

Employer:		Contractor	
Witness:		Witness:	

ABBREVIATIONS

For the purpose of this Contract the following abbreviations shall have the associated meaning:

ASTM	: American Society for Testing and Materials
BBBEE	: Broad-Based Black Economic Empowerment
CE	: Civil Engineering Works
CIDB	: Construction Industry Development Board
COP	: Code of Practice for Work within the Road Reserve
CP	: Cathodic Protection
CITWIF	: Corrosion Institute Technical Water Industry Forum
DC	: Direct Current
EMF	: Electromagnetic Flow Meter
EPWP	: Expanded Public Works Programme
GCC	: General Conditions of Contract
GEDSI	: Gender Equality, Disability and Social Inclusion
GIS	: Geographic Information System
GGBS	: Ground Granulated Blast Furnace Slag
HDPE	: High-Density Polyethylene
ISO	: International Organization for Standardization
ITP	: Inspection and Test Plan
kL	: Kilolitre
L	: Litre
LOS	: Level of Service
MPa	: Megapascal
ML	: Megalitre
MOD AASHTO	: Modified American Association of State Highway and Transportation Officials
NRW	: Non-Revenue Water
OHSA	: Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)
OIML	: International Organization of Legal Metrology
OPC	: OLE for Process Control
PPE	: Personal Protective Equipment
PTFE	: Polytetrafluoroethylene
QAQC	: Quality Assurance / Quality Control
RF	: Radio Frequency
RTU	: Remote Terminal Unit
SABS	: South African Bureau of Standards
SANS	: South African National Standard
SANAS	: South African National Accreditation System
SARTSM	: South African Road Traffic Signs Manual
SBR	: Styrene-Butadiene Rubber
SDR	: Standard Dimension Ratio
SSD	: Solid State Decoupler
TCC	: Technical Control Centre
UK-SA	: United Kingdom – South Africa
uPVC	: Unplasticised Polyvinyl Chloride
VAT	: Value Added Tax
VSD	: Variable Speed Drive
WCWDM	: Water Conservation and Water Demand Management
WRC	: Water Research Commission

Employer:		Contractor	
Witness:		Witness:	

PS1 DESCRIPTION OF THE WORKS

PS1.1 Employer's Objectives

The Employer, being the NEPAD Business Foundation, acting on behalf of the Project Funders under the UK-SA Municipal Water Partnership, seeks to support the improvement of bulk water measurement and operational efficiency within the Pixley Ka Seme Local Municipality distribution network.

In collaboration with Pixley Ka Seme Local Municipality the project aims to ensure the accurate measurement, monitoring, and management of bulk water supplied within its area of jurisdiction.

Significant water losses occur along bulk supply lines between reservoirs and major supply points within the distribution network. Accurate bulk metering is essential to enable reliable water balancing, leakage detection, operational control, and effective Water Conservation and Water Demand Management (WCWDM). This will in turn stimulate economic development and improve community-well-being.

The Employer's objective is therefore to ensure that bulk metering infrastructure is installed, protected, and integrated in a manner that enables accurate system measurement, strengthens operational oversight, and supports sustainable Non-Revenue Water (NRW) reduction outcomes.

PS1.2 Overview of the Works

The project requires the replacement and installation of battery-operated electromagnetic flow (EMF) water meters with nominal diameters ranging from 150mm to 300mm, within the Municipality's area of jurisdiction.

The works further requires the installation of the associated convertors, cathodic protection, and earthing and surge protection requirements.

Tenderers are encouraged to demonstrate inclusive employment practices, safeguarding measures, subcontracting of women-, youth- and disability-owned enterprises, and measures to ensure safe, inclusive worksites.

PS1.3 Extent of the Works

The Contractor shall execute the works as instructed via site-specific works orders issued by the Employer's Agent. The scope of works includes, but shall not be limited to, the following:

- Installation of new or replacement of faulty or mechanical bulk water meters and associated convertors;
- Correction of installation requirements, including strainers, isolation valves, upstream and downstream straight lengths, and alignment;
- Installation of cathodic protection, earthing and bonding systems;
- Make good any coating and/or lining damage on steel water mains during installation of the bulk meters, valves and/or strainers;
- Provision of security measures such as lockable chamber covers, fencing, or protective structures, including small chambers where required; and
- Reinstatement of all civil works disturbed during construction.

All installations shall result in fully functional, and operational bulk metering points, and in accordance with relevant standards and Municipal specifications.

PS1.4 Location of the Works

The works are located across various sites within the boundaries of the Municipality, and within the supply and operational area. Refer to Part 4: Site Information.

PS1.5 Temporary Works

Temporary works shall include:

- a) The location, verification, and protection existing services within the works area;
- b) Verification of pipe diameters and pipe material at proposed meter installation and replacement sites;
- c) Traffic accommodation measures to minimise disruption to vehicular and pedestrian movement;
- d) Measures to ensure the continued and uninterrupted supply of water to and from reservoirs and/or pump stations (where practically possible)

Temporary works shall be designed and implemented to prevent disruption to the Municipality's operations and the public.

No stockpiling of materials, plant, excavated material, or construction-related infrastructure shall be permitted in areas that interfere with operational activities, access routes, or public movement, unless otherwise approved by the Employer's Agent.

PS2 ENGINEERING

PS2.1 Pixley Ka Seme Local Municipality's Design

PS2.1.1 Meter Requirements TBC against current Municipal Metering Specifications

The installation of bulk water meters (100mm and above) in accordance with the manufacturer's specification and standards is vital for flow meter accuracy and performance. Proper flow meter installation reduces or eliminates incorrect flow measurement as well as induced errors.

This section sets out the minimum standard specifications for the meters that are required by Pixley Ka Seme Local Municipality. It should be noted that the Contractor is required to comply with the Municipality's minimum standards for installation.

Approved Meter Types

Only meter types approved by the Municipality shall be supplied and installed under this contract.

All bulk meters:

- Shall be battery-operated electromagnetic flow (EMF) water meters
- Shall be installed strictly in accordance with manufacturer recommendations and Municipal standards;
- Shall not be installed without prior approval from the Municipality's Department: Infrastructure & Engineering Services;
- Shall not deviate from the approved specification unless written approval has been obtained from the Municipality's Technical Team.

Where any discrepancy exists between this specification and any applicable Municipal policy, the matter shall be referred to the Municipality's Technical Team for written clarification prior to installation.

Coating

All fabricated fittings, flanged distance pieces, and associated steel components shall:

- Be internally and externally coated with fusion-bonded epoxy in accordance with the CITWIF Corrosion Technical Standard Specification / DWS 9900 (Second Edition: July 2022);
- The fusion bonded epoxy coating shall be evenly applied to the minimum final film thickness and shall be tested in accordance with the CITWIF Corrosion Technical Standard Specification / DWS 9900 (Second Edition: July 2022);
- Heavy duty fusion bonded epoxy is suitable for full immersion under water and shall have a minimum dry film thickness of 325 microns;
- Heavy duty fusion bonded epoxy shall have the same thickness both internally and externally on small components such as valves and flow meters plus a further 50 microns minimum re-coatable Polyurethane overcoat if exposed to UV;
- Buried in soil conditions the fusion bonded epoxy thickness shall be a minimum dry film thickness of 400 microns with an additional 800 microns of ARO (Abrasion Resistant Overcoat).

Electromagnetic Flow Meters

There is only one type of electromagnetic flow (EMF) meter used by the Municipality:

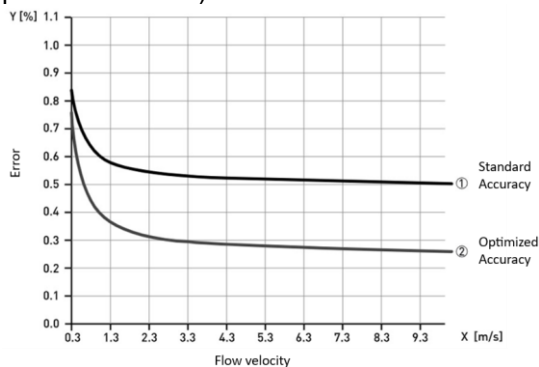
1. In-line Full Bore, battery-operated

These types of meters are installed in-line using flanges and do not require the use of a strainer. The appropriate valve(s) to accompany the installation shall be indicated as appropriate.

Meters must comply with the following minimum requirements:

1. Meter must be ISO7145, ISO4064|OIML R49 approved and must be delivered with a certificate of calibration;
2. Meter flanges must comply with SABS1123 Table 1600/3 (unless specified otherwise);
3. Meter must have a dual pulse (forward and reverse), 4-20mA and must have a Modbus RTU protocol as standard;

4. Meter must be able to be installed horizontally and vertically;
5. Meter must be PN16 (unless otherwise specified);
6. Meter must be able to work up to 50°C;
7. The meter needs to have an error of less than $\pm 0.8\%$, as per meter manufacturer's performance datasheet. (Typical accuracy curve and error limits for an EMF water meter presented below)



8. The enclosure sensor must be IP68 or higher.
9. Meters must comply with the requirements of the Municipality
10. The meter must be able to measure forward and reverse flow.
11. The meter (converter) must have a built-in data logger with memory card and real-time clock.
12. The battery-operated meter must have an internal 4G modem communication port.
13. The battery-operated meter must be Modbus RTU compatible to ensure meter flow rates, totalised volumes and meter diagnostics can be transmitted in future
14. The converter must be able to be supplied as remote (wall mounted).

Installation Procedure

Great care is to be taken during the storage, transport, and installation of all meters as this is what determines the accuracy of the unit.

With every meter, it has its own unique procedure to be installed. Field Technicians installing these meters should familiarize themselves with the user manuals provided from the supplier, understanding every last aspect of that meter from how it works to installation, commissioning, and trouble shooting. Installation of flow meters must at a minimum be in accordance with the manufacturer's written specifications in order for a flowmeter to be accurate.

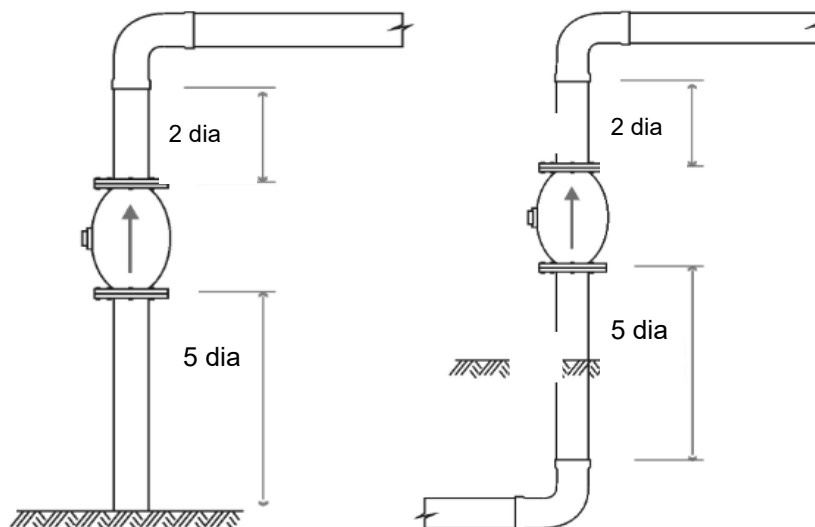
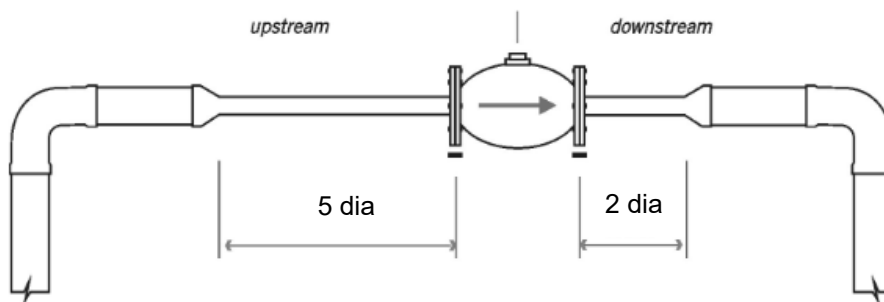
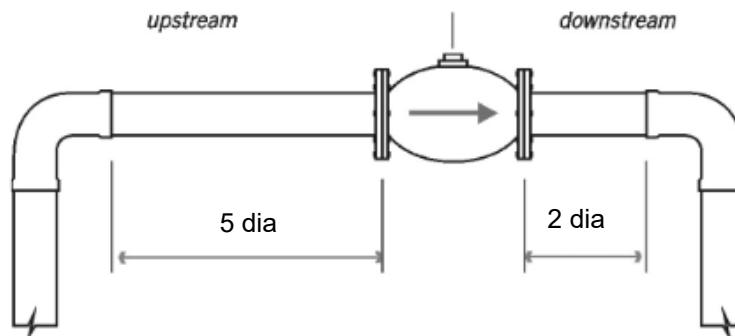
PS2.1.2 General Installation Rules

In this section general rules of installing meters will be listed. These are to be followed completely unless a deviation is agreed upon, in conjunction with the Municipality, in writing.

1. Every design has a certain tolerance to non-stable velocity conditions in the pipe, but all units require proper pipe configurations to operate efficiently. Pipe configurations provide a normal flow pattern for the device, ensuring specified accuracy and performance. The figures below give an indication of what is meant by this.

Please note that each meter type may have specific manufacturer requirements that shall be adhered to. As a minimum, installations shall provide straight pipe lengths of at least $5 \times \text{DN}$ upstream of the meter and $2 \times \text{DN}$ downstream of the meter. Deviations from these minimum requirements will only be permitted where:

- site constraints necessitate such deviation;
- the meter manufacturer's specifications allow for the proposed arrangement; and
- prior approval has been obtained from the Municipality's Department: Infrastructure & Engineering Services.



2. Where the meter is installed on the discharge side of a pump, a minimum of 10 – 20 pipe diameters upstream and 5 – 10 pipe diameters downstream straight pipe is required.
3. The installed flow meter must maintain an accuracy as per the error limits applicable to the meter Class and meter performance datasheet.
4. The flow meter must be capable of displaying totalized flows and rate of flows in metric units.
5. The meter must be capable of giving a visual meter reading, a real time electronic output signal, and can be interfaced either to a data logging device or to telemetry equipment using Modbus RTU protocol communication
 - a. For battery powered electromagnetic flow meters, the meter must be able to log flow data and be interfaced with future SCADA systems.
6. The meter must be labelled to show the direction of flow and any other data necessary to achieve the desired accuracy (e.g. calibration factors). With regards to clamp-on and insertion meters, the pipe needs to be marked showing the direction of flow neatly with WHITE paint next to the installation.
7. The meter must be easily identifiable by the manufacturer's serial number firmly attached to the meter.

8. Associated fittings, such as flow straighteners, pipe reducers, bends, valves, strainers etc. are to be located outside the specified lengths of straight pipe
9. The meter must not be installed in a section of pipe where there may be air pockets. If it is likely that air will become entrapped near the meter, an air valve must be installed upstream of the meter (as per the design engineer).
10. The bulk flow meter must be installed in an easily accessible location which must comply with Health and Safety Regulations to ensure safety and minimise hazards and risks.
11. Flange gaskets must not protrude into the bore of the pipe and must be sealing and electrically insulating.
12. Meters need to be verified within a 24-month period.
13. Reservoirs & Towers
 - a. Flow Rate – Litres/sec (l/s)
 - b. Totalised Flow – Cubic metres (m³)
14. Check Meters
 - a. Flow Rate – Cubic metres/hour (m³/hr)
 - b. Totalised Flow – Cubic metres (m³)
15. Before any meter is installed, the meter's data sheets need to be sent through to Employer's Agent and Municipality for approval.

PS2.1.3 Installation Rules

In this section, rules of installing meters will be listed. These are to be followed completely unless a deviation is agreed upon in conjunction with the Municipality in writing.

Electromagnetic Flow Meters

1. The flow sensor must be grounded according to manufacturer specifications for safety and to ensure proper and reliable operation.
2. The flow meter must not be installed in areas of strong magnetic fields or vibration.
3. The meter sensor terminal box must be potted and sealed to prevent water ingress (IP68).
4. The flow sensor must be insulated from the pipeline by means of insulating flange kits.
5. Continuity of the pipe is achieved by bypassing the meter with an earthing cable (minimum 10mm sq).
6. Continuity Bonding must be outside the chamber for all new flow meter chamber installations and must be inside the chamber for existing flow meter installations (where installation outside is not practically feasible).
7. Signal cables are not to be cut and re-joined unless done so by the supplier.
8. A 20mm or 25mm galvanised conduit is to be run the shortest possible distance to the wall of the chamber containing the signal cables. Cable must be taken to ground immediately. No cables are to be left open.
9. Line pressure and temperature will not exceed the flow meter rating.
10. Meters may not be installed in areas where high RF, EMI, or other electrical interference may be present. Including devices such as VSD's (variable speed drives), large AC motors, etc.
11. Make sure that the correct formulas are used for installation purposes according to the manufacturer's installation manual.
12. The following minimum clear distance requirements apply: A 5x diameter straight pipe before the meter and a 2x diameter downstream. Bi-Directional meters need to have 5x diameter upstream and 5x diameter downstream. Unless the manufacture requires a greater distance, in this case the manufacturer's specifications will take preference.
13. Meter needs to have a digital display, showing both flow rate and flow totals.
14. All parameters that have been programmed into the meter convertor need to be recorded and given to the Municipality.

PS2.1.4 Converters, Cables, Earthing & Chambers

In this section, rules of installing converters and cables will be discussed.

Meter Convertors

1. The converters must meet all the minimum required specifications as stipulated, and must comply with ISO standards.
2. All new installations must be rated IP65 or better.

3. All converters must have nameplates affixed on them to display among others, power supply, manufacturer, serial number etc.
4. Remote mounted converters are to be used for all flow meter installations. Compact convertor installations will only be allowed if specified by the Employer's Agent.
5. The converters must be installed away from direct sunlight and must not be subjected to heavy vibrations, prolonged jets of water or immersion.
6. The converters must be capable of giving the following outputs: analogue current output, pulse output, alarm output, and Modbus RTU protocol communication.
7. Signal converters that are password protected or installed in secure, locked locations must be installed on a back plate.
8. For remotely located meters, the converter might be installed in a suitable bunker and not in the flow meter chamber:
 - a. Where the flow meter is installed in a secure location, lockable steel bunkers may be used to house the convertor.
 - b. Where the flow meter is installed in a location prone to vandalism, lockable concrete bunkers might be used to house the convertor.
9. All converter installations must be properly grounded according to SABS standards and manufacturer recommendations.
10. The converters must be connected to the flow sensors through surge protection devices using manufacturer recommended cables.
11. All electrical wiring must follow SABS regulations and manufacturer guidelines.

Cabling

1. Only manufacturer specified signal and field current cables must be used for electromagnetic flow meters.
2. All cabling recommendations of the manufacturer must be adhered to concerning grounding and shielding.
3. For all electromagnetic flow meter installations in the Municipal network, the maximum cable length between the flow sensor and signal converter must be 30m or less.
4. Cable terminations must be performed according to the manufacturer's specifications.

Earthing

All flow meter installations (sensors and convertors) must be connected to an instrument earth to minimise or eliminate external influence on the flow measurements.

1. The instrument earth must be crow's foot of copper strips placed in the soil.
2. Earthing wire must be stranded copper cables at least 6 square millimetres, terminated in lugs and bolted to the earth rings, flow meter flanges for full bore and flow meter casing for insertion probes and firmly clamped to the instrument earth.
3. The signal convertors and flow sensors are to be connected to the same earth via a 10 square millimetre earth wire.
4. Earthing needs to run alongside power cable.
5. An 8Ω or lower electrical earth is acceptable.

Meter Chambers

1. Chambers need to be designed according to the pipe size and not the meter size. There needs to be sufficient space for maintenance in future (i.e. a person must be able to entry the chamber, as well have sufficient space to remove any fittings).
2. All chambers need to have step irons installed.
3. Chambers must have a build in sump.
4. Chambers must have a concrete slab for the base.
5. All new chambers shall have continuity bonding installed on the outside of the chamber.
6. All existing chambers shall have continuity bonding installed on the inside of the chamber.
7. Chamber's walls must protrude 200mm from the natural ground level. (Without taking into consideration the thickness of the roof slab)
8. All Chambers must have a screed angled towards the sump.

9. There needs to be a clearance of 350mm below the lowest point on the pipe (flange or valve) and the floor slab, and 350 between the pipe and the chamber walls, unless specified otherwise.
10. Chamber needs to have a lockable lid
11. Chamber needs to be void of external water ingress (ground and rain water)
12. Chambers need to be built with the conduits already installed through the walls. 500mm from the top of the wall.
13. As far as practically possible, meters are to be housed within their own chambers.
14. All chambers must be suitably earthed.

PS2.1.5 Commissioning Requirements

In this section, describes the commissioning requirements

1. Commissioning of a new bulk flow meter installation must be carried out in accordance with the Municipality's commissioning procedure.
2. Commissioning must be conducted by the flow meter installer together with a competent Municipality's official.
3. A commissioning form must be produced and updated by both parties declaring that the installed meter:
 - a. Has been installed to both manufacturer's and the Municipality's standards and specifications.
 - b. The meter is operating within the permitted accuracy.

PS2.1.6 Cathodic Protection & AC Mitigation

In this section, describes the Cathodic Protection and AC Mitigation requirements

General

All Cathodic Protection (CP) and AC Mitigation requirements related to bulk water meters, associated pipework and or chambers must be directed through the Municipality's Technical Representative for final approval.

It will be the responsibility of the respective consultant and contractor/s to appoint suitably qualified specialists in these fields with respect to design and installation of the various components that make up the CP and AC mitigations systems.

Cathodic Protection

1. All bulk water meters need to be installed with cathodic protection (CP) in mind. This means that all Electromagnetic-Flow (EMF) Meters need to be electrically isolated from the mainline steel pipeline. *Note: If the mainline steel pipeline is electrically grounded, the impressed current on the pipeline that is designed to afford cathodic protection will be drained to ground and negate the purpose of CP.* Electrical connection, continuity bonding, insulating flange kits, cabling, earthing and surge protection requirements for the meters needs to be verified and tested to ensure it meets the requirements of:
 - a. The meter manufacturers' specifications.
 - b. Electrical and earthing installation codes of South Africa.
 - c. Cathodic Protection requirements as specified
2. All man entry chambers need to be suitably earthed and that the mainline steel pipeline needs to be insulated to this earth and that of the rebar associated with the chamber construction.
3. Continuity bonding of the pipeline and associated fittings etc. must also occur according to best practices. The wrapping of these flanges and pipework must occur to avoid the effects of corrosion due to condensation in the chamber.
4. Sacrificial anodes will be placed in all man access chambers as a precautionary measure to corrosion during flooding. The size, type, layout and number of anodes to be used must be determined by an accredited corrosion specialist.

5. Installed Insulating flange (IF) kits must also be verified as functional, mechanically safe and according to best practices standards by the same accredited corrosion specialist.

AC Mitigation

Where AC interference has been established on the pipeline, the design and installation of the Solid State Decoupler (SSD) must occur by an accredited AC mitigation specialist. The SSD must be designed for cathodic protection in mind.

PS2.2 Drawings and Specifications

Typical detail drawings and specifications are provided for the execution of the works.

Upon receiving the instruction to proceed with construction the Contractor will receive three sets of typical drawings.

PS3 PROCUREMENT

PS3.1 Sub-contracting

The Contractor is:

- a) not obliged to utilise any sub-contractors specifically nominated by Municipality
- b) required to utilise local sub-contractors for the completion of unskilled labour-based sections of the works, where practical.
- c) responsible for all work executed on their behalf or under their supervision and/or management by all sub-contractors, including nominated sub-contractors.

NB: *The Employer shall not negotiate directly with sub-contractors and all problems relating to payments, programming, workmanship, etc., are matters between the Contractor and their sub-contractors.*

It is anticipated that the following services will be sub-contracted:

- Cathodic Protection Specialist

THE FOLLOWING KEY ITEMS NEED TO BE ADDRESSED WITH REGARD TO THE CATHODIC PROTECTION SPECIALIST

Cathodic Protection – Person must be certified to make good coatings on steel pipework.

The names of the companies proposed to carry out the cathodic protection and/or earthing work and the CVs of their respective personnel must be provided prior to any works being completed.

PS3.2 Gender Equality, Disability, and Social Inclusion Requirements

The Contractor shall ensure that procurement processes promote equitable participation of women, youth, and persons with disabilities, in alignment with the Employment Equity Act and BBEE requirements. Opportunities for subcontracting and labour engagement shall be advertised transparently and without discrimination. Priority should be given, where feasible, to qualified women owned, youth owned or disability inclusive enterprises, provided they meet the technical requirements of the contract.

Implementation of the above requirements shall be undertaken to the extent practically feasible within the defined technical scope of the Works and without compromising safety, quality, or operational requirements.

PS4 CONSTRUCTION

PS4.1 Applicable Standards

All works shall comply with:

- Pixley Ka Seme Local Municipality standards and specifications;
- Relevant SANS standards applicable to bulk water metering, pipework, valves, coatings and civil works;
- The latest edition of the applicable SANS standards at the time of tender; and
- The Occupational Health and Safety Act;

Where a specific standard is referenced elsewhere in this specification, that standard shall take precedence.

PS4.1.1 National standards

The works shall comply with the latest editions of the following standards, where applicable:

- SANS 558 – Cast iron surface boxes and manhole covers
- SANS 664 – Cast iron gate valves for waterworks
- SANS 665 – Cast iron gate valves for general purposes
- SANS 719 – Electric welded steel pipes for aqueous fluids
- SANS 920 – Steel bars for reinforcement of concrete
- SANS 1024 – Welded steel fabric for concrete reinforcement
- SANS 1056 series – Ball valves
- SANS 1123 – Pipe flanges
- SANS 1217 – Painted and powder-coated steel pipes
- SANS 1529 (Parts 1, 3, 4, 9) – Water meters
- SANS 1882 – Polymer concrete surface boxes and covers
- SANS 2001 series – Construction works
- SANS 5861–5864 – Concrete testing (where applicable)

These Specifications are not issued with this volume but are available at the Contractor's expense from South African Bureau of Standards (SABS):

Office Address:

1 Dr Lategan Road
Groenkloof
PRETORIA
0027

Telephone: (+27(0)12 428 7911

Email: info@sabs.co.za / sales@sabs.co.za

PS4.1.2 Other Standards

In addition to the national standards listed in PS4.1.1, the works shall comply with the latest applicable editions of the following standards and regulatory documents:

- ISO 4064 series – Water meters for cold potable water and hot water
- ISO 6817 – Measurement of conductive liquids in closed conduits – Electromagnetic flowmeters
- ASTM C309 Type 1 – Liquid membrane-forming compounds for curing concrete (where applicable)
- ASTM C150/C150M – Standard Specification for Portland Cement (where applicable)
- ISO 2531 – Ductile iron pipes, fittings, accessories and their joints for water or gas applications (where applicable)
- Pixley Ka Seme Local Municipality Miscellaneous By-Laws and Codes of Practice (COP) (latest editions)

- South African Road Traffic Signs Manual (SARTSM), Chapter 13 (Volume 2)

Where works are undertaken within the road reserve, compliance with the Municipality's by-laws and Codes of Practice (COP) shall be mandatory. In the event of any conflict between the COP and the standardised or particular specifications, the requirements of the COP shall prevail.

PS4.2 Particular generic specifications**PS4.2.1 Minimum health and safety requirements**

The following requirements shall be deemed minimum compliance requirements to ensure the health and safety of the public and workers during the execution of the Contract:

- a) The Contractor shall comply with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and all applicable regulations promulgated thereunder.
- b) The Contractor shall ensure that all activities are planned, executed and supervised in a manner that prevents injury, occupational illness, damage to property, and risk to the public.
- c) The Contractor shall ensure that all personnel are suitably trained, competent, medically fit (where required), and provided with appropriate personal protective equipment (PPE).
- d) All work at reservoir sites and associated infrastructure shall be executed in accordance with approved method statements and risk assessments, taking into consideration confined spaces, working at heights, electrical installations, and any other site-specific hazards.
- e) The Contractor shall implement appropriate access control, signage, barricading, and traffic management measures where required to safeguard the public.
- f) The Contractor shall ensure that all plant, tools, and equipment are fit for purpose, properly maintained, and operated by competent persons.
- g) The Contractor shall immediately report any incidents, injuries, or dangerous occurrences to the Employer's Agent and to the relevant authorities as required by legislation.

PS4.2.2 Pipe handling and storage

Pipes shall be handled and stored in accordance with manufacturer's specifications and these specifications, including:

- a) Pipes shall be stored on flat level ground or the storage base shall be made level to ensure pipes are stacked level and vertical. Pipes shall be kept securely anchored to prevent movement using timber, timber wedges or sand bags. Pipes shall be placed on timber bearers not more than 1.5m apart. Where pipes are stacked, timber bearers shall be placed between each layer of pipes. It shall also be ensured that the weight of upper units do not cause deformation to pipe in lower units.
- b) Plastic pipes shall be stored away from contact with chemicals or ground contaminated with chemicals.
- c) Care shall be taken to prevent scoring and scratching of plastic pipes.
- d) Rubber rings for pipe joints shall be stored in a cool area, preferably 20°C or less and away from direct sunlight. They shall be protected to ensure that there is no contact with petroleum products. SBR rings shall also be stored away from sources of ozone such as fluorescent lights and electric motors.
- e) Plastic pipes, and steel pipes with bituminous coatings shall be stored in a shaded area at all times. Where permanent storage structures are not available, pipes shall be stored under shade-cloth canopies manufactured from shade-cloth with shade cover rated at a minimum of 80%, protecting the pipes from direct sunlight from all angles.

PS4.2.3 Inspection of pipes and fittings

Pipe components shall be checked for damage and flaws immediately before installation, where:

- a) plastic pipes and fittings shall be checked for gouges, cracks, holes, flattening and indentations.
- b) rubber rings shall be checked for tears or any other damage or flaws before making each joint.

Damaged or flawed pipes and fittings shall only be used if approved by the Employer's Agent. Pipes and fittings considered unsuitable for use by the Employer's Agent shall be removed from the site at the Contractor's expense. The Employer's Agent may approve the repair of any damage where the pipe or joint may be repaired without affecting its performance.

PS4.2.4 Site restoration

The Contractor, following all Works completion, shall disassemble all equipment and restore the site to original condition. Any noticeable surface defects, due to the executed Works, shall be repaired by the Contractor.

All excavations shall be backfilled and compacted to minimum density of 95% MOD ASSHTO, unless otherwise instructed by the Employer's Agent or their duly authorized representative.

PS4.2.5 Locating of services

The Contractor shall locate all services, known and unknown, within the vicinity of the ordered Works, using specialist equipment and if required exposing such by means of hand excavation. This shall be limited to where ordered Works may result in damage of such services, typically as may be the case with the installation of a new meter and/or fitting or repositioning of an existing meter and/or fitting.

PS4.2.6 Excavation

All secondary mains, meter, and fitting excavations shall be in accordance with SANS 2001-DP2. Excavations shall be undertaken by hand in the vicinity of existing services and infrastructure. Mechanical excavation shall only be permitted where the Contractor has demonstrated, to the satisfaction of the Employer's Agent, that hand excavation is not reasonably practicable.

The Contractor shall remain fully responsible for the protection of existing services and infrastructure at all times.

PS4.2.7 Replacement of an existing meter or fitting

In-situ replacement of an existing meter or fitting shall occur where such has been identified as defunct and the Contractor ordered to execute its replacement. The Works shall include removing the defunct meter or fitting, cleaning existing pipework and fittings and installation of replacement meter or fitting.

New and existing pipe(s) and fitting(s) shall be properly bedded in accordance with SANS 2001-DP2 and excavations shall be backfilled and compacted to minimum 90% MOD AASHTO, unless otherwise directed.

During the replacement activity any defunct meter, pipes, fittings, or chamber, within the Works area and forming part of the Municipality's infrastructure shall be identified by the Contractor and prior written approval shall be obtained for its replacement.

Testing of the complete connection affected by the ordered Works shall be in accordance to SANS 2001-DP2 and Municipality's specifications.

PS4.2.8 Chamber frame and cover replacement

The Contractor shall replace an existing chamber frame and cover with a new frame and cover, including: removing the existing frame and cover, cleaning of frame and cover, check integrity of existing brickwork, removing loose brickwork, preparing area to patch brickwork or concrete, and placing and levelling the new frame and cover in mortar per the standard detail drawings.

PS4.2.9 Spoiling of material

The indiscriminate disposal of excavated material shall not be permitted.

All surplus, unsuitable, or waste material arising from the Works shall be removed from site and disposed of at a legally approved disposal facility. The Contractor shall identify the proposed disposal site and obtain approval from the Employer's Agent prior to disposal.

Disposal shall comply with all applicable environmental legislation and municipal requirements. The Contractor shall be responsible for all transport, handling, and disposal costs associated therewith.

PS4.2.10 Chamber appurtenances

PS4.2.10.1 Frames and covers

Chamber frames and covers shall conform to the applicable standard SANS 558 requirements, however such covers and frames shall, unless specified otherwise,:

- a) be blue polymer reinforced concrete castings for water;
- b) be for the appropriate duty (for the installation location; i.e. light, medium and heavy) watertight type and bolt-hinged lid as noted on the standard detail drawings;
- c) have a cover and seat that shall have machined bearing surfaces to prevent rocking and rattling;
- d) have the Municipality's brand (logo only) cast on;
- e) be solid; and
- f) have a concealed pick hole for all water chambers.

PS4.2.10.2 Chamber step irons

Chamber step irons shall conform to the applicable standard SANS requirements, but shall be:

- a) spaced at 300mm centres;
- b) distanced not exceed 600mm between the top of casting and the first step; and
- c) plastic or similar approved.

PS4.2.11 Chamber bedding

- a) Precast chamber forms

Precast chamber form bases shall be bedded on granular material or acceptable undisturbed foundation material.

- b) Cast-in-place chambers

Concrete bases shall be poured on granular material or acceptable undisturbed foundation material.

PS4.2.12 Concrete, formwork and reinforcement

All in-situ concrete works (mass and reinforced) shall comply with SANS 2001-CC1 (Concrete Works), supplemented by the clauses in this section.

Where:

- SANS 2001-CC1 and the clauses in this section are in conflict, the clauses in this section shall take precedence; and
- The term "plain concrete" appears in SANS 2001-CC1, it shall be interpreted as "mass concrete".

PS4.2.12.1 Cement

Cement used in the Works shall comply with SANS 50197-1 (EN 197-1) or other approved equivalent standard.

Unless otherwise approved by the Employer's Agent, all structural concrete shall be supplied as ready-mixed concrete from an approved batching plant.

Where site-mixed concrete is permitted, cement shall be stored in a dry, weatherproof structure and protected from moisture contamination. Cement shall be used in the order of delivery.

The Employer's Agent may require samples from any consignment of cement for testing. Cement from which samples have been taken shall not be used until approval has been granted.

Blended cements incorporating ground granulated blast furnace slag (GGBS) or fly ash in accordance with SANS 50197-1 may be used, subject to approval by the Employer's Agent.

PS4.2.12.2 Sand (Fine aggregate)

Fine aggregate shall comply with the requirements of SANS 1083.

All aggregates shall be sourced from an approved supplier and shall be clean, durable, and free from organic matter, clay, or deleterious materials.

The Employer's Agent may request representative samples for testing where deemed necessary. No aggregate shall be used until approved by the Engineer.

Where ready-mixed concrete is used, compliance certification from the batching plant shall be deemed acceptable unless otherwise instructed.

a) Coarse aggregate shall comply with the requirements of SANS 1083 and shall be clean, durable, and free from clay, organic matter, and other deleterious materials.

No aggregate shall be used until approved by the Engineer. The Engineer may require representative samples for testing where deemed necessary. Where ready-mixed concrete is supplied, compliance certification from the batching plant shall be deemed acceptable unless otherwise instructed.

Aggregates known to exhibit excessive shrinkage or deleterious characteristics shall not be permitted.

b) The Contractor shall ensure that aggregates used in concrete are not alkali-reactive. Where required by the Employer's Agent, certification confirming compliance shall be submitted. The cost of any required testing shall be borne by the Contractor.

PS4.2.12.3 Concrete

Concrete shall comply with SANS 2001-CC1.

Unless otherwise specified:

- Mass concrete shall have a minimum 28-day characteristic compressive strength of 20 MPa.
- Reinforced concrete shall have a minimum 28-day characteristic compressive strength of 25 MPa.

Concrete shall be supplied as ready-mixed concrete from an approved batching plant, unless otherwise approved by the Employer's Agent.

Concrete workability shall be suitable for the method of placement and compaction. Where required by the Employer's Agent, slump testing shall be carried out in accordance with SANS 5862-1.

The Contractor shall be responsible for the concrete mix design and for achieving the specified strength.

PS4.2.12.4 Ready mixed concrete

Ready-mixed concrete shall be supplied by a reputable commercial batching plant capable of producing concrete compliant with SANS 2001-CC1 and the specified strength class.

The Contractor shall submit the proposed supplier's details and compliance certification to the Employer's Agent for approval prior to use.

All ready-mixed concrete shall be delivered with batch delivery notes indicating mix designation, strength class, and time of batching.

PS4.2.12.5 Strength and Quality Control of Concrete

The Contractor shall be responsible for the design of the concrete mix and for ensuring that concrete supplied complies with the specified strength class and the requirements of SANS 2001-CC1.

a) Trial Mixes and Material Approval

Where required by the Engineer, the Contractor shall submit evidence that the proposed concrete mix design complies with the specified strength requirements. This may include:

- i) Test results from an approved independent laboratory; or
- ii) Certification from the ready-mix supplier confirming compliance with the specified strength class.

The cement type, aggregate source, or mix design shall not be changed without prior notification to and approval by the Engineer.

b) Consistency and Workability

Concrete shall have sufficient workability to permit proper placement and compaction without segregation or excessive bleeding. Where required, slump testing shall be conducted in accordance with SANS 5862-1.

The Contractor shall ensure that concrete is placed and compacted in a manner that achieves full compaction around reinforcement and into formwork corners.

PS4.2.12.6 Alkali-aggregate reaction

Aggregates used in concrete shall be non-reactive and shall not result in deleterious alkali-silica or alkali-aggregate reactions.

The Contractor shall ensure that concrete materials comply with the requirements of SANS 2001-CC1 and that the risk of alkali-aggregate reaction is appropriately mitigated.

Where required by the Employer's Agent, the Contractor shall submit certification confirming that:

- The aggregates are not alkali-reactive; or
- The selected cement and mix design mitigate the risk of alkali-aggregate reaction.

The cost of any required testing or certification shall be borne by the Contractor.

PS4.2.12.7 Pumping of concrete

Concrete may be placed by pumping, provided that:

- The concrete mix is suitable for pumping and complies with the specified strength class and SANS 2001-CC1;
- Placement does not result in segregation, excessive bleeding, or loss of workability; and
- Proper compaction is achieved.

The Contractor shall ensure that pumping equipment and procedures are suitable for the works and shall remain responsible for the quality and performance of the concrete.

PS4.2.12.8 Admixtures to concrete

Admixtures may be used in concrete provided that:

- They are compatible with the cement and other constituents of the mix;
- They comply with applicable standards; and
- Their use does not adversely affect the specified strength, durability, or performance requirements.

Where required by the Engineer, the Contractor shall provide the following information:

- a) The trade name, manufacturer, and recommended method of use;
- b) Typical dosage rates; and
- c) Certification confirming suitability for the intended application.

The Contractor shall remain responsible for ensuring that the use of admixtures does not impair the quality or performance of the concrete.

PS4.2.12.9 Slump test

Slump testing of freshly mixed concrete, where required, shall be carried out in accordance with SANS 5862-1.

Testing shall be performed by competent personnel using calibrated equipment. Slump values shall be appropriate to the placement method and approved by the Engineer.

Where a slump test result indicates non-compliance or where the specimen collapses or shears, the test shall be repeated and appropriate corrective action taken.

PS4.2.12.10 Concrete cubes

Sampling, preparation, curing, and testing of concrete cubes shall comply with:

- SANS 5861-2 (Sampling of freshly mixed concrete); and

- SANS 5863 (Compressive strength testing of hardened concrete).

Unless otherwise directed, one set of three cubes shall be taken for every 40 m³ of concrete cast, or part thereof.

Cube testing shall be carried out by a SANAS-accredited laboratory approved by the Engineer.

The Contractor shall be responsible for:

- Provision of cube moulds;
- Proper sampling and curing of test specimens;
- Transport of cubes to the testing laboratory; and
- All associated costs.

Concrete shall be deemed to comply where the compressive strength results meet the specified 28-day characteristic strength

PS4.2.12.11 Concrete quality

Where concrete cube test results indicate non-compliance with the specified 28-day characteristic strength, the Employer's Agent may require further investigation.

If the Contractor disputes the cube test results, the Contractor may, at their own cost, arrange for core samples to be taken from the affected structure and tested by a SANAS-accredited laboratory in accordance with SANS 5865.

The concrete shall be deemed acceptable if the estimated in-situ strength determined from the cores is not less than the specified characteristic strength.

Where the concrete is found to be non-compliant, the Employer's Agent may, at their discretion:

- a) Require approved remedial measures to be undertaken by the Contractor at their own cost;
- b) Accept the concrete subject to an agreed reduction in payment; or
- c) Instruct removal and replacement of the affected work at the Contractor's cost.

All costs associated with additional testing, investigation, remedial work, or replacement shall be borne by the Contractor.

PS4.2.12.12 Placing and Compaction of Concrete

All concrete shall be placed, compacted, and cured in accordance with SANS 2001-CC1 and good construction practice.

The Contractor shall ensure that:

- Concrete is placed without segregation;
- Adequate compaction is achieved using suitable mechanical vibrators;
- Concrete is properly worked around reinforcement and into formwork; and
- Cold joints are avoided unless specifically approved by the Employer's Agent.

Concrete shall not be placed after initial set has commenced.

Where concreting operations are to be undertaken, reasonable notice shall be given to the Employer's Agent to allow for inspection, in accordance with the Contract.

If concreting is interrupted, construction joints shall be prepared in accordance with SANS 2001-CC1 and to the satisfaction of the Employer's Agent.

Concrete shall be protected during curing to prevent premature drying, thermal shock, or disturbance.

No patching or remedial work to structural concrete shall be undertaken without prior approval of the Employer's Agent.

PS4.2.12.13 Curing of concrete

Concrete shall be cured in accordance with SANS 2001-CC1 to ensure adequate strength development and durability.

Exposed concrete surfaces shall be protected from premature drying and maintained in a moist condition for a minimum of 7 days, unless otherwise specified or where rapid-hardening cement is used.

Curing may be achieved by approved methods including water curing, wet coverings, curing compounds, or other suitable means.

The Contractor shall ensure that curing procedures are appropriate to site conditions and shall remain responsible for achieving the specified strength and performance requirements.

PS4.2.12.14 Movement joints

Where concrete elements abut existing structures, chambers, or rigid surfaces, movement joints shall be provided as indicated on the drawings or as directed by the Employer's Agent.

Movement joints shall consist of approved compressible joint filler, such as bitumen-impregnated fibreboard or closed-cell polyethylene strip, of suitable thickness to accommodate anticipated movement.

All jointing materials shall be installed in accordance with manufacturer recommendations and good construction practice.

Where concrete pathways or slabs are reinstated adjacent to existing structures, appropriate isolation joints shall be formed.

PS4.2.12.15 Cutting, punching or hacking concrete

No reinforced concrete element forming part of the existing infrastructure shall be cut, cored, drilled, or otherwise altered without the prior approval of the Employer's Agent.

The Contractor shall submit details of the proposed method, equipment, and extent of cutting prior to commencing such work.

The Contractor shall ensure that cutting operations do not compromise the structural integrity of the element and shall make good all affected surfaces to the satisfaction of the Employer's Agent.

All associated costs shall be deemed to be included in the Contract rates unless otherwise instructed.

PS4.2.12.16 Sleeves pieces

Where openings are required in reinforced concrete elements for the passage of pipes, conduits, cables, or fittings, such openings shall be formed using approved sleeves cast in position prior to concreting.

No holes shall be formed in reinforced concrete after casting without the prior approval of the Employer's Agent.

Sleeves shall be of suitable material and class appropriate to the installation (e.g., uPVC, HDPE, or steel as applicable), and shall be securely fixed in position to prevent movement during concreting.

Where multiple services pass through a concrete element, the Contractor shall ensure adequate spacing and structural integrity of the member.

All anchor bolts, inserts, brackets, or embedded fittings required for meter installation or associated equipment shall be accurately positioned and cast into the concrete as the work proceeds.

PS4.2.12.17 Formwork

Formwork shall be designed, supplied, erected, and maintained by the Contractor to support and contain the concrete until it has gained sufficient strength to be self-supporting.

Formwork shall be:

- Adequately braced and supported to maintain correct line, level, and dimensions;
- Sufficiently tight to prevent loss of cement paste; and
- Constructed of materials suitable for the required finish and structural integrity.

The Contractor shall be responsible for the design and stability of the formwork. Where requested, details of the proposed formwork system shall be submitted to the Employer's Agent for review. Such review shall not relieve the Contractor of responsibility for safety or performance.

Formwork shall be cleaned and properly prepared prior to placement of concrete.

Formwork shall not be removed until the concrete has attained sufficient strength to support itself and any imposed loads. Removal shall be carried out without causing damage to the concrete.

PS4.2.12.18 Smooth formwork

Where concrete surfaces are to remain exposed and no additional finish is specified, formwork shall be of a type and condition capable of producing a smooth and even surface.

Formwork materials shall be suitable for the intended finish and shall not result in surface defects, honeycombing, or excessive marking.

The required surface finish shall be as indicated on the drawings or as directed by the Employer's Agent.

PS4.2.12.19 Reinforcement rods

Reinforcement steel shall comply with:

- SANS 920 (Steel bars for concrete reinforcement); and
- SANS 1024 (Welded steel fabric for reinforcement of concrete), where applicable.

Reinforcement shall be of the grade and diameter indicated on the drawings.

All reinforcement shall be:

- Clean and free from oil, loose rust, scale, or other deleterious matter;
- Accurately positioned and securely fixed prior to concreting; and
- Provided with the specified concrete cover in accordance with SANS 2001-CC1.

Substitution of reinforcement grade or type shall not be permitted without prior approval of the Employer's Agent.

PS4.2.12.20 Concrete reinforcement

All reinforcement shall be supplied, cut, bent, and fixed in accordance with:

- SANS 920 (Steel bars for concrete reinforcement);
- SANS 1024 (Welded steel fabric); and
- SANS 282 (Bending dimensions and scheduling of reinforcement).

Reinforcement shall be placed strictly in accordance with the drawings and shall be securely fixed to prevent displacement during concreting.

Concrete cover shall be provided in accordance with the drawings and SANS 2001-CC1. Suitable concrete spacers or approved plastic spacers shall be used to maintain correct cover.

All reinforcement shall be clean and free from loose rust, oil, grease, or other deleterious matter prior to placement.

Laps, anchorage lengths, and bar arrangements shall be as indicated on the standard drawings.

Welding of reinforcement shall not be permitted unless specifically detailed on the drawings or approved by the Employer's Agent.

The Contractor shall be responsible for ensuring that reinforcement remains correctly positioned during concreting operations.

PS4.2.13 Precast concrete

PS4.2.13.1 General

Precast concrete elements, where specified, shall comply with the requirements of PS4.2.12 and SANS 2001-CC1.

Precast elements shall include, but not be limited to:

- Precast meter chambers
- Valve chambers
- Covers and lids
- Precast slabs or plinths

PS4.2.13.2 Materials and Manufacture

Materials used in precast concrete shall comply with the relevant SANS standards referenced in PS4.2.12.

Precast elements shall:

- Be manufactured in a controlled environment;
- Achieve the specified strength class prior to delivery;
- Be free from structural cracks, honeycombing, or defects;
- Incorporate reinforcement as required by the design; and
- Be cured in accordance with SANS 2001-CC1.

The Contractor shall submit manufacturer certification confirming compliance where required by the Employer's Agent.

PS4.2.13.3 Handling and Installation

Precast units shall be:

- Handled and transported to prevent cracking or damage;
- Installed on properly prepared and level foundations;
- Correctly aligned and levelled;
- Jointed and sealed where required; and
- Installed in accordance with the drawings.

Damaged or defective precast elements shall not be incorporated into the Works.

PS4.2.13.4 Bedding

Precast units shall be bedded on suitable mortar or concrete foundations as indicated on the drawings.

Mortar, where required, shall be 1:3 cement:sand mix unless otherwise specified.

PS4.2.14 Masonry (Where applicable)

PS4.2.14.1 General

Masonry work, where required for meter chambers or ancillary structures, shall comply with SANS 2001-CM1 and the relevant referenced SANS standards.

Masonry shall be limited to:

- Meter chambers
- Valve chambers
- Small plinth structures

PS4.2.14.2 Materials

- Burnt clay bricks shall comply with SANS 227.
- Mortar shall be Class II cement mortar, 1:5 or 1:6 (cement:sand), unless otherwise specified.

- Sand shall comply with SANS 1090.
- Cement shall comply with SANS 50197-1.

PS4.2.14.3 Brickwork

Brickwork shall:

- Be built plumb and level;
- Have 10mm mortar joints;
- Be fully grouted where required;
- Be tied to concrete where applicable;
- Be constructed in cement mortar below ground level.

PS4.2.14.4 Openings and Services

Openings for pipe penetrations shall be:

- Formed during construction;
- Neatly finished;
- Sealed after installation.

PS4.2.14.5 Finishing

Brickwork shall be:

- Fair-faced where exposed; or
- Plastered where specified.

All exposed masonry shall be cleaned on completion.

PS4.2.15 General product requirements

PS4.2.15.1 Local content

Where applicable, materials and products shall comply with National Treasury local content and production requirements. Preference shall be given to products manufactured in South Africa, provided they comply fully with the technical specifications and approved standards.

PS4.2.15.2 Manufacturer Support and Technical Assistance

The Contractor shall ensure that manufacturers of specialised products (including, but not limited to, meters, coatings, cathodic protection components and surge protection devices) provide:

- Product data sheets and technical documentation;
- Samples where reasonably required by the Employer's Agent; and
- Access to a suitably qualified technical representative for site support and installation guidance upon reasonable notice.

Where required, follow-up inspections by the manufacturer's representative shall be arranged to verify correct installation.

PS4.2.15.3 Shelf life and Storage

Where applicable, the shelf life of products shall be clearly stated by the manufacturer, and expiry dates shall be clearly marked on packaging.

The Contractor shall ensure that no expired materials are installed and shall replace, at own cost, any product that has deteriorated due to improper storage or expiry prior to installation.

PS4.2.15.4 References and Proven Track Record

For specialised or proprietary products, the Contractor shall submit details of projects within South Africa where the proposed product has been successfully installed under similar operating conditions.

The Employer's Agent may request verification of such references. Should a proposed product be deemed unsuitable based on technical performance or reference review, the Contractor shall propose an acceptable alternative at no additional cost to the Employer.

PS4.2.15.5 Compliance and Approvals

All products shall comply with the applicable SANS, ISO, or other referenced standards stated in this specification.

Where certification by an accredited body (such as SABS or SANAS-accredited laboratories) is required by the specification, such certification shall be submitted for approval prior to installation.

Compliance with GEDSI requirements, including inclusive workplace practices, safeguarding measures, appropriate community engagement, and anti-harassment policies, forms part of the Contractor's quality and professional obligations. Contractors are furthermore encouraged to promote participation opportunities for women-, youth-, and disability-owned enterprises where reasonably practicable and aligned with the nature and extent of the specified Scope of Works. Persistent failure to comply with the mandatory safeguarding and conduct-related requirements may require corrective action in accordance with the Contract.

PS4.2.15.6 Application and Installation

All products shall be installed strictly in accordance with the manufacturer's written instructions and relevant standards.

PS4.2.15.7 Control Testing and Verification

The Contractor shall carry out such inspections and testing as may be required to demonstrate compliance with the specification.

Where instructed by the Employer's Agent, additional verification testing shall be conducted at the Contractor's cost if non-compliance is suspected.

PS4.2.16 Specific work-related instructions

PS4.2.16.1 Return of removed meters and fittings

Upon completion of each site, all removed bulk meters, converters and associated components shall be returned to a designated Municipal Depot (or such location as instructed by the Employer's Agent which is within a 10km radius of the Municipal Offices in Volksrust).

All other reusable fittings, valves, and components shall be returned to the relevant Municipal depot as instructed.

A signed delivery note confirming return of removed items shall be submitted to the Employer's Agent.

PS4.2.16.2 Avoidance of contamination

The Contractor shall:

- a) Take all reasonable measures to prevent contamination of existing water mains during execution of the Works;
- b) Prevent entry of soil, debris, water, or foreign material into open pipework;
- c) Ensure that pipes, fittings and meters are stored off the ground and not placed in stormwater channels or areas susceptible to contamination.

All open pipe ends shall be properly sealed and protected until connection and commissioning.

Where required, flushing and disinfection shall be carried out in accordance with the Municipality's requirements prior to recommissioning.

PS4.2.16.3 Damage to Persons and Property

The Contractor shall be responsible for all damage arising from acts or omissions of the Contractor, its employees, agents, or subcontractors in execution of the Works.

Indemnities and liabilities shall be as provided for in the Conditions of Contract.

PS4.2.16.4 Interference with Property Access and Traffic

The Contractor shall execute the Works so as to minimise disruption to:

- Public access,
- Private property access,
- Vehicular and pedestrian movement,
- Municipal operations.

Temporary traffic accommodation, signage, and access arrangements shall comply with applicable by-laws and traffic management standards.

PS4.2.16.5 Site Cleanliness During Construction

During execution of the Works, the Contractor shall:

- Keep the Site free from unnecessary obstruction;
- Store materials in an orderly manner;
- Remove waste material regularly;
- Maintain safe access at all times.

PS4.2.16.6 Clearance of site on practical completion

Upon Practical Completion of each working site, the Contractor shall remove all plant, temporary works, surplus materials and debris, and leave the Site in a clean and serviceable condition to the satisfaction of the Employer's Agent.

PS4.2.16.7 Testing and Commissioning

All installed meters, earthing, surge protection, and associated components shall be tested and commissioned in accordance with:

- The relevant SANS/ISO standards;
- Manufacturer specifications; and
- The Employer's technical requirements.

Commissioning shall include verification and confirmation of accurate meter readings.

PS4.2.16.8 Contractor's Responsibility for Damage

The Contractor shall be responsible for damage to:

- Road surfaces,
- Kerbing,
- Stormwater infrastructure,
- Existing utilities,
- Existing chambers or civil structures,

where such damage results from the Contractor's operations.

All repairs shall be undertaken at the Contractor's cost and to the satisfaction of the asset owner and the Employer's Agent.

PS4.2.16.9 Limited Disturbance to Existing Services

Works at existing chambers and operational installations shall be executed with minimal disturbance to existing infrastructure and water supply operations.

Where supply interruptions are required, these shall be:

- Pre-approved by the Employer's Agent,
- Scheduled in consultation with the Employer's operations team,
- Limited in duration to the minimum reasonably practicable period.

PS4.3 Plant and materials

The Contractor shall provide all plant, equipment, materials, labour, and temporary works necessary for execution of the Works in accordance with the Contract.

Unless specifically provided for in the Schedule of Quantities, no additional payment shall be made in respect of plant, equipment or materials required to complete the Works.

PS4.4 Construction equipment

All construction equipment required for execution of the Works shall be provided by the Contractor and shall be suitable for the nature and constraints of the work areas, including confined chambers, reservoir sites, and operational water infrastructure.

PS4.5 Existing services

The Contractor:

- a) Shall make allowance for the presence of underground and overhead services within and adjacent to the Works;
- b) Shall obtain all required wayleaves and service clearance approvals prior to commencing work;
- c) Shall comply with all conditions imposed by service providers;
- d) Shall locate services through appropriate detection methods prior to excavation;
- e) Shall protect all exposed services and maintain their integrity;
- f) Shall immediately notify the relevant service provider and the Employer's Agent in the event of damage to any service;
- g) Shall repair, at own cost, any damage caused.

The Contractor shall record all exposed or relocated services on the as-built drawings.

Note: Information shown on drawings regarding existing services is indicative only and not guaranteed. The Contractor remains fully responsible for confirming service locations prior to construction.

PS4.6 Site establishment and Storage

As the Works are distributed across multiple locations within the Municipality's area of jurisdiction, no permanent or dedicated site establishment area will be provided by the Employer or the Municipality.

The Contractor shall make independent arrangements for:

- Storage of materials,
- Security of plant and equipment,
- Transportation between work fronts,
- Any temporary facilities required for the execution of the Works.

Any temporary storage or operational areas utilised by the Contractor shall comply with applicable municipal by-laws, the Occupational Health and Safety Act, and shall not interfere with public access, municipal operations, or existing infrastructure.

No additional payment shall be made for site establishment.

PS4.7 Site usage

Working hours shall be as specified in the Contract Data.

Where operational requirements necessitate after-hours work (e.g., shutdowns, reservoir tie-ins), such work shall be planned in advance and approved by the Employer's Agent.

PS4.8 Permits and wayleaves

The Contractor shall obtain all necessary permits, approvals and wayleaves required for execution of the Works, including, but not limited to:

- Municipal department: Infrastructure & Engineering Services,
- Eskom,
- Telecommunications/fibre providers.

The Contractor shall comply with all applicable Codes of Practice and by-laws.

Any fees associated with permit or wayleave applications shall be for the Contractor's account unless otherwise stated in the Schedule of Quantities.

The Employer's Agent may assist with coordination but ultimate responsibility rests with the Contractor.

PS4.9 Alterations and modifications to existing works

Prior to commencing with work affecting existing infrastructure, the Contractor shall verify:

- Dimensions,
- Levels,
- Clearances,
- Installation constraints.

Any discrepancies shall be reported to the Employer's Agent before work proceeds.

PS4.10 Inspection of adjoining properties

The Contractor shall, where deemed necessary, carry out condition surveys of adjacent properties prior to commencement of the Works.

The Contractor shall be responsible for damage caused by its operations and shall resolve claims at its own cost.

PS4.11 Water, sanitation, and electricity for construction purposes

Refer to PS4.6.

No permanent site establishment is anticipated due to the dispersed nature of the Works. The Contractor shall make independent arrangements, at own cost, for any temporary water, sanitation, or power requirements necessary for the execution of the Works, in compliance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and applicable municipal by-laws.

All associated costs shall be deemed included in the rates tendered.

PS4.12 Survey control and setting out of the works

The Contractor shall:

- Verify benchmark levels and coordinates prior to construction;
- Be responsible for accurate setting out of all Works;
- Rectify, at own cost, any errors arising from incorrect setting out.

PS5 MANAGEMENT OF THE WORKS

PS5.1 Applicable SANS 1921 Standards

SANS 1921-1:2004: Construction and management requirements for works contracts Part 1: General engineering and construction works shall apply to this Contract, except where amended by the Conditions of Contract or this Project Specification.

PS5.2 Programming

PS5.2.1 Planning

The Contractor shall:

- Familiarise itself with the Employer's overall WCWDM implementation programme;
- Ensure adequate resources are allocated to complete the Works within the Time for Completion;
- Coordinate activities to avoid unnecessary delay to other contractors and operational stakeholders.

PS5.2.2 Contract Programme

Within 7 days of the Commencement Date, the Contractor shall submit a detailed Contract Programme for approval by the Employer's Agent.

The Programme shall:

- Be prepared using critical path methodology;
- Clearly indicate task dependencies;
- Identify the critical path;
- Include start and finish dates for all activities;
- Show resource allocation;
- Incorporate non-working days (public holidays and weekends);
- Allow for reasonable weather delays.

The Programme shall not be limited to a simple bar chart and shall:

- Reflect anticipated monthly work outputs;
- Indicate expected cash flow or earnings;
- Show plant deployment.

The Programme shall be updated monthly and submitted with each payment claim.

No deviation from the approved sequence of construction shall occur without written approval of the Employer's Agent.

PS5.2.3 Monthly Reporting - GEDSI

Monthly progress reports shall include a short section on GEDSI performance, including:

- Workforce composition (gender, youth, disability – voluntary disclosure)
- Training participation by demographic group
- Any grievances or incidents related to discrimination or harassment
- Corrective actions taken

PS5.2.4 Method Statements

The Contractor shall submit detailed Method Statements for each work area prior to commencement.

Each Method Statement shall include:

- Sequence of work;
- Shutdown arrangements (if applicable);
- Isolation procedures;
- Traffic management arrangements (if applicable);
- Materials and plant requirements;

- Risk mitigation measures;
- Service protection measures.

No works shall commence until the relevant Method Statement has been approved by the Employer's Agent.

PS5.3 Sequence of the Works

The sequence of works shall be agreed between the Contractor and the Employer's Agent.

Verification of pipe diameters, materials, and installation constraints shall be undertaken prior to meter procurement and installation.

Approval of the Contractor's Health and Safety Plan shall be obtained prior to commencement of physical works.

PS5.4 Software for Programming

The Contract Programme shall be prepared in Microsoft Project or compatible critical path software and submitted electronically.

PS5.5 Methods and Procedures

All methods shall comply with:

- This Project Specification;
- Applicable SANS and ISO standards;
- Manufacturer requirements;
- The Conditions of Contract.

PS5.6 Quality Plans and Control

The Contractor shall submit a Project-Specific Quality Plan prior to commencement of Works.

The Quality Plan shall include:

- Inspection and Test Plans (ITPs);
- Hold points;
- Meter verification procedures;
- Coating and lining repair procedures;
- Documentation control procedures.

PS5.7 Coating/Lining repair

Where cut-outs or welding occur on steel mains:

- Coating and lining damage shall be minimised;
- Repair materials shall comply with approved specifications;
- Material Data Sheets and Method Statements shall be submitted to the Employer's Agent and Municipal Technical representative for approval prior to work;
- Repairs shall be inspected and signed off by the Municipality's authorised representative before commissioning.

PS5.8 Accommodation of Traffic

The Contractor shall implement traffic accommodation in accordance with:

- Chapter 13 of the South African Road Traffic Signs Manual (Volume 2);
- Applicable municipal requirements.
- All signage, barricades, lighting and flag personnel shall be provided by the Contractor.

PS5.9 Access to properties

Access to properties shall be maintained at all times unless otherwise agreed in writing.

Affected property owners shall be notified at least 7 days prior to works affecting access.

PS5.10 Other Contractors on Site

The Contractor shall coordinate with other contractors operating within the same area.

No claims arising from interference by other contractors shall be entertained unless otherwise provided in the Conditions of Contract.

PS5.11 Testing, Completion, and Commissioning and correction of defects

The Contractor shall be responsible for ensuring that all works comply with the specification prior to submission for inspection.

Testing and commissioning shall include:

- Pressure testing;
- Leak testing;
- Verification of meter accuracy;
- Earthing verification;
- Surge protection verification.

Acceptance by the Employer's Agent shall not relieve the Contractor of responsibility for latent defects.

PS5.12 Recording of Weather and Abnormal Rainfall

Extensions of Time for weather shall be assessed in accordance with the Conditions of Contract.

The Contractor shall:

- Maintain daily site records;
- Record rainfall measurements where relevant to claims;
- Demonstrate impact on critical path activities.
- The Contractor shall allow in its programme for normal seasonal weather conditions.

PS5.13 Format of communications

All communications under this Contract shall be in writing.

Communications delivered by email or other agreed electronic means shall be deemed valid, provided receipt is confirmed.

No verbal instruction, agreement, or variation shall be binding unless confirmed in writing by the Employer's Agent.

PS5.14 Key personnel**PS5.14.1 General**

The Contractor shall submit the Curriculum Vitae, qualifications, and experience details of all proposed key personnel for approval by the Employer's Agent prior to commencement of the Works.

The minimum required key personnel shall include:

- a) Contract Manager;
- b) Quality Manager / QAQC Controller;
- c) General Works Foreman;
- d) Cathodic Protection Specialist;
- e) Health and Safety Officer(s)

Key personnel shall not be replaced without prior written approval of the Employer's Agent. Replacement personnel shall have qualifications and experience equal to or better than those originally approved.

PS5.15 Management meetings

Fortnightly progress meetings shall be convened by the Employer's Agent unless otherwise agreed.

Attendance by the Contractor's Contract Manager (or delegated senior representative) shall be compulsory.

The Contractor shall submit written progress reports prior to each meeting, including:

- Programme status (with critical path update),
- Resource allocation,
- Meter installation progress,
- Material order status,
- Quality and inspection results,
- Health and Safety performance,
- Environmental compliance,
- Risks and mitigation measures.

PS5.16 Forms for contract administration

The Contractor shall maintain organised and up-to-date records including:

- Approved programme and updates,
- Inspection and Test Plans (ITPs),
- Quality records,
- Health and Safety records,
- Environmental records,
- Site instructions,
- Variation orders,
- Claims and notices,
- Payment records,
- Commissioning certificates.

Such records shall be made available for inspection by the Employer's Agent upon reasonable notice.

PS5.17 Daily records

The Contractor shall maintain daily site records including:

- Labour and plant deployed,
- Work executed,
- Materials delivered and installed,
- Weather conditions (where relevant),
- Site instructions received,
- Safety incidents,
- Environmental incidents.

Daily records shall be submitted upon request and shall form part of the project documentation.

PS5.18 Bonds and guarantees

Within 21 days of Acceptance of Tender, the Contractor shall provide a Performance Guarantee in the form specified in the Tender Documents.

The Performance Guarantee shall be:

- For an amount equal to 10% of the Accepted Contract Amount,
- Issued by an approved financial institution or insurer,
- Valid until issue of the Completion Certificate.

Failure to provide the Performance Guarantee within the stipulated time may result in cancellation of the award in accordance with the Conditions of Contract.

The cost of the Performance Guarantee shall be borne by the Contractor.

PS5.19 Payment certificates

Monthly payment claims shall be submitted to the Employer's Agent in the prescribed format and shall include:

- Updated programme,
- Measurement sheets,
- Supporting documentation,
- Commissioning records (where applicable).

Payment certification shall be in accordance with the Conditions of Contract.

PS5.20 Permits

Refer to PS4.8.

PS6 FEATURES REQUIRING SPECIAL ATTENTION

PS6.1 Security

The Contractor shall be responsible for providing site security as necessary for the protection of:

- Plant and equipment,
- Materials,
- Personnel,
- Temporary works.

Nor the Employer neither the Municipality shall be liable for loss or damage suffered by the Contractor arising from theft, vandalism, or security incidents.

Where specific sites are identified by the Employer's Agent as high-risk areas, the Contractor shall:

- Provide security personnel as required;
- Ensure coordination with the Employer's representative where escort access is required.

PS6.2 Operation of valves

Operation of primary and secondary water mains valves shall only be undertaken by authorised employees of the Municipality.

The Contractor shall:

- Provide sufficient advance notice of shutdown requirements;
- Submit detailed isolation plans for approval;
- Coordinate shutdown activities with the Municipality's operations personnel.

PS6.3 Work outside normal working hours

Work outside normal working hours shall only be undertaken with prior written approval of the Employer's Agent.

Switch-over or tie-in works shall, where possible, be scheduled to minimise disruption to water supply and may be required to occur after hours.

No additional payment shall be made unless expressly provided for in the Schedule of Quantities.

PS6.4 Community liaison and community relations

Due to the dispersed and site-specific nature of the Works, no dedicated Community Liaison Officer (CLO) is anticipated for this Contract.

All public communication, including planned shutdown notices and service interruption notifications, shall be issued through the Municipality's established communication and operational channels.

The Contractor shall provide the Employer's Agent and Pixley Ka Seme Local Municipality with adequate advance notice of any planned works that may affect water supply or public access, together with relevant technical details and anticipated durations, to enable appropriate stakeholder communication.

The Contractor shall not issue independent public notices unless specifically authorised in writing by the Employer's Agent or the Municipality.

PS6.5 Notices and warning to consumers

The Contractor shall maintain continuity of service at all times wherever reasonably practicable.

Where temporary service interruption is unavoidable:

- The maximum planned outage per property shall not exceed 8 hours, unless otherwise approved;

- Where outages exceed 8 hours, temporary bypass arrangements shall be implemented, subject to approval by the Employer's Agent.

Written notice shall be provided to affected consumers and shall include:

- a) Nature of the works;
- b) Expected duration of interruption;
- c) Anticipated impacts;
- d) Contact details for queries or complaints.

Notice periods shall comply with the Municipality's operational requirements.

PS6.6 Continuity of service supply to customers

The Contractor shall not unreasonably interfere with service provision outside approved shutdown windows.

If services cannot be restored within the agreed timeframe, the Contractor shall:

- Immediately notify the Employer's Agent;
- Implement approved mitigation measures;
- Engage with affected consumers where necessary.

Where service disruption arises due to Contractor negligence or non-compliance with approved procedures, associated costs and claims shall be for the Contractor's account in accordance with the Conditions of Contract.

PS6.7 Conditions and procedures for service agencies

The Contractor shall comply with all conditions imposed by affected service agencies and wayleave authorities.

PS6.8 Reinstatement of asphalt within Roadways

Where excavation occurs within roadways:

- Reinstatement shall comply with Department: Infrastructure & Engineering Services (Roads) requirements;
- Department: Infrastructure & Engineering Services (Roads) may be given preference for asphalt reinstatement where required.

Where Department: Infrastructure & Engineering Services (Roads) elects not to undertake reinstatement, the Contractor shall arrange compliant reinstatement.

Delays attributable solely to third-party authorities shall be addressed in accordance with the Conditions of Contract.

PS6.9 Generic labour-intensive specifications

EPWP labour-intensive specifications shall apply to this Contract where reasonably possible.

The Contractor shall utilise appropriately skilled labour suitable for bulk metering and associated works.

PS6.10 Inclusive Employment Practices

The Contractor shall ensure all hiring, onboarding and task allocation processes are free from discrimination on the basis of gender, disability, age, ethnicity, or any other protected characteristic.

Tasks shall be planned to ensure equitable access to employment for women, youth and persons with disabilities, including reasonable accommodation where required (e.g. adapted tools, modified workstations, flexible task rotation).

Training opportunities must be offered equally to all workers, and records of participation must be maintained for monitoring Gender Equality, Disability and Social Inclusion (GEDSI) performance.

Implementation of the above shall be undertaken to the extent practically feasible within the defined scope of the Works and in compliance with the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993), and all applicable regulations.

PS6.11 Protection of Vulnerable Workers

The Contractor shall ensure that workplace arrangements minimise risks of harassment, violence or discrimination, particularly for women and young workers. A confidential reporting mechanism for grievances and misconduct must be provided and communicated to all personnel.

PS6.12 Acceptance of works and causes for rejection**PS6.12.1 Acceptance**

Works shall only be accepted where they comply fully with:

- The Contract Specifications;
- Meter manufacturer's specifications;
- Stipulated metering design and requirements;
- Applicable SANS and ISO standards;
- Approved drawings and method statements.

Acceptance shall include verification that:

- a) Installed meters are approved and correctly sized;
- b) Corrosion protection measures are correctly implemented;
- c) Chambers are appropriate for the installation location.
- d) All as-built drawings and documentation are fully completed and issued to the Municipality's Infrastructure & Engineering Services Department (Water & Sanitation)

PS6.12.2 Causes of rejection

Works may be rejected where non-compliance is identified, including but not limited to:

- Incorrect meter class or type;
- Non-approved or uncertified meters;
- Inaccurate meter performance;
- Malfunctioning registers or indicators;
- Non-compliant valves or fittings;
- Inadequate ability for telemetry / SCADA integration;
- Inferior jointing, bolting or welding;
- Non-compliant corrosion protection measures.

Rejection of works shall not relieve the Contractor of responsibility to rectify defects at its own cost.



IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY

BULK METER INSTALLATION CONTRACTOR

PART 4: SITE INFORMATION

Employer:		Contractor	
Witness:		Witness:	

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Employer:		Contractor	
Witness:		Witness:	

C4 SITE INFORMATION

C4.1 GENERAL

This section describes the site at the time of tender to enable the tenderer to price their tender and to decide upon their method of working and programming and risks.

C4.2 SITE LOCATION

The sites are situated throughout the Municipality's area of jurisdiction. The site locations are tabulated below, and a layout map is provided at the end of the section.

Site No.	Site Name	Metering Point	Latitude	Longitude	Distance*
1	Mahawane Raw water pump station	Outlet	-27.339997	29.905374	5.5 km
2	Vukuzakhe outlet to Vukuzakhe B	Outlet	-27.358298	29.905014	3.4 km
3	Vukuzakhe- water treatment works	Outlet	-27.360169	29.915194	5.1 km
4	Vukuzakhe outlet to Georgia Garden	Outlet	-27.366753	29.896073	5.2 km
5	Under to reservoir to town (Volksrust CBD)	Outlet	-27.368534	29.869373	1.8 km
6	Volksrust water treatment works	Inlet	-27.373365	29.864696	2.8 km
7	Volksrust water treatment plant to Juba Park reservoir	Outlet	-27.373196	29.864456	2.8 km
8	Volksrust water treatment plant outlet to 2 reservoirs	Outlet	-27.373116	29.864533	2.8 km

**From Municipal Offices (Volksrust)*

C4.3 ACCESS TO SITE AND RESTRICTIONS

Although the works are located on sites within the Municipality's property and/or reserve, the Contractor shall have to obtain permission from Department: Infrastructure & Engineering Services (Roads) to excavate road surfaces in order to execute the works required as part of this Contract. Any other permission as may become necessary shall be the responsibility of the Contractor to obtain.

Having been granted access to works areas by the Municipality, other service authorities and private owners, the Contractor shall adhere to any agreed conditions of access and ensure the works area is left in a condition similar to when it was first accessed.

C4.4 EXISTING SERVICES, SERVITUDES AND WAYLEAVES

For detailed specification the Contractor shall refer to clauses PS1.5 (Temporary Works), PS4.5 (Existing services), and PS4.8 (Permits and wayleaves).

Employer:		Contractor	
Witness:		Witness:	

C4.5 SECURITY

The Contractor shall be responsible for the security of their personnel, materials, equipment and construction plant on and around the site of the Works and for the security of their camp (if applicable). The Employer in this regard will consider no claims.

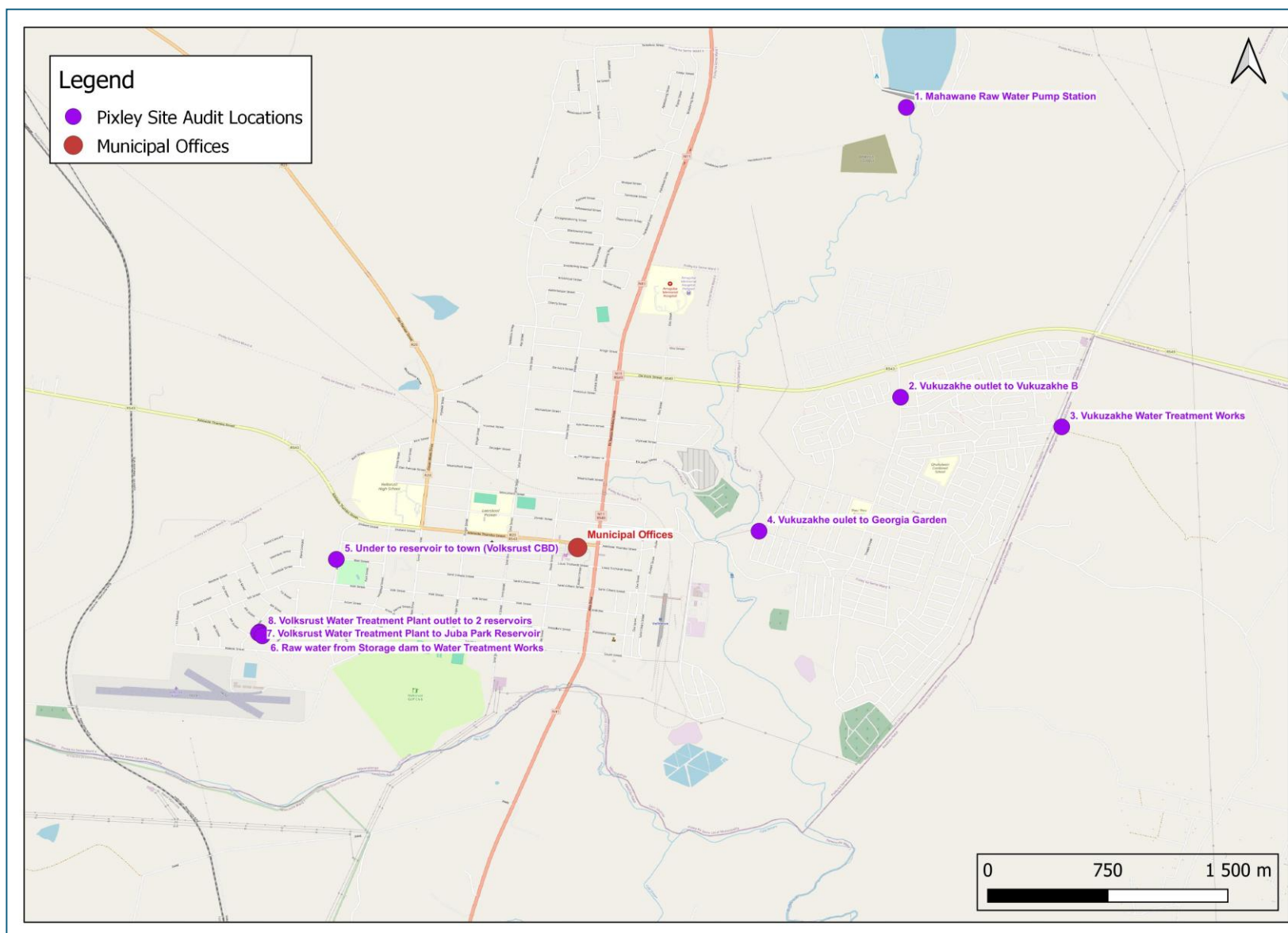
C4.6 NATURE OF GROUND AND SUBSOIL CONDITIONS

Since no geotechnical investigation has been done on the wide spread locations of the sites, the ground and subsoil conditions may vary substantially. It shall be the Contractor's responsibility to acquaint themselves with the conditions on the various sites.

C4.7 HYDROLOGICAL REPORT AND FLOODLINES

There are no supporting documents available with regard hydrological and floodline aspects.

Employer:		Contractor	
Witness:		Witness:	



Employer:		Contractor	
Witness:		Witness:	

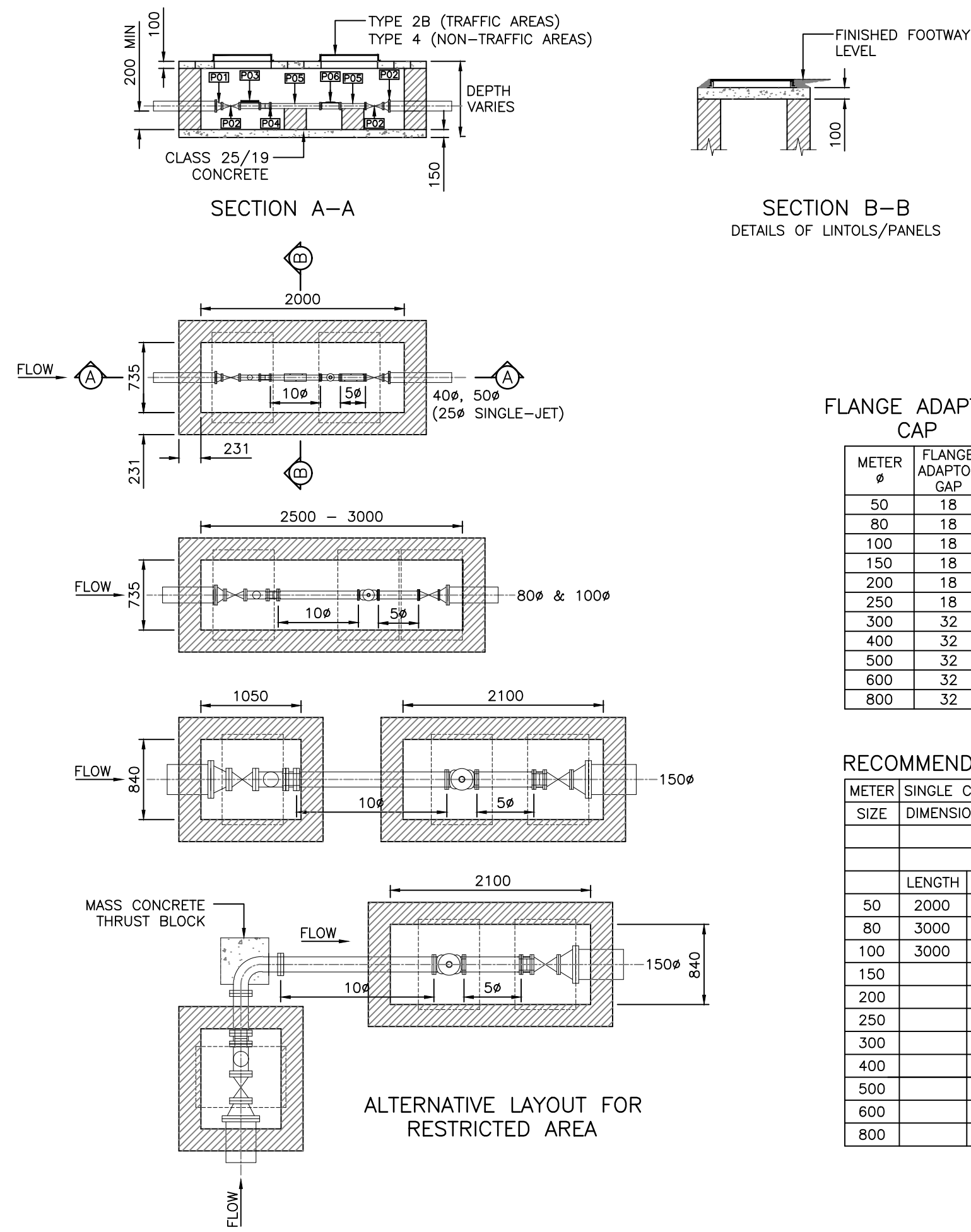


IMPLEMENTATION OF WATER CONSERVATION AND WATER DEMAND MANAGEMENT INTERVENTIONS FOR PIXLEY KA SEME LOCAL MUNICIPALITY

BULK METER INSTALLATION CONTRACTOR

TYPICAL DETAIL DRAWINGS AND SPECIFICATIONS

Employer:		Contractor	
Witness:		Witness:	



FLANGE ADAPTOR CAP

METER Ø	FLANGE ADAPTOR GAP
50	18
80	18
100	18
150	18
200	18
250	18
300	32
400	32
500	32
600	32
800	32

PIPE & FITTING SCHEDULE

ITEM	DESCRIPTION
P01	REDUCER
P02	VALVE (RSV)
P03	STRAINER
P04	FLANGE ADAPTOR
P05	PIPE LENGTH
P06	METER

REDUCER SIZES

INCLUDED ANGLE
 $\tan(16/2)$ DEGREES 0.14
 REDUCER LENGTH $((D1-D2)/2)\tan(16/2)$

SUPPLY PIPE Ø (D1)	50	80	100	150	200	250	300
METER DIAMETER (D2)	50	0					
80	107	0					
100	178	71	0				
150	356	249	178	0			
200	534	427	356	178	0		
250	712	605	534	427	178	0	
300	890	783	712	605	427	178	0

NOTES:

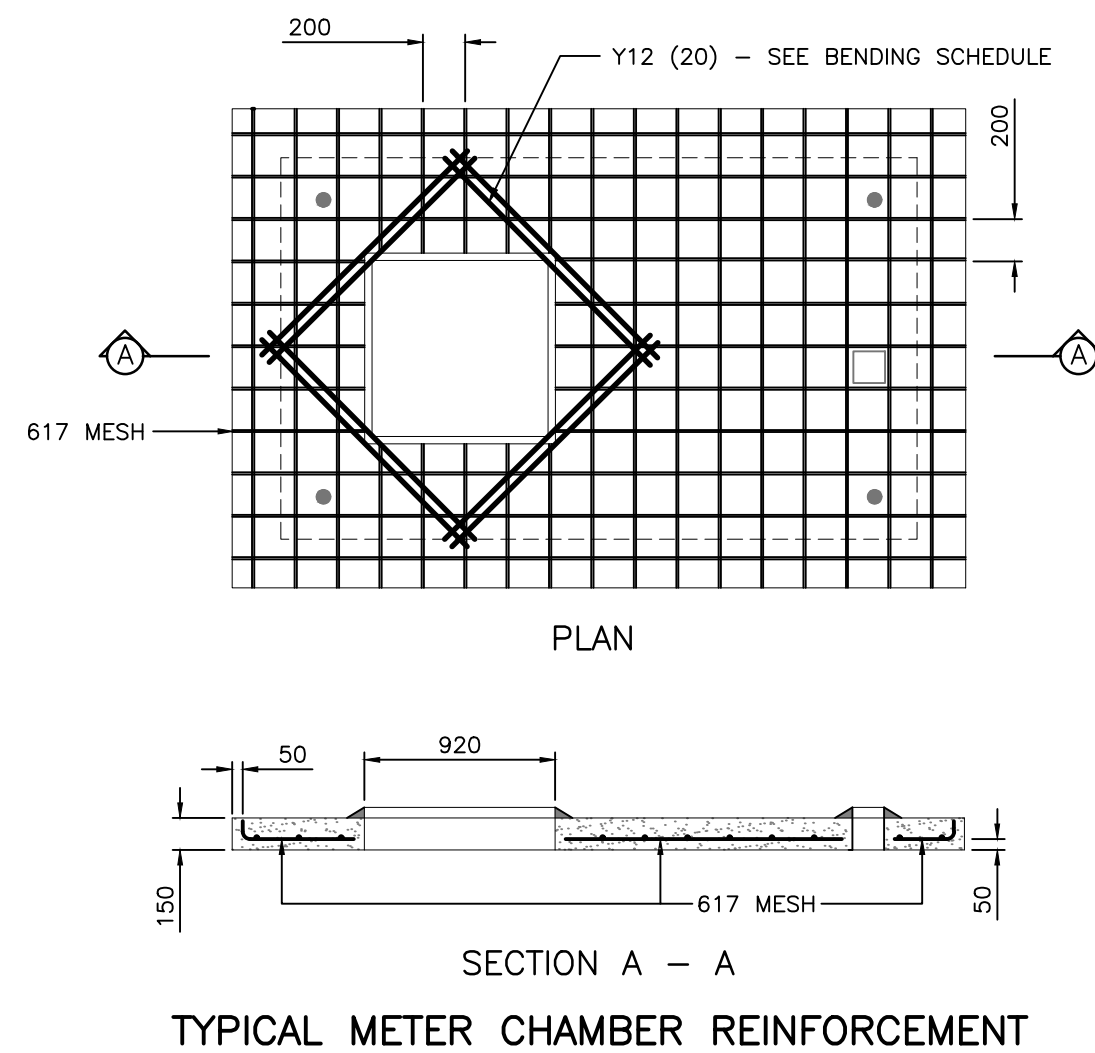
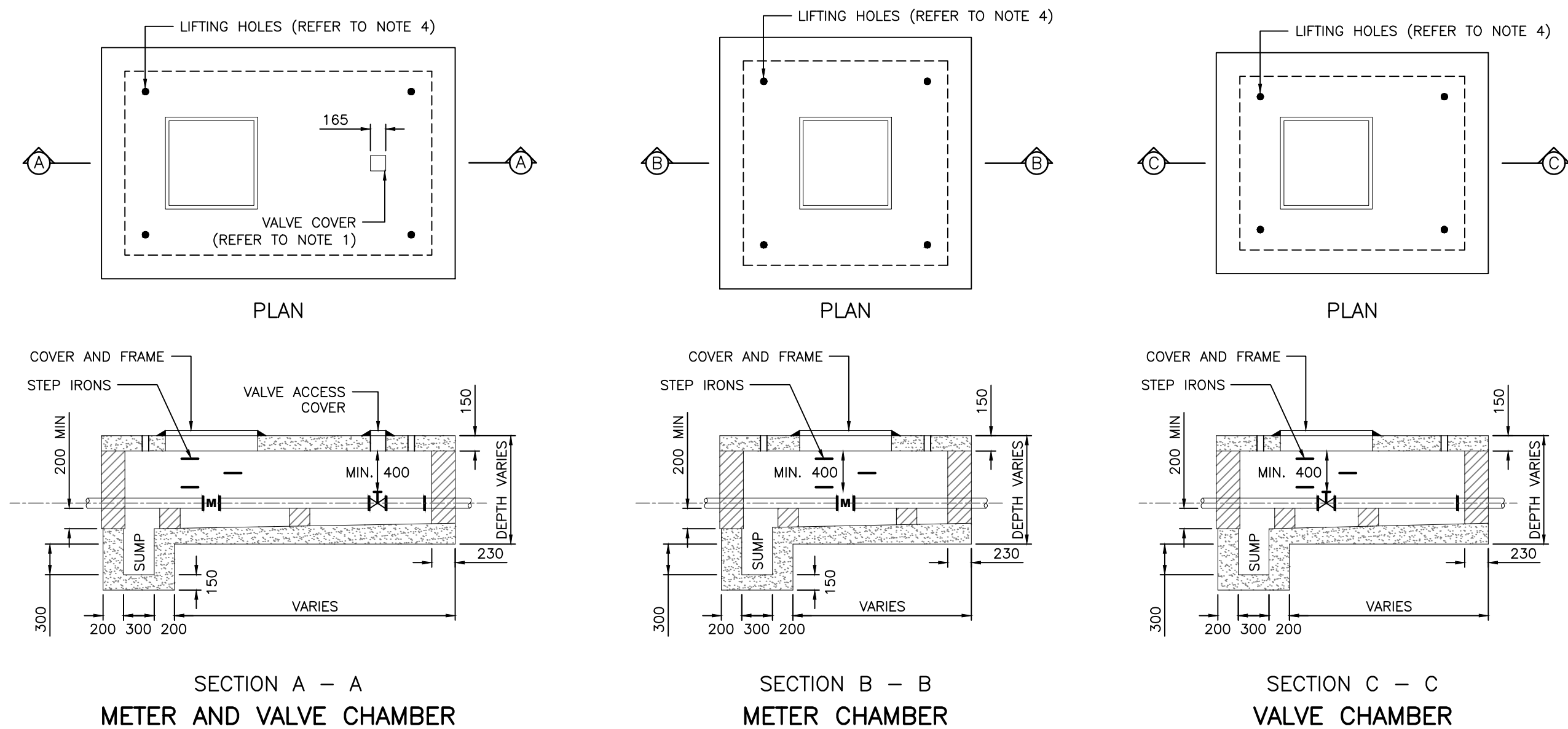
- COVERS AND FRAMES TO SANS 558 TO BE HINGED STEEL OR HINGED CAST IRON OR HINGED DUCTILE IRON OR POLYMER CONCRETE MEDIUM DUTY IN FOOTWAY.
- BRICKS SHALL BE GENERAL PURPOSE BURNT CLAY BRICKS COMPLYING WITH SANS 227 OR CLASS S14 CALCIUM SILICATE BRICKS COMPLYING WITH SANS 282
- TABLE SUGGESTED CHAMBER SIZES TO BE CONFIRMED ON SITE
- SIZES 250Ø AND ABOVE MUST BY DESIGNED TO SUIT LOCATION AND CIRCUMSTANCES
- THESE COVER DETAILS ARE FOR NO VEHICULAR ACCESS

RECOMMENDED METER CHAMBER DIMENSIONS

METER SIZE	SINGLE CHAMBER DIMENSION (MIN)	TWO CHAMBERS DIMENSION (MIN)				THREE CHAMBERS DIMENSION (MIN)					
		UPSTREAM		DOWNSTREAM		UPSTREAM		METER		DOWNSTREAM	
		VALVE	METER, PIPE & VALVE	VALVE	METER, PIPE & VALVE	VALVE	METER	VALVE	METER	VALVE	METER
		LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH	LENGTH	WIDTH
50	2000	700									
80	3000	700									
100	3000	700									
150				1000	800	2000	800				
200				1000	800	2000	800				
250				1500	800	2500	800				
300				1500	1500	3000	1500				
400								2000	1400	1000	1500
500								2000	1500	1000	1500
600								2000	1600	1000	1500
800								2500	1800	1000	2000

TYPICAL LAYOUT FOR METER CHAMBERS UP TO 150Ø IN FOOTWAYS

SCALE n.t.s



BENDING SCHEDULE

MEMBER	NO. OF	BARS PER MEMBER	DIAMETER	LENGTH	TOTAL NUMBER	MARK	BENDING				
Y12	26	8	12	960	208	01	A	B	C	D	E

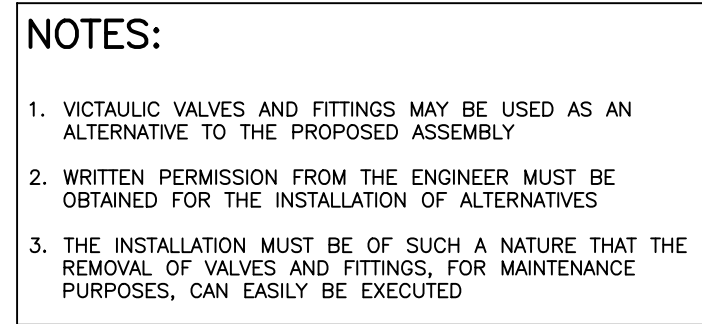
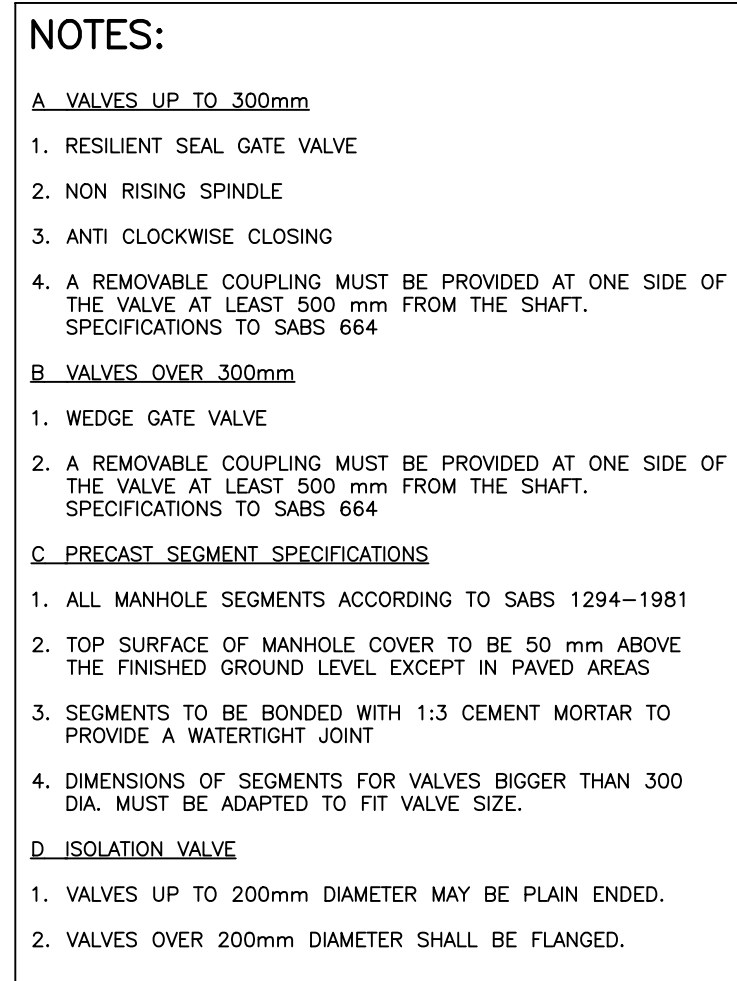
NOTES:

- VALVE COVER & FRAME IS TO BE POSITIONED DIRECTLY ABOVE THE VALVE. MINIMUM DISTANCE FROM SIDE OF CHAMBER = 150mm
- MANHOLE COVER & FRAME TO BE INSTALLED ABOVE THE METER, BUT ALLOW FOR ENTRY AT STEP IRONS. MINIMUM DISTANCE FROM SIDE OF CHAMBER = 150mm
- STEP IRONS AT 300 CENTRES
- LIFTING HOLES POSITIONED AT MINIMUM DISTANCE FROM SIDE OF CHAMBER = 200mm (HOLES TO BE FILLED WITH STYROFOAM)
- STEP IRON AT 300 CENTRES
- EXPOSED STEEL TO BE RUST PROTECTED
- ALL TOP AND BOTTOM SLAB CONCRETE WILL BE 25MPa
- ALL REINFORCEMENTS WILL HAVE MINIMUM 50mm COVER

TYPICAL LAYOUT FOR METER CHAMBERS

SCALE n.t.s

PIXLEY KA SEME LOCAL MUNICIPALITY DEPARTMENT: INFRASTRUCTURE & ENGINEERING SERVICES WATER AND SANITATION	AMENDMENTS <table> <tr> <th>NR</th><th>DATE</th><th>APPROVED</th><th>DESCRIPTION</th><th>PAR</th></tr> <tr> <td>0</td><td>MAY 2026</td><td></td><td>FOR TENDERING PURPOSES</td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> </table>				NR	DATE	APPROVED	DESCRIPTION	PAR	0	MAY 2026		FOR TENDERING PURPOSES																																										PROJECT SPONSOR NEPAD BUSINESS FOUNDATION ADDRESS: 6 COOMBE PL, RIVONIA, SANDTON, 2128 TEL: +27(0)11 596 1888		IMPLEMENTING AGENT SMEC SOUTH AFRICA (PTY) LTD ADDRESS: 267 KENT AVENUE, FERNDALE, RANDBURG, 2194 TEL: +27(0)11 369 0600		DESIGNED NAME: _____ Pr Eng. Prof Reg No: _____ SIGNATURE: _____ DATE: _____ DRAWN NAME: _____ Prof Reg No: _____ SIGNATURE: _____ DATE: _____ CHECKED NAME: _____ Pr Eng. Prof Reg No: _____ SIGNATURE: _____ DATE: _____ INFORMATION OFFICE CHECKED NAME: _____ Pr Eng. Prof Reg No: _____ SIGNATURE: _____ DATE: _____ DESIGN OFFICE APPROVAL NAME: _____ Prof Reg No: _____ SIGNATURE: _____ DATE: _____		CONTRACT No: _____ PROJECT No. _____ SHEET No. _____ PAPER SIZE: A1 SCALE: _____ DATE: _____		PROJECT STATUS RECEIVED SIGN WHEN APPLICABLE CONCEPT DRAWING TENDER DRAWING APPROVED CONSTRUCTION DRAWING AS BUILT DRAWING PROJECT ENGINEER of MUNICIPALITY: NAME: _____ Prof Reg No: _____ SIGNATURE: _____ DATE: _____ INSPECTOR OF WORKS of MUNICIPALITY: NAME: _____ Prof Reg No: _____ SIGNATURE: _____ DATE: _____		LOCATION OF PROJECT: MUNICIPALITY WIDE DESCRIPTION OF PROJECT: IMPLEMENTATION OF WC/WDM INTERVENTIONS: BULK METER INSTALLATION DRAWING: METER AND VALVE CHAMBERS - TYPICAL DETAILS (DET01)	
	NR	DATE	APPROVED	DESCRIPTION	PAR																																																													
	0	MAY 2026		FOR TENDERING PURPOSES																																																														



TYPICAL BRICK VALVE CHAMBER – VALVES NOT EXCEEDING 300mm N.B.
SCALE n.t.s

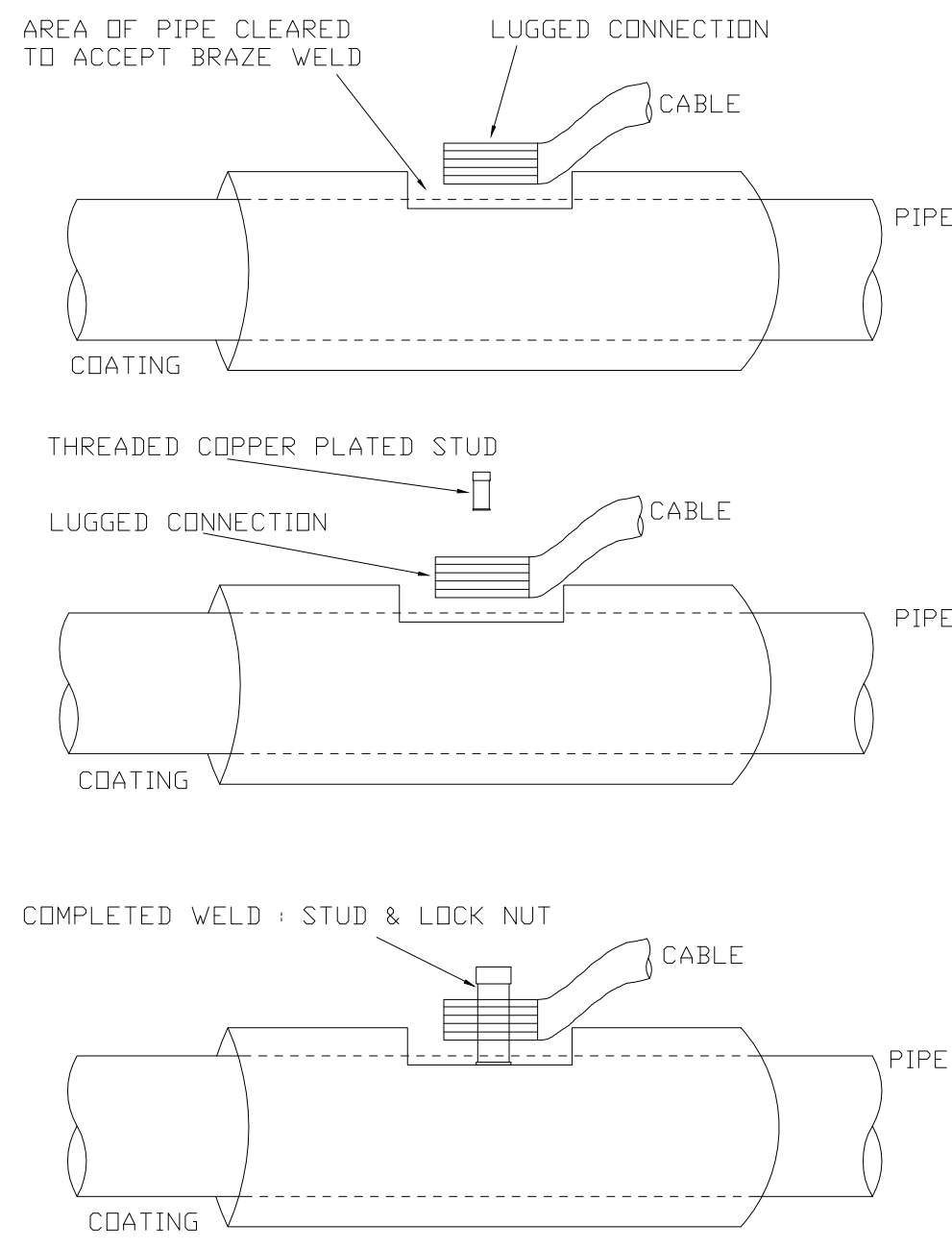
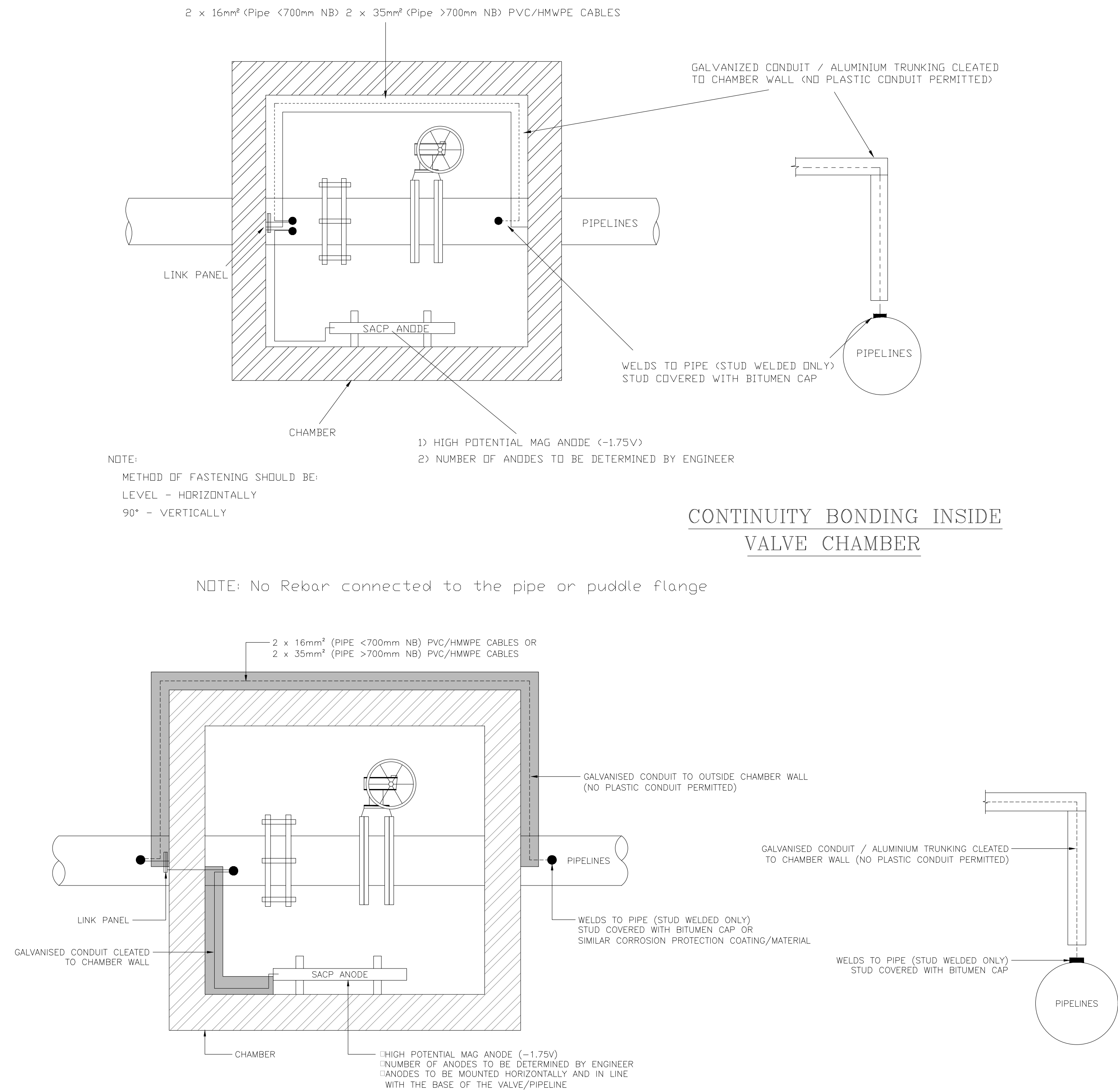
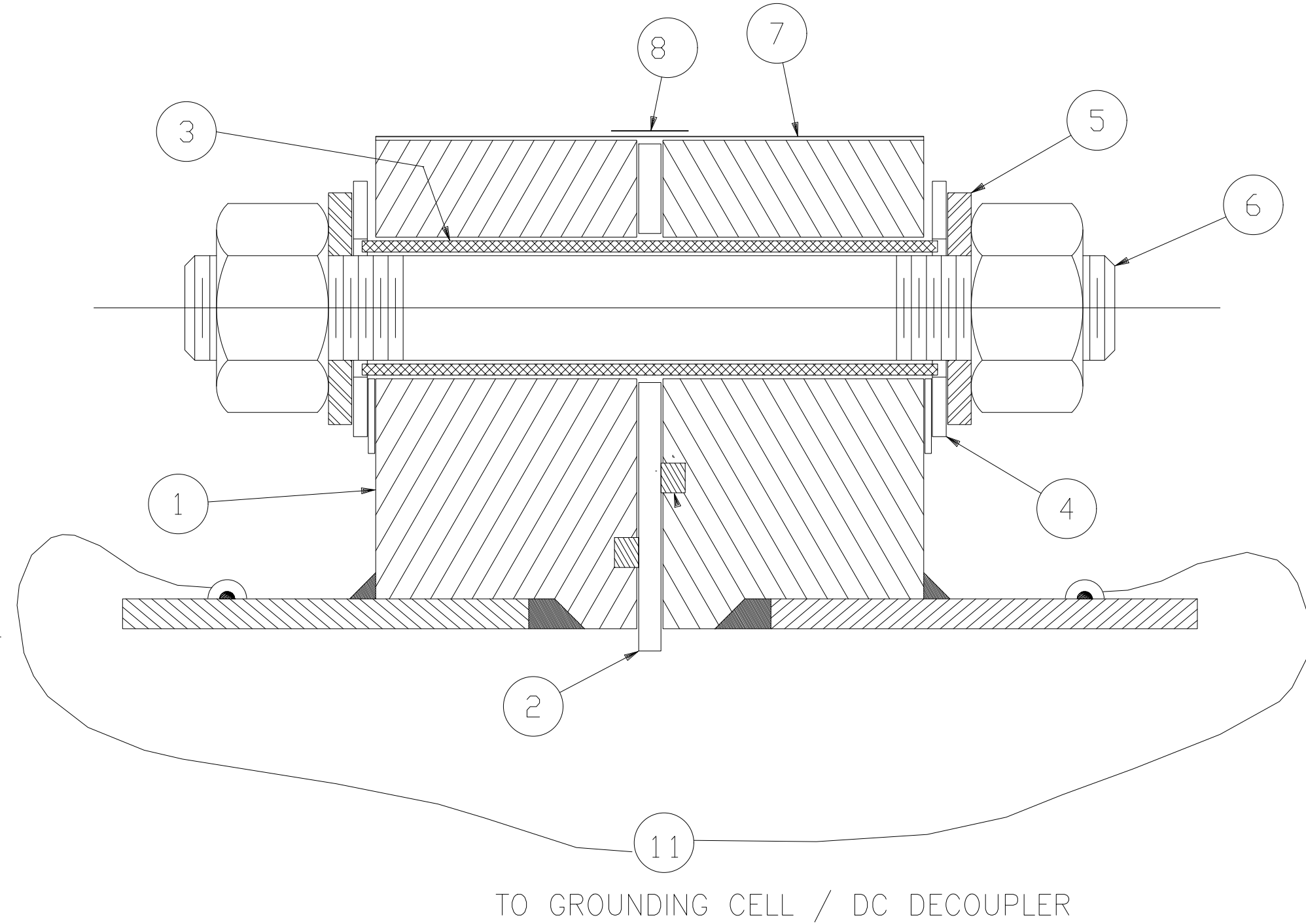
 PIXLEY KA SEME LOCAL MUNICIPALITY DEPARTMENT: INFRASTRUCTURE & ENGINEERING SERVICES WATER AND SANITATION	AMENDMENTS					PROJECT SPONSOR	IMPLEMENTING AGENT	DESIGNED	CONTRACT No:	PROJECT STATUS	LOCATION OF PROJECT:	
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								NAME: _____ Pr Eng: _____ Prof Reg No: _____	PAPER SIZE:		INSPECTOR OF WORKS of MUNICIPALITY:	IMPLEMENTATION OF WC/WDM
								SIGNATURE: _____ DATE: _____	A1		NAME: _____ Prof Reg No: _____	INTERVENTIONS: BULK METER INSTALLATION
								NAME: _____ Pr Eng: _____ Prof Reg No: _____	SCALE:		NAME: _____ Prof Reg No: _____	
								SIGNATURE: _____ DATE: _____	DATE:		SIGNATURE: _____ DATE: _____	
								NAME: _____ Pr Eng: _____ Prof Reg No: _____				
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					SIGNATURE: _____ DATE: _____							

NEPAD BUSINESS FOUNDATION
ADDRESS: 6 COOMBE PL, RIVONIA, SANDTON, 2128
TEL: +27(0)11 596 1888

SMEC SOUTH AFRICA (PTY) LTD
ADDRESS: 267 KENT AVENUE, FERNDAL, RANDBURG, 2194
TEL: +27(0)11 369 0600

FLANGE INSULATING MATERIALS

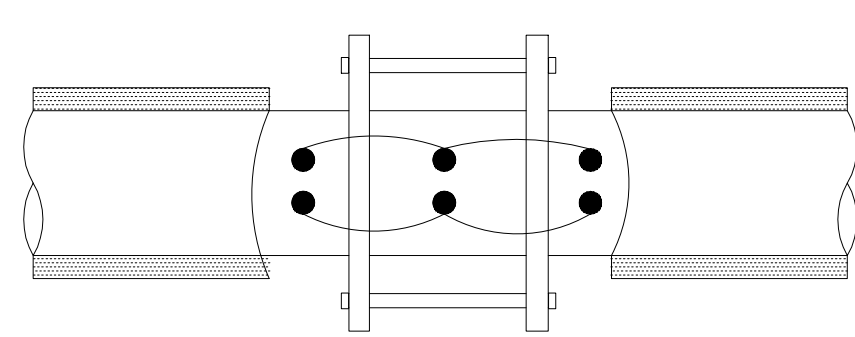
- ① FLANGES:
FULL FACE MADE OF STEEL PLATE GRADE 43A OF BS 4360, STANDARD TO BS 4504 OR ISO 6984, MACHINED ON FRONT, BACK AND OUTSIDE FACES WITH GROOVES FOR "O" RING, SIZE AND PRESSURE TABLE AS SPECIFIED.
NOTE - "O" RINGS ONLY REDD FOR HIGH PRESSURE PIPES.
- ② INSULATING GASKET:
INSULATING GASKET SHALL BE A 3,0MM THICK FABRIC REINFORCED PHENOLIC FULL FACE GASKET (TESTED TO BS 5102 APPENDICES A-M - TYPE I11) WITH NOT MORE THAN 3 ONLY FACTORY MADE LAP JOINTS AND WITH NEOPRENE OR NITRILE FACES 0,8MM THICK. THE GASKET I.D. TO BE 6MM SMALLER THAN THE PIPE I.D.
- ③ INSULATING BOLT SLEEVE:
INSULATING SLEEVES SHALL BE 1 TO 1,5MM THICK AND MADE OF GLASS-FIBRE REINFORCED EPOXY RESIN. LENGTH OF SLEEVES TO BE SUCH THAT TOTAL GAP ON SLEEVE LENGTH BETWEEN INSIDE FACES OF STEEL NUTS TO BETWEEN 2 AND 3MM. THE SAME SIZE GAP APPLIES BETWEEN VALVE FLANGE FACE AND INSIDE FACE OF STEEL NUTS WHERE STEPPED STUD BOLTS ARE TO BE FITTED
- ④ INSULATING WASHERS:
INSULATING WASHERS SHALL BE 6,3MM THICK AND MADE OF FABRIC REINFORCED PHENOLIC RESIN. THE O.D. SHALL BE THE SAME AS THAT OF THE MACHINED STEEL WASHER. STEPPED STUD BOLTS REQUIRE ONE WASHER, ALL OTHER BOLTS TWO WASHERS. I.D. OF WASHERS TO BE A SLIDING FIT OVER O.D. OF INSULATING SLEEVE.
- ⑤ STEEL WASHERS:
STEEL WASHERS SHALL BE MACHINED WITH DIAMETER AND THICKNESS TO SABS 1149 - TABLE 3. NUMBER OF WASHERS AS PER 4 ABOVE.
- ⑥ STUDBOLTS:
STUDBOLTS SHALL BE GRADE B 8 AND NUTS GRADE 8 TO SABS 136. THE DIAMETER OF NORMAL STUD BOLTS SHALL BE SELECTED TO THE NEXT SMALLER SIZE FOR INSTALLATION IN STANDARD DRILLED FLANGES. STEPPED STUD BOLTS SHALL BE SIZED ON THE ONE END TO FIT THE TAPPED BLIND BOLT HOLES IN THE VALVE FLANGES. THE OTHER END SHALL BE OF THE SAME DIAMETER AS THE NORMAL STUD BOLT.
- ⑦ WHITE PLASTIC BACKED POLYMER MODIFIED BITUMINOUS TAPE:
THE COVER TAPE SHALL BE A WHITE PLASTIC BACKED POLYESTER MODIFIED BITUMINOUS TAPE 1,5 TO 2MM THICK WITH A MINIMUM OF 25MM OVERLAP.
- ⑧ CODING RED COLOUR BAND:
FOR CODING A RED COLOUR BAND OF 30MM WIDTH SHALL BE USED. THE TAPE SHALL BE A PLASTIC BACKED ELECTRICAL TAPE TO SABS 122-1975.
- ⑨ CADMIUM PLATING:
STUD BOLTS, NUTS AND STEEL WASHERS SHALL BE CADMIUM PLATED.
- ⑩ TAGGING:
A METAL TAG SHALL BE ATTACHED VIA A 1MM STAINLESS STEEL LOCKING WIRE THROUGH A 2MM HOLE DRILLED IN THE TAG AND IN THE MOST OVERT INSULATING FLANGE BOLT. ON THE METAL TAG SHALL BE STAMPED THE WORDS:
" OPERATING INSULATING FLANGE "
" NO ATTACHMENTS TO PIPEWORK PERMITTED "
" VALVE CHAMBER TO BE KEPT DRY "
- ⑪ GROUNDING CELL / DC DECOUPLER:
SEE TECHNICAL SPECIFICATION FOR DETAILS.



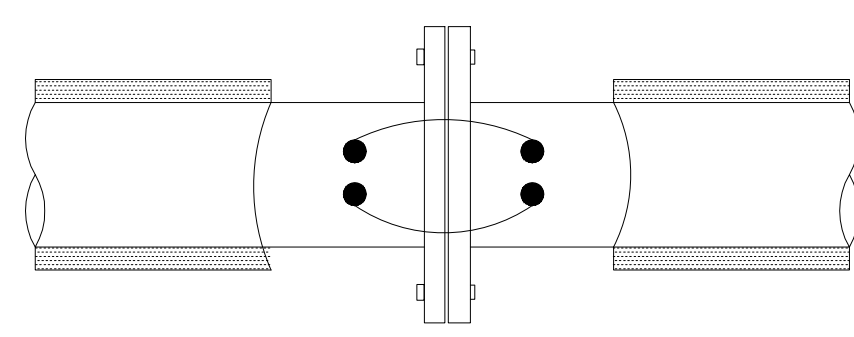
- STEP 1: REMOVE COATING FROM PIPE. FILE AREA FOR STUD WELDING TO CLEAR BRIGHT STEEL. REMOVE ALL TRACES OF DIRT. STRIP CABLE FOR 30mm AND CRIMP LUG TO CABLE.
- STEP 2: PLACE LUGGED CABLE FIRMLY ON PIPE. SELECT CORRECT STUD WELDING POWER SETTING. ENSURE SQUARE FLAT CONNECTION. FIRE STUD WELDING GUN.
- STEP 3: VISUALLY CHECK STUD WELDED CONNECTION. TEST BRAZE WELD BY TAPPING ON LOCK NUT WITH 2kg HAMMER. REPAIR COATING TO SPECIFICATION.

DETAILS OF STUD WELDING METHOD

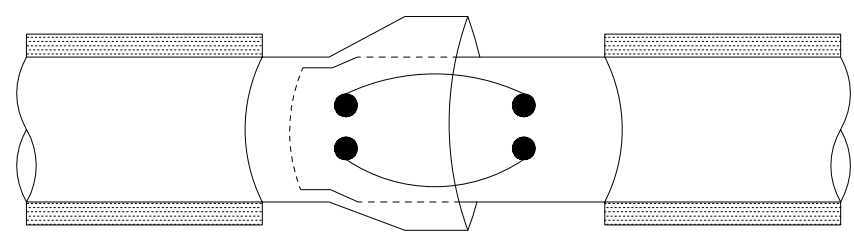
1. MECHANICAL (VIKING JOHNSON) COUPLING



2. FLANGED TYPE COUPLING



3. SPIGOT AND SOCKET TYPE JOINT

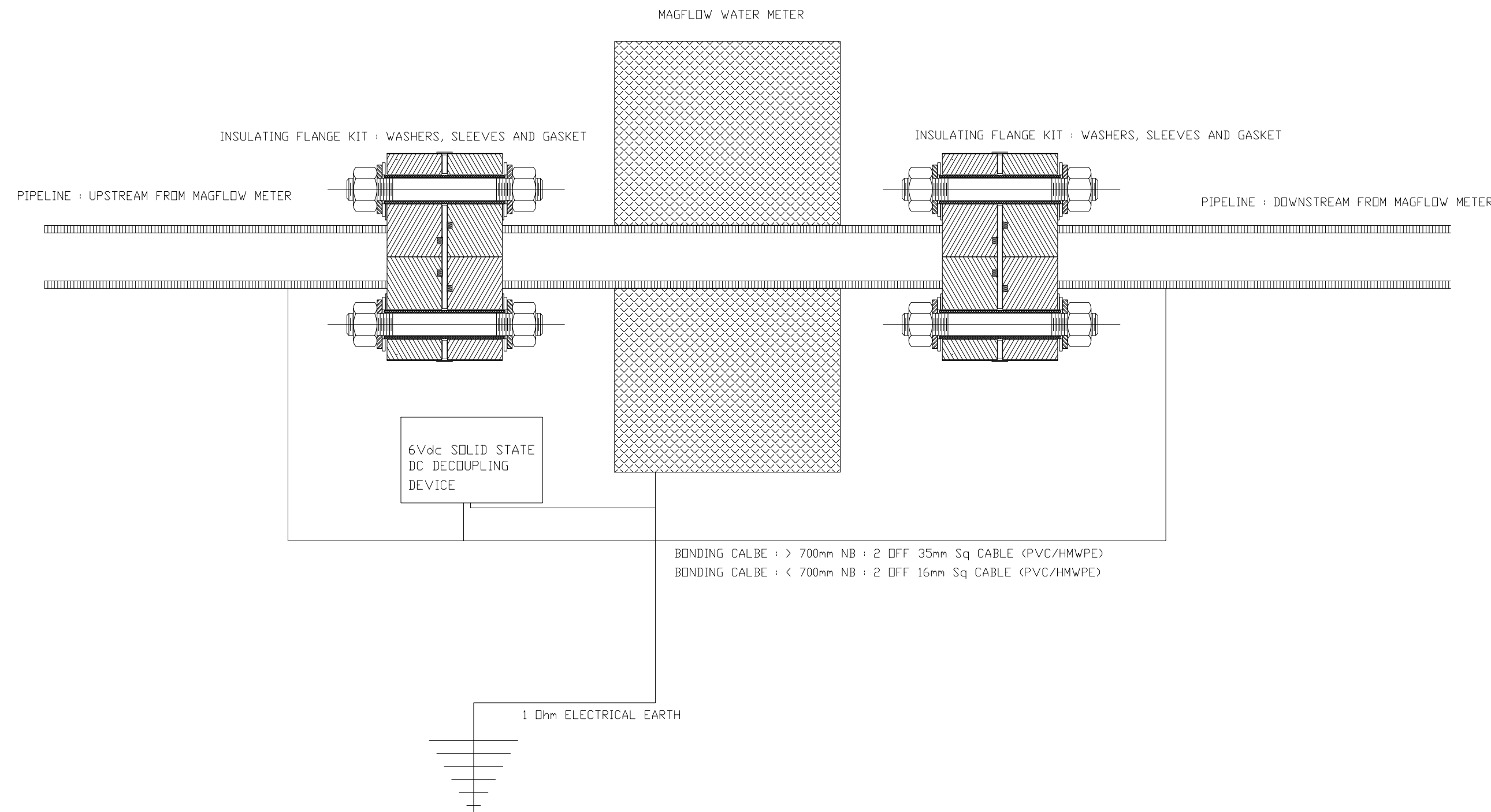


NOTE: CONTINUITY BONDING BY MEANS OF DOUBLE (PVC/HMWPE) INSULATED CABLE.
2 x 16mm² CABLES FOR PIPE < 700mm DIA.
2 x 35mm² CABLES FOR PIPE > 700mm DIA.
ALL EXPOSED AREAS OF COATING TO BE REPAIRED AS PER PIPE MANUFACTURER'S SPECIFICATION.
WELDING METHOD AS PER SPECIFICATION (STUD BRAZING)

DETAILS OF CONTINUITY BONDING

- NOTES:
- METHOD OF FASTENING SHOULD BE:
LEVEL - HORIZONTALLY
90° - VERTICALLY
 - NO REBAR CONNECTED TO THE PIPE OF PUDDLE FLANGE

CONTINUITY BONDING OUTSIDE VALVE CHAMBER



NOTES AND SPECIFICATIONS

GENERAL

- ALL MATERIAL AND WORKMANSHIP MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST RELEVANT SABS REQUIREMENTS.
- ALL DIMENSIONS ARE IN MILLIMETERS (UNLESS OTHERWISE SPECIFIED).
- DO NOT SCALE FROM THESE DRAWINGS.
- ALL DIMENSIONS MUST BE CHECKED AND APPROVED ON SITE.
- FINAL POSITION OF SERVICES TO BE DETERMINED ON SITE.

 PIXLEY KA SEME LOCAL MUNICIPALITY DEPARTMENT: INFRASTRUCTURE & ENGINEERING SERVICES WATER AND SANITATION	AMENDMENTS				PROJECT SPONSOR  NEPAD BUSINESS FOUNDATION ADDRESS: 6 COOMBE PL, RIVONIA, SANDTON, 2128 TEL: +27(0)11 596 1888	IMPLEMENTING AGENT  SMEC SOUTH AFRICA (PTY) LTD ADDRESS: 267 KENT AVENUE, FERNDALE, RANDBURG, 2194 TEL: +27(0)11 369 0600	DESIGNED NAME: _____ Pr Eng. Prof Reg No: _____ SIGNATURE: _____ DATE: _____	CONTRACT No: _____	PROJECT STATUS RECEIVED SIGN WHEN APPLICABLE ☐ CONCEPT DRAWING ☒ TENDER DRAWING ☐ APPROVED CONSTRUCTION DRAWING ☐ AS BUILT		LOCATION OF PROJECT: MUNICIPALITY WIDE
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