



CLUSTER  
TRADING SERVICES

UNIT  
WATER & SANITATION UNIT

DEPARTMENT  
WATER AND SANITATION ENGINEERING

**PROCUREMENT DOCUMENT**  
**INFRASTRUCTURE**

Documents are to be obtained, free of charge, in electronic format, from the [National Treasury's eTenders website](#) or the [eThekweni Municipality's website](#).

Contract No: [WS-7723](#)

Contract Title: [Construction and Replacement of Water Mains in the eThekweni Supply Area: Wards 48 & 110](#)

Est. CIDB Grade/ Class: [8 CE](#)

**CLARIFICATION MEETING AND QUERIES**

Clarification Meeting: [Compulsory Clarification Meeting](#)

Meeting Location, Date, Time: [Board Room 301, 3 Prior Road, eThekweni Water & Sanitation, Durban](#)  
[On 22 February 2024 at 10h00](#)

Queries can be addressed to: [Joe Burath Pr Eng](#)  
[Tel: 031 8305113](#)  
The Employer's Agent's: [eMail: \[jb@riot.consulting\]\(mailto:jb@riot.consulting\)](#). Email queries to be submitted by [07 March 2024](#) and consolidated answers to questions to be uploaded [14 March 2024](#)  
Representative: [2024](#)

**TENDER SUBMISSION**

Delivery Location: [The Tender Box in the foyer of the Municipal Building](#)  
[166 KE Masinga Road, Durban](#)

Closing Date/ Time: [Friday, 22 March 2024](#) at [11h00](#)

**FACSIMILE, eMAIL, or POSTED TENDERS WILL NOT BE ACCEPTED**

Issued by:

ETHEKWINI MUNICIPALITY

Deputy Head: [WATER AND SANITATION ENGINEERING](#)

Date of Issue: [09/02/2024](#)

Document Version [24/02/2023\(c\)](#)

**FOR OFFICIAL USE ONLY**

Tenderer Name:			VAT Registered: Yes No
	Price (excl)	VAT	Price (incl)
Submitted: R	R	R	R
Corrected: R	R	R	R

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**PART T1: TENDERING PROCEDURES****T1.1.1: TENDER NOTICE AND INVITATION TO TENDER**

Tenders are hereby invited for the works to replace existing watermains in Wards 48 and 110

<b>Subject</b>	<b>Description</b>	<b>Tender Data Ref.</b>
<b>Employer</b>	The Employer is the eThekweni Municipality as represented by: Deputy Head: <b><a href="#">WATER AND SANITATION ENGINEERING</a></b>	F.1.1.1
<b>Tender Documents</b>	Documents can only be obtained in electronic format, issued by the eThekweni Municipality. Documentation can be downloaded from the <b>National Treasury's eTenders website</b> or the <b>eThekweni Municipality's Website</b> . The <u>entire document</u> should be printed (on A4 paper) and suitably bound by the tenderer.	F.1.2
<b>Eligibility</b>	It is <u>estimated</u> that tenderers should have a CIDB contractor grading designation of <b>8 CE</b> (or higher). The CIDB provisions in relation to a Contractor's Potentially Emerging (PE) status <u>do not</u> apply.	F.2.1.1
<b>Clarification Meeting</b>	<b><a href="#">Board Room 301, 3 Prior Road, eThekweni Water &amp; Sanitation, Durban</a></b> <b><a href="#">On 22 February 2024 at 11h00</a></b>	F.2.7
<b>Seek Clarification</b>	Queries relating to these documents are to be addressed to the Employer's Agent's Representative whose contact details are: <b><a href="#">Joe Burath Pr Eng</a></b> <b><a href="#">Tel: 031 8305113</a></b> <b><a href="#">eMail: <a href="mailto:jb@riot.consulting">jb@riot.consulting</a></a></b>	F.2.8
<b>Submitting a Tender Offer</b>	Tender offers shall be delivered to: <b><a href="#">The Tender Box in the foyer of the Municipal Building</a></b> <b><a href="#">166 KE Masinga Road, Durban</a></b>	F.2.13
<b>Closing Time</b>	Tender offers shall be delivered on or before <b><a href="#">Friday, 22 March 2024</a></b> at or before <b>11h00</b> .	F.2.15
<b>Evaluation of Tender Offers</b>	<b><a href="#">The 90/10</a></b> Price Preference Point System, as specified in the PPPFA Regulations 2022 will be applied in the evaluation of tenders. Refer to Clause F.3.11 of the Tender Data for the <b>Specific Goal(S)</b> for the awarding of Preference Points, and other related evaluation requirements.	F.3.11

**Requirements for sealing, addressing, delivery, opening and assessment of tenders are further stated in the Tender Data**

## **PART T1: TENDERING PROCEDURES**

### **T1.2: TENDER DATA**

#### **T1.2.1 STANDARD 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 (July 2015) as published in Government Gazette No 38960, Board Notice 136 of 2015 of 10 July 2015.

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.

#### **T1.2.2 TENDER DATA**

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

### **F.1: GENERAL**

**F.1.1 The employer:** The Employer for this Contract is the eThekweni Municipality as represented by: Deputy Head: **[WATER AND SANITATION ENGINEERING](#)**

**F.1.2 Tender documents:** The Tender Documents issued by the Employer comprise:

- 1) This procurement document.
- 2) "General Conditions of Contract for Construction Works – 3<sup>rd</sup> Edition 2015" issued by the South African Institution of Civil Engineering (GCC 2015). This document is obtainable separately, and Tenderers shall obtain their own copies.
- 3) "City of Durban Technical Specifications" hereinafter referred to as the Standard Engineering Specifications. This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections.
- 4) "South-African National Standards - Standardised Specification for Civil Engineering Construction (SANS 1200)" hereinafter referred to as the Standard Engineering Specifications or SANS 1200. This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections at their own expense.
- 5) "South-African National Standards – Construction Procurement (SANS 10845:2015)". This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections at their own expense.
- 6) Drawings, issued separately from this document on cloud link.
- 7) In addition, Tenderers are advised, in their own interest, to obtain their own copies of the following acts, regulations, and standards referred to in this document as they are essential for the Tenderer to get acquainted with the basics of construction management, the implementation of preferential construction procurement policies, and the participation of targeted enterprise and labour.
  - The Employer's current (as at advertising date) Supply Chain Management Policy.

- The Preferential Procurement Policy Framework Act No 5 of 2000, and the Preferential Procurement Policy Framework Act Regulations (2022).
- The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations (2014).
- The Construction Industry Development Board Act No 38 of 2000 and the Regulations issued in terms of the Act (July 2013).
- SANS 1921:2004 – Construction and Management Requirements for Works Contract, Parts 1-3.
- Any other eThekweni Policy documents referenced in the Tender Documents.

Electronically downloaded documentation is obtainable from the National Treasury's **eTenders Website** or the **eThekweni Municipality's Website** at URLs:

- <https://www.etenders.gov.za/>
- <https://www.durban.gov.za/pages/business/procurement>

The entire downloaded document should be printed on white A4 paper (single-sided) and suitably bound by the tenderer.

**F.1.4 Communication and employer's agent:** The Employer's Agent's Representative is:

**Joe Burath Pr Eng**  
**Tel: 031 8305113**  
**eMail: [jb@riot.consulting](mailto:jb@riot.consulting)**

The Tenderer's contact details, as indicated in the Contract Data: Clause C1.2.2.2 "Data to Be Provided by Contractor", shall be deemed as the only valid contact details for the Tenderer for use in communications between the Employer's Agent and the Tenderer.

## F.2: TENDERER'S OBLIGATIONS

### F.2.1.1 Eligibility: General

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

- the Tenderer does not comply with the legal requirements as stated in the Employer's current SCM Policy.
- the Tenderer cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract.
- In the event of a Compulsory Clarification Meeting:
  - the Tenderer fails to attend the Compulsory Clarification Meeting for the full duration.
  - the Tenderer fails to have form "Certificate of Attendance at Clarification Meeting / Site Inspection" (in T2.2) signed by the Employer's Agent or his representative.
- in the case of JV submissions, two or more JV entities have common directors / shareholders or common entities tendering for the same works.
- at the time of closing of tenders, the Tenderer is not registered on the National Treasury Central Supplier Database (CSD) as a service provider. In the case of a Joint Venture, this requirement will apply individually to each party in the Joint Venture.
- The tenderer has not submitted, with this tender, a valid Letter of Good Standing from the Compensation Commissioner as proof of being registered and in good standing with the

compensation fund. Reference is to be made to Returnable Document T2.2.13.

- (g) The tender fails to complete and sign the Declaration of Municipal Fees in T2.2: "Returnable Documents" and submits the required documentation. Reference is to be made to Returnable Document T2.2.12.

SCM Policy (Cl.14(4)) requires suppliers/ service providers/ contractors to be registered on the eThekweni Municipality Central Supplier Database or be in a position to be so before the award.

In the event of the Tenderer not being registered on the eThekweni Municipality's Central Supplier Database, the tenderer must register on the internet at [www.durban.gov.za](http://www.durban.gov.za) by following these links:

- Business
- Supply Chain Management (SCM)
- Accredited Supplier and Contractor's Database.

The following are to be noted:

- (a) The information for registration as in the possession of the eThekweni Municipality will apply.
- (b) It is the Tenderer's responsibility to ensure that the details as submitted to the Municipality are correct.
- (c) Tenderers are to register prior to the submission of tenders.

#### F.2.1.2 **Eligibility: CIDB**

Only those tenderers who are registered (as "Active") with the CIDB (at time of tender closing), in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations, for a **CE** class of construction work, are eligible to have their tenders evaluated.

Joint ventures are eligible to submit tenders provided that:

- (a) Every member of the joint venture is registered (as "Active") with the CIDB (at time of tender closing),
- (b) The lead partner has a contractor grading designation in the **CE** class of construction work and has a grading designation of not lower than one level below the required grading designation, and
- (c) The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations (2013) is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **CE** class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

#### F.2.2.2 **The cost of the tender documents:** Replace this paragraph with the following:

"Documents are to be obtained, free of charge, in electronic format, from the **National Treasury's eTenders website** or the **eThekweni Municipality's Website**. The entire electronically downloaded document should be printed on white A4 paper (single-sided) and suitably bound by the tenderer.

#### F.2.6 **Acknowledge addenda:** Add the following paragraphs to the clause:

"Addenda will be published, in electronic format, on the websites specified in F.1.2. Tenderers are to ensure that the eTenders website is consulted for any published addenda pertaining to this tender up to three days before the tender closing time as stated in the Tender Data."

"Acknowledgement of receipt of the addenda will be by the return of the relevant completed, dated,

and signed portion of the addenda, to the physical or email address as specified on the addenda. Failure of the tenderer to comply with the requirements of the addenda may result in the tender submission being made non-responsive.”

**F.2.7 Clarification meeting:**

**Board Room 301, 3 Prior Road, eThekweni Water & Sanitation, Durban  
On 22 February 2024 at 11h00**

In the event of a Compulsory Clarification Meeting, Tenderers must sign the attendance register in the name of the tendering entity. The Tenderer's representative(s) at the clarification meeting must be able to clearly convey the discussions at the meeting to the person(s) responsible for compiling the entity's tender offer.

**F.2.12 Alternative tender offers:** No alternative tender offers will be considered.

**F.2.13 Submitting a tender offer:** Submissions must be submitted on official submission documentation issued (either in hard copy or in electronic format) by the eThekweni Municipality. Bidders are also required to submit a SOFT COPY of their complete tender submission scanned and saved onto a memory stick as well as an Excel or Bill Project copy of their Bill of Quantities.

Identification details to be shown on each tender offer package are:

- Contract No. : **WS-7723**
- Contract Title : **Construction and Replacement of Water Mains in the eThekweni Supply Area: Ward 48 & 110**

The Employer's address for delivery of tender offers is:

**The Tender Box in the foyer of the Municipal Building  
166 KE Masinga Road, Durban**

Tenderers are to include, with their paper (“hard copy”) submission, a memory-stick containing an electronically scanned (300 dpi resolution) Public Document Format (PDF) copy of their complete bid submission and Excel or Bill Project copy of their Bill of Quantities. This PDF file should be named using the contract number and the Tenderer's name, eg. “**WS-7723 – Tenderers Name.PDF**”. The memory-stick must be labelled with the Tenderer's name and securely fixed to the paper submission.

Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.

**F.2.15 Closing time:** The closing time for delivery of tender offers is:

- Date : **Friday, 22 March 2024**
- Time : **11h00**

**F.2.16 Tender offer validity:** The Tender Offer validity period is 120 Days from the closing date for submission of tenders.

**F.2.20 Submit securities, bonds, policies:** The tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Bond to the format included in T2.2 of this procurement document.

**F.2.23 Certificates:** Refer to T2.1 for a listing of certificates that must be provided with the tender. All certificates must be valid at the time of tender closing.

**Tenderers are to include, at the back of their tender submission document, a printout of the required documents/ certificates.**

The Form of Offer (C1.1.1), Data to be provided by the Contractor (C1.2.2.2), and the Bill of Quantities (C2.2) are also required to be completed in full.

### **Tax Clearance**

Reference is also to be made to returnable form T2.2.3: "Tax Compliance Status PIN/ Tax Clearance Certificate".

SARS has introduced a new Tax Compliance Status System. Tenderers must submit a **Tax Compliance Status PIN** (TCS PIN) instead of an original Tax Clearance Certificate. This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status. This TCS PIN is to be entered on Returnable Document T2.2.1: "Compulsory Enterprise Questionnaire". Separate Tax Clearance Certificates / TCS PINs are required for each entity in a Joint Venture.

Failure to comply will make the tender non-responsive.

### **Compensation Commissioner**

Reference is also to be made to returnable form T2.2.13: "Eligibility: Registration with Compensation Commissioner".

The tenderer is to supply proof of being registered and in good standing with the compensation fund by submitting a valid **Letter of Good Standing** from the Compensation Commissioner.

Failure to comply will make the tender non-responsive.

### **Central Supplier Database (CSD)**

Reference is also to be made to returnable form T2.2.14: "Eligibility: CSD Registration Report".

The entities (full) **CSD Registration Report**, obtained from the National Treasury Central Supplier Database, is to be included in the tender submission ( <https://secure.csd.gov.za> ).

Separate CSD Registration Reports are required for each entity in a Joint Venture.

### **CIDB Registration**

Reference is also to be made to returnable form T2.2.15: "Eligibility: Verification of CIDB Registration and Status".

Registration with the CIDB must be reflected as "Active" at time of tender closing.

Tenderers are to include with their submission a printout of their **CIDB Registration**, obtained from the CIDB website ( <https://registers.cidb.org.za/PublicContractors/ContractorSearch> ).

The Joint Venture Grading Designation Calculator should be used when submitting as a Joint Venture ( <https://registers.cidb.org.za/PublicContractors/JVGradingDesignationCalc> ).

The date of obtaining the CIDB printout(s) is to be indicated on the printout.

## F.3: THE EMPLOYER'S UNDERTAKINGS

**F.3.1.1 Respond to requests from the tenderer:** Replace the words "five working days" with "three working days".

**F.3.2 Issue addenda:** Add the following paragraph: "Addenda will be published, in electronic format, on the same platform(s) as the Tender Notification (refer to F.1.2).

**F.3.4 Opening of Tender Submissions:** Tenders will be opened immediately after the closing time for tenders. The public reading of tenders will take place in the SCM Boardroom, 6<sup>th</sup> Floor, Engineering Unit Building, 166 KE Masinga Road, Durban.

**F.3.11 Evaluation of Tender Offers:**

**Eligibility**

Tenders will be checked for compliance with the ELIGIBILITY requirements, as specified in T1.2.2 Clause F.2.1. Tenderers not in compliance will be deemed non-responsive.

**Functionality**

FUNCTIONALITY will be evaluated to determine the responsiveness of tenders received. The minimum score for FUNCTIONALITY is 70 points. Those tenders not achieving the minimum score will be deemed non-responsive.

The functionality Criteria, Sub-Criteria, Points per Criteria/ Sub-Criteria, Returnable Documentation and Schedules, Method of Evaluation, and Prompts for Judgement are as specified in T1.2.3: "Additional Conditions of Tender".

**Preference Point System**

The procedure for the evaluation of responsive tenders is **PRICE AND PREFERENCE** in accordance with the Employer's current SCM Policy, the Preferential Procurement Policy Framework Act (5 of 2000), and the Preferential Procurement Policy Framework Act Regulations (2022).

**Price Points**

The **90/10** preference points system will be applied. The Formula used to calculate the **Price Points (max. 90)** will be according to that specified Regulation 5.1.

**Preference Points**

Reference is also to be made to T2.2.7: "MBD 6.1: Preference Points Claim".

The Preference Points (either 20 or 10) will be derived from points allocated/ claimed for **Specific Goals** as indicated in the table(s) below, according to the specified **Goal/ Category Weightings**.

- Ownership Goal  
Goal Weighting:90%

The tendering entity’s Percentage Ownership, in terms of the Ownership Category(s) listed below, is to be used in the determination of the tenderer’s claim for Preference Points.

Ownership Categories	Criteria	80/20	90/10
Race: Black (w1)	Equals 0%	N/A	0
	Between 0% and 51%	N/A	3.6
	Greater or equal to 51% and less than 100%	N/A	7.2
	Equals 100%	N/A	9
Maximum Goal Points:			9

Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the tenderer’s status)

- Companies and Intellectual Property Commission registration document (CIPC)
- CSD report.
- B-BBEE Certificate of the tendering entity.
- Consolidated BBEE Certificate if the tendering entity is a Consortium, Joint Venture, or Trust (Issued by verification agency accredited by the South African Accreditation System).
- Agreement for a Consortium, Joint Venture, or Trust.

- RDP Goal: The promotion of South African owned enterprises  
Goal Weighting:10%

**F.3.13**

The tendering entity’s Address (as stated on the National Treasury Central Supplier Database (CSD) or on the eThekweni Municipality Vendor Portal) is to be used in the determination of the tenderer’s claim for Preference Points for this Specific Goal.

Location	80/20	90/10
Not in South Africa	N/A	0
South Africa	N/A	0.25
Kwa Zulu Natal	N/A	0.5
eThekweni Municipality	N/A	1
Maximum Goal Points:		1

Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the tenderer’s status)

- CSD Report

**tender offer:** In addition to the requirements of Clause F.3.13 of the Standard Conditions of Tender, tender offers will only be accepted if:

- The tenderer submits a **valid Tax Clearance Certificate OR Tax Compliance Status PIN**, issued by the TCS System of the South African Revenue Services, or has made arrangements to meet outstanding tax obligations.
- The tenderer is **registered, and “Active”, with the Construction Industry Development**

- Board**, at time of tender closing, in an appropriate contractor grading designation.
- (c) The tenderer or any of its directors/shareholders is **not listed on the Register of Tender Defaulters** in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector.
  - (d) The tenderer has not:
    - Abused the Employer's Supply Chain Management System; or
    - Failed to perform on any previous contract and has been given a written notice to this effect.
  - (e) The tenderer has completed the **Compulsory Enterprise Questionnaire** and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the Employer or potentially compromise the tender process.
  - (f) The tenderer is **registered and in good standing with the compensation fund or with a licensed compensation insurer**.
  - (g) The Employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the **necessary competencies and resources to carry out the work safely**.

The Municipality does not bind itself to accept the lowest or any tender. It reserves the right to accept the whole or any part of a tender to place orders. Bidders shall not bind the Municipality to any minimum quantity per order. The successful Tenderer (s) shall be bound to provide any quantities stipulated in the specification.

The municipality has a firm intention to proceed with the work, subject to funding being identified. Notwithstanding clause F.1.1.3 of the Standard Conditions of Tender, the municipality reserves the right to award or not award the tender based on the municipalities available budget.

**F.3.15 Complete adjudicator's contract:** Refer to the General Conditions of Contract and the Contract Data.

**F.3.17 Copies of contract:** The number of paper copies of the signed contract to be provided by the Employer is ONE (1).

Tenderers are to include, with their "hard copy" submission, a memory-stick containing an electronically scanned (300 dpi resolution) Public Document Format (PDF) copy of their complete bid submission. This PDF file should be named using the contract number and the Tenderer's name, eg. "**WS-7723 – Tenderers Name.PDF**". The memory-stick must be labelled with the Tenderer's name and securely fixed to the paper submission.

**T1.2.3 ADDITIONAL CONDITIONS OF TENDER****T1.2.3.1 Appeals**

In terms of Regulation 49 of the Municipal Supply Chain Management Regulations persons aggrieved by decisions or actions taken by the Municipality, may lodge an appeal within 14 days of the decision or action, in writing to the Municipality. All appeals (clearly setting out the reasons for the appeal) and queries with regard to the decision of award are to be directed to:

The City Manager  
 Attention Ms S. Pillay eMail: [Simone.Pillay@durban.gov.za](mailto:Simone.Pillay@durban.gov.za)  
 P O Box 1394  
 DURBAN, 4000

**T1.2.3.2 Prohibition on awards to persons in the service of the state**

Clause 44 of the Supply Chain Management Regulations states that the Municipality or Municipal Entity may not make any award to a person:

- (a) Who is in the service of the State;
- (b) If that person is not a natural person, of which a director, manager, principal shareholder or stakeholder is a person in the service of the state; or
- (c) Who is an advisor or consultant contracted with the municipality or a municipal entity.

Should a contract be awarded, and it is subsequently established that Clause 44 has been breached, the Employer shall have the right to terminate the contract with immediate effect.

**T1.2.3.3 Code of Conduct and Local Labour**

The Tenderers shall make themselves familiar with the requirements of the following policies that are available on web address: <ftp://ftp.durban.gov.za/cesu/StdContractDocs/>:

- Code of Conduct;
- The Use of CLOs and Local Labour.

**T1.2.3.5 Functionality Specification**

The value of  $W_2$  is 100. The Functionality criteria (and sub criteria if applicable) and maximum score in respect of each of the criteria are as follows:

	<b>Functionality criteria (Sub-criteria)</b>	<b>Maximum Points Score</b>
1	Tenderer's Experience in Similar Projects	40
2	Experience of Key Staff	30
2.1	Contracts Manager	(10)
2.2	Site Agent / Project Manager	(10)
2.3	General / Pipeline Foreman	(10)
3	Preliminary Programme (indicative of process and relating to methodology)	10
4	Construction Methodology, Project Approach, Participation Approach & Quality Control	10
5	Quality Assurance	10
<b>6</b>	<b>Maximum possible score for Functionality (Ms)</b>	<b>100</b>

The minimum number of evaluation points for Functionality is **70**. Only those tenderers who achieve the minimum number of Functionality evaluation points (or greater) will be eligible to have their tenders further evaluated.

Functionality shall be scored by not less than three evaluators and the scores of each of the evaluators will be averaged, weighted, and then totalled to obtain the final score for Functionality. Each evaluation criteria will be assessed in terms of the criterion tables provided below.

Evaluation criteria will be adjudicated according to submissions made in accordance with the following schedules, which are found in Part T2.2: Returnable Schedules:

Functionality Criteria	Returnable Schedules
Tenderer's Experience in Similar Projects	<ul style="list-style-type: none"> <li>• Experience of Tenderer</li> </ul>
Experience of Key Staff	<ul style="list-style-type: none"> <li>• Proposed Organization and Staffing</li> <li>• Key Personnel</li> <li>• CVs with Experience of Key Personnel</li> </ul>
Preliminary Programme (indicative of process and relating to methodology)	<ul style="list-style-type: none"> <li>• Preliminary Construction Programme</li> </ul>
Construction Methodology, Project Approach & Participation Approach	<ul style="list-style-type: none"> <li>• Construction Approach &amp; Methodology,</li> <li>• Participation Approach</li> <li>• Schedule of Proposed Subcontractors</li> <li>• Plant and Equipment</li> </ul>
Quality Assurance	<ul style="list-style-type: none"> <li>• Quality Assurance Plan &amp; ISO Certificate</li> </ul>

Unless otherwise stated, evaluation criteria will be adjudicated with respect to the contract specific Scope of Work, as specified in Part C.3. In this regard the following definitions apply to the evaluation criteria prompts for judgement:

- **“successfully completed”** implies a project has been completed on time and to specification.
- **“similar nature”** implies the construction of watermains with a minimum of 100 mm and larger in brownfields pipe replacement project areas while encountering known and unknown services.
- **“accredited degree / diploma”** implies a minimum 3-year qualification within the built environment, from a registered University or Institute of Technology.

<b>Functionality Criterion: Tenderer's Experience</b>		
<b>Note: Only completed brownfields projects similar to the Scope of Works in the last 15 years may be used, for which supporting documentation must be supplied as per TENDERER'S EXPERIENCE: PROFORMA CLIENT REFERENCE OF COMPARABLE BROWNFIELDS PROJECTS page in this document. Projects not deemed successfully completed by the Tenderer will not be assessed in this evaluation.</b>	<b>Max Points</b>	<b>Tenderer's Self Score</b>
The Tenderer has failed to provide evidence of experience in the successful replacement of water mains 100mm diameter and larger i.e., <b>ZERO km (0)</b> successfully commissioned.	<b>0 of 40</b>	<b>_____ / 40</b>
The Tenderer has replaced water mains 100mm diameter and larger with a total length in range of <b>ONE km (1)</b> to <b>FIFTEEN km (15)</b> .	<b>10 of 40</b>	
The Tenderer has replaced water mains (100mm diameter and larger) with a total length in range greater than <b>FIFTEEN km (15)</b> up to <b>TWENTY-FIVE km (25)</b> .	<b>20 of 40</b>	
The Tenderer has replaced water mains (100mm diameter and larger) with a total length in range greater than <b>TWENTY-FIVE km (25)</b> up to <b>THIRTY km (30)</b> .	<b>30 of 40</b>	
The Tenderer has replaced water mains (100mm diameter and larger) with a total length in range greater than <b>FORTY km (40)</b> up to <b>FIFTY km (50)</b> .	<b>40 of 40</b>	
<b>SUB-TOTAL</b>	<b>40</b>	

Only those tenderers that can demonstrate experience, by the submission of the specified returnable document in T2.2 (duplicated for each experience submission), and supply the associated documentation/ information, in works of a similar nature, within the past 15 years, , will score points under the Functionality Criterion: Tenderer's Experience and have their tenders evaluated in terms of Clause F.3.11.

Tenderers may submit experience gained as Sub-Contractors but have to provide Main Contractor references to verify experience submitted. When submitting Tenderer Experience as a Sub-Contractor, only the work carried out by the Tenderer as a Sub-Contractor may be submitted. The Tenderer is to provide supporting documentation stipulated in **Table 1: "Documentation / Information Requirements"** to verify the experience submitted.

Where Tenderers have gained experience as Sub-Contractors, only experience in the construction of watermains in brownfields environments will be considered. Ancillary works, e.g. earthworks, bricklaying and supply of materials, carried out for projects of a similar nature will not be considered.

**Returnable form T2.2.16: "Functionality: Experience of Tenderer" is to be duplicated for each experience submission, as may be required.**

Contact details of the Client or Main Contractor (if experience was gained as a sub-contractor), is required to be provided on the above-mentioned form. The contact details may be used by the Employer to verify the information, pertaining to the experience submission, as provided by the Tenderer. Should the Employer's reasonable attempts to make contact with the Client or Main Contractor, to verify the information provided, fail (for whatever reason), that specific experience submission will be considered invalid.

Only completed projects by the Contractor / Sub-Contractor is to be used in the experience submission.

In the event of a Joint Venture (JV) tendering for this contract, experience gained by the separate

entities making up the JV may be used as experience provided that the experience requirement, as stipulated in **Table 2**, is satisfied, and that the required documentation/ information is provided.

The documentation/ information that is required is specified on **Table 1**: “Documentation / Information Requirements” (which includes the Notes below the table), and the experience requirement is as stated on **Table 2**: “Tenderer’s Experience Requirement”.

Table 1: Documentation / Information Requirements

Note: an “X” in this table indicates that the associated documentation must be provided, if applicable.	Proof of Sub-Contract Agreement <b>Note 1</b>	Letter of Award OR Form of Offer & Acceptance <b>Note 2</b>	Most recent Payment Certificate with Quantities summary <b>Note 3</b>	Final Payment Certificate with Quantities summary <b>Note 4</b>	Completion Certificate <b>Note 5</b>	NB Scope of Work <b>Note 6</b>
<b>Works as Sub-Contractor</b>						
Current Contracts	/	/	/	/	/	/
Completed Contracts	X	/	/	X	/	X
<b>Works as Main Contractor</b>						
Current Contracts	/	/	/	/	/	/
Completed Contracts	/	X	/	X	X	X
<b>NOTES</b>						
Note 1	Must include the names of the parties, the managing entity’s name, the effective dates, and the signature(s) page, all pertaining to the agreement.					
Note 2	Issued by the Client / Employer.					
Note 3	Proof of the most recent payment received from the Main Contractor or Client/ Employer, with a summary breakdown of quantities.					
Note 4	Proof of the final approved payment certificate received from the Main Contractor or Client/ Employer, with a summary breakdown of quantities.					
Note 5	Issued by the Client/ Employer.					
Note 6	<p><b>NB: Without this information the experience submission cannot be considered.</b></p> <ul style="list-style-type: none"> <li>This submission must indicate how the works carried out, either as a Sub-Contractor or a Main Contractor, is similar (see Table 2: Tenderer’s Experience Requirement) to the Scope-of-Work of this specific tender.</li> <li>If executed as a Sub-Contractor, the Scope-of-Work should be indicative of only the works carried out by the Sub-Contractor, and not the overall Scope-of-Work of the main contract.</li> <li>If executed as a Main Contractor, the overall contract Scope-of-Work is to be provided.</li> <li>The description of the Scope-of-Work is to be inserted into the returnable form in Part T2, or if available as a hard copy (max. 2 pages) attached to the form with the other relevant, associated, supporting documentation.</li> </ul>					
Failure to submit the returnable form in Part T2.2, <u>and</u> provide any of the above supporting documentation/ information, <u>for each submission of experience</u> , will result in a zero score for the experience claimed.						

<b>Table 2: Tenderer’s Experience Requirement</b>
<b>Provision of Water Mains Replacement Works</b>
<ul style="list-style-type: none"> <li>Refer to Tenderer’s Experience Table under Clause F3.11.9</li> </ul>

**Note:** The failure to complete the relevant returnable form T2.2.16 for each submission of experience AND supply the associated, relevant, documentation (as specified on Table 1) will result in a zero score for the experience claimed.

Only experience relating to the construction of watermains and bulk pipelines, diameters of 50mm and greater will be considered as relevant experience for Key Personnel

<b>Functionality Criterion: Experience of Key Personnel</b>			
<b>Sub criteria</b>	<b>Prompts for Judgement-Key Expert Criteria</b>	<b>Max Points</b>	<b>Tenderer's Self Score</b>
<b>Contracts Manager</b>	<b>National Diploma or Degree in Civil Engineering (Compulsory Requirement)</b>		
	has less than <b>THREE (3)</b> years post-qualification experience as a Contracts Manager or no proof of evidence of experience.	<b>0 of 10</b>	<b>10</b>
	<b>THREE (3)</b> to <b>FIVE (5)</b> years post-qualification experience as a Contracts Manager or no proof of evidence of experience.	<b>4 of 10</b>	
	<b>SIX (6)</b> to <b>EIGHT (8)</b> years post-qualification experience as a Contracts Manager of relevant project experience	<b>7 of 10</b>	
	<b>NINE (9)</b> to <b>TEN (10)</b> years post-qualification experience as a Contracts Manager of relevant project experience	<b>9 of 10</b>	
	<b>ELEVEN (11)</b> OR <b>MORE</b> years post-qualification experience as a Contracts Manager of relevant project experience	<b>10 of 10</b>	
<b>Site Agent / Project Manager</b>	<b>National Diploma or Degree in Civil Engineering and NQF 5 (LIC) certified (Compulsory requirement)</b>		
	has less than <b>THREE (3)</b> years post-qualification experience as a Site Agent or no proof of evidence of experience	<b>0 of 10</b>	<b>10</b>
	<b>THREE (3)</b> to <b>FIVE (5)</b> years post-qualification experience as a Site Agent or no proof of evidence of experience	<b>4 of 10</b>	
	<b>SIX (6)</b> to <b>EIGHT (8)</b> years post-qualification experience as a Site Agent of relevant project experience	<b>7 of 10</b>	
	<b>NINE (9)</b> to <b>TEN (10)</b> years post-qualification experience as a Site Agent of relevant project experience	<b>9 of 10</b>	
	<b>ELEVEN (11)</b> OR <b>MORE</b> years post-qualification experience as a Site Agent of relevant project experience	<b>10 of 10</b>	
<b>General/Pipeline Foremen</b>	<b>Degree, National Diploma or NHD/ S4 in Civil Engineering</b>		
	has less than <b>THREE (3)</b> years post-qualification or no proof of evidence of experience	<b>0 of 10</b>	<b>10</b>
	<b>THREE (3)</b> to <b>FIVE (5)</b> years post-qualification of relevant project experience	<b>4 of 10</b>	
	<b>SIX (6)</b> to <b>EIGHT (8)</b> years post-qualification of relevant project experience	<b>7 of 10</b>	
	<b>NINE (9)</b> to <b>TEN (10)</b> years post-qualification of relevant project experience	<b>9 of 10</b>	
	<b>ELEVEN (11)</b> OR <b>MORE</b> years post-qualification of relevant project experience	<b>10 of 10</b>	
<b>SUB-TOTAL</b>		<b>30</b>	<b>_____ /30</b>

Only experience relating to the construction of watermains and bulk pipelines, diameters of 50mm and greater will be considered as relevant experience for Key Personnel

<b>Functionality Criterion: Preliminary Construction Programme</b>				
<b>Sub criteria</b>	<b>Criterion: Construction Programme / Works Schedule</b>	<b>Max Points</b>		<b>Tenderer's Self Score</b>
<b>Preliminary Programme</b>	No information provided; OR Programme does not cover all the applicable individual activities which are in an acceptable sequence, with appropriate durations, and is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion) (GCC 2015, 3rd Edition).	<b>0 of 10</b>	<b>10</b>	<b>_____ /10</b>
	Programme covering all the applicable individual activities which are in an acceptable sequence, with appropriate durations, and is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion) (GCC 2015, 3rd Edition).	<b>4 of 10</b>		
	Programme covering all the applicable individual activities which are in an acceptable sequence, with appropriate durations, and is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion) (GCC 2015, 3rd Edition) . Plus: shows critical path with logical linking of tasks/ activities.	<b>7 of 10</b>		
	Programme covering all the applicable individual activities which are in an acceptable sequence, with appropriate durations, is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion) (GCC 2015, 3rd Edition) and demonstrate that the tenderer clearly understand the Scope of Work. Plus: shows critical path with logical linking of tasks/ activities, shows detailed activity and resources breakdown, cashflow included.	<b>9 of 10</b>		
	Programme covers all the applicable individual activities which are in an acceptable sequence, with appropriate durations, is in accordance with generally accepted construction practice, and is in line with Clause 1.1.1.14 of the Conditions of Contract (time for achieving Practical Completion) (GCC 2015, 3rd Edition) and gives real confidence that the tenderer will add value to the project. Plus: shows critical path with logical linking of tasks/ activities, shows detailed activity and resources breakdown, cashflow included. Detailed plant and equipment resource breakdown included.	<b>10 of 10</b>		
<b>SUB-TOTAL</b>		<b>10</b>	<b>_____ /10</b>	

<b>Functionality Criterion: Construction Methodology, Project Approach, Participation Approach &amp; Quality Control</b>				
<b>Sub criteria</b>	<b>Prompts for Judgement- Construction Methodology</b>	<b>Max Points</b>		<b>Tenderer's Self Score</b>
<b>Construction Methodology, Project Approach &amp; Participation Approach</b>	No information provided; OR The technical approach / methodology, plant and equipment is poor and gives no relevant information in satisfying the projects objectives Quality control statement is poor with no relevant information	<b>0 of 10</b>	<b>10</b>	<b>_____ /10</b>
	The technical approach and/or methodology is less than acceptable and unlikely to satisfy project objectives or requirements. Plant and equipment are unlikely to provide adequate protection of the works. Quality control statement is generic.	<b>4 of 10</b>		
	Brief overview of a site-specific methodology which encompasses all programmed activities in appropriate order and includes staff, plant and equipment resources, including subcontractors if applicable, a brief description of preparatory work, construction processes including finishing works for each activity. Quality control statements are site specific with statements covering required sampling and testing requirements for the programmed activities. Participation Approach: The tender has a general understanding of participation requirements and approach.	<b>7 of 10</b>		
	The methodology is specifically tailored to address specific project requirements. The methods and approach to managing risk etc. are specifically tailored to the critical characteristics of the project. The plant and equipment are specifically tailored to the project requirements and are sufficiently adaptable to accommodate changes that may be required during execution. Quality control statements are site specific covering required sampling and testing for programmed activities including site specific quality control checklist for programmed activities. Participation Approach: The tender has a very good understanding of participation requirements and approach but without innovative approaches mentioned.	<b>9 of 10</b>		
	Besides meeting the "above Level 4" rating, the important issues are approached in an innovative and efficient way, indicating that the tenderer has excellent knowledge of working in the projects environment and producing the required final product. Plant and equipment proposals and ownership/provision arrangements are most likely to ensure a satisfactory project outcome. Quality control statements are site specific covering required sampling and testing for all programmed activities including site specific quality control checklist for all programmed activities. Participation Approach: The tender has a very good understanding of participation requirements and approach with innovative approaches mentioned.	<b>10 of 10</b>		
<b>SUB-TOTAL</b>		<b>10</b>	<b>_____ /10</b>	

<b>Functionality Criterion: Quality Assurance</b>				
<b>Sub criteria</b>	<b>Criterion: Quality Assurance</b>	<b>Max Points</b>		<b>Tenderer's Self Score</b>
<b>Quality Control/ Assurance</b>	Contractor does not have a quality system in place	<b>0 of 10</b>	<b>10</b>	_____/10
	Contractor has a quality management system confirmed by an independent quality institute.	<b>7 of 10</b>		
	The Contractor has attached his ISO 9001/2000/2009 accreditation	<b>10 of 10</b>		
<b>SUB-TOTAL</b>		<b>10</b>		_____/10

## **PART T2: RETURNABLE DOCUMENTS**

### **T2.1 LIST OF RETURNABLE DOCUMENTS**

#### **T2.1.1 General**

The Tender Submission Documentation must be submitted in its entirety. All forms must be properly completed as required.

The Tenderer is required to complete each and every Schedule and Form listed below to the best of their 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 non-responsive.

#### **T2.1.2 Returnable Schedules, Forms and Certificates**

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**T2.2 RETURNABLE SCHEDULES, FORMS, AND CERTIFICATES**

The returnable schedules, forms, and certificates, as listed in T2.1.2, can be found on pages [21](#) to [39](#).

**NOTE**

The **Form of Offer** (C1.1.1), The **Data to be Provided by Contractor** (C1.2.2.2), and the **Bill of Quantities** (C2.2) are also required to be completed by the tenderer.

**T2.2.1 COMPULSORY ENTERPRISE QUESTIONNAIRE**

<b>Ref</b>	<b>Description</b>	<b>Complete or Circle Applicable</b>
1.1	Name of enterprise	
1.2	Name of enterprise's representative	
1.3	ID Number of enterprise's representative	
1.4	Position enterprise's representative occupies in the enterprise	
1.5	National Treasury Central Supplier Database Registration number	<b>MAAA</b>
1.6	eThekwini Supplier Database: Reference number (PR), if any:	<b>PR</b>
1.7	VAT registration number, if any:	
1.8	CIDB registration number, if any:	
1.9	Department of Labour: Registration number	
1.10	Department of Labour: Letter of Good Standing Certificate number	
<b>2.0</b>	<b>Particulars of sole proprietors and partners in partnerships (attach separate pages if more than 4 partners)</b>	
	<b>Full Name</b>	<b>Identity No.</b>
	<b>Personal income tax No. *</b>	
2.1		
2.2		
2.3		
2.4		
<b>3.0</b>	<b>Particulars of companies and close corporations</b>	
3.1	Company registration number, if applicable:	
3.2	Close corporation number, if applicable:	
3.3	Tax Reference number, if any:	
3.4	South African Revenue Service: Tax Compliance Status PIN:	

**4.0 Record in the service of the state** (Insert on a separate page if necessary)

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

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

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

**5.0 Record of spouses, children and parents in the service of the state** (Insert on a separate page if necessary)

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

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

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

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

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

NAME (Block Capitals): \_\_\_\_\_

Date \_\_\_\_\_

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

**T2.2.2 CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING / SITE INSPECTION**

Reference is to be made to Clauses F.2.1(c) and F.2.7 of the Tender Data.

This is to certify that:

(tenderer name): \_\_\_\_\_  
of (address): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

was represented by the person(s) named below at the Clarification Meeting held for all tenderers, the details of which are stated in the Tender Data (F.2.7).

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

**Particulars of person(s) attending the meeting:**

Name: ..... Name: .....  
Signature: ..... Signature:.....  
Capacity: ..... Capacity:.....

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

Name: .....  
Signature: .....  
Date: .....

**T2.2.3 TAX COMPLIANCE STATUS PIN / TAX CLEARANCE CERTIFICATE**

Reference is to be made to Clauses F.2.23 and F.3.13(a) of the Tender Data.

SARS has introduced a new Tax Compliance Status System. Tenderers can submit a Tax Compliance Status PIN (TCS PIN) instead of an original Tax Clearance Certificate. This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status.

Separate Tax Clearance Certificates / TCS PINs are required for each entity in a Joint Venture.

The TCS PIN(s) are to be entered under item 3.4 on form **T2.1.2.1: Compulsory Enterprise Questionnaire**.

**Tenderers are to include, at the back of their tender submission document, a printout of their Tax Compliance Status PIN (TCS PIN) OR an original Tax Clearance Certificate.**

**Failure to include the required document will make the tender submission non-responsive.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

NAME (Block Capitals):

Date

SIGNATURE:

**T2.2.4 CONTRACTOR'S HEALTH AND SAFETY DECLARATION**

If Functionality is applicable as part of tender evaluation, reference is to be made to Clause F3.11.9 of the of the Conditions of Tender.

Reference is to be made to Clauses F.2.1(e) and F.2.23 of the Tender Data.

In terms of Clause 5(1)(h) of the OHSA 1993 Construction Regulations 2014 (referred to as "the Regulations" hereafter), a Principal Contractor may only be appointed to perform construction work if the Client is satisfied that the Principal Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHSA 1993 Construction Regulations 2014.

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

**Declaration by Tenderer**

- 1 I, the undersigned, hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2014.
- 2 I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.
- 3 I propose to achieve compliance with the Regulations by one of the following (Tenderers are to Circle Applicable - Yes or No):

Circle Applicable	
Yes	NO
Yes	NO
YES	NO

- (a) From my own competent resources as detailed in 4(a) hereafter.
- (b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter:
- (c) From outside sources by appointment of competent specialist Subcontractors as detailed in 4(c) hereafter:

- 4 Details of resources I propose:  
*(Note: Competent resources shall include safety personnel such as a construction supervisor and construction safety officer as defined in Regulation 8, and competent persons as defined in Regulations 9, 10, 11, 12, 13, 14, 16, 17, 20, 21, 22, 23(1), 24, 25, 26, 27, 28 and 29, as applicable).*

- (a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

(b) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve the necessary competency:

(i) By whom will training be provided?

--

(ii) When will training be undertaken?

--

(iii) Positions to be filled by persons to be trained or hired:


(c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company:

Name of proposed subcontractor:

--

Qualifications or details of competency of the subcontractor:


5 I, the undersigned, hereby undertake, if this tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 7(1) of the Construction Regulations, which plan shall be subject to approval by the Client.

6 I, the undersigned, confirm that copies of this company's approved Health and Safety Plan, the Client's Safety Specifications as well as the OHS 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Principal Contractor's personnel, the Client's personnel, the Employer's Agent, visitors, and officials and inspectors of the Department of Labour.

7 I, the undersigned, hereby confirm that adequate provision has been made in the tendered rates and prices in the Bill of Quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHS 1993 Construction Regulations 2014, and that I will be liable for any penalties that may be applied by the Client in terms of the said Regulations (Regulation 33) for failure on the Principal Contractor's part to comply with the provisions of the Act and the Regulations.

8 I, the undersigned, agree that failure to complete and execute this declaration to the satisfaction of the Client will mean that this company is unable to comply with the requirements of the OHS 1993 Construction Regulations (2014) and accept that this tender will be prejudiced and may be rejected at the discretion of the Client.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals):

Date

.....

SIGNATURE:

.....

.....

**T2.2.5 MBD 4: DECLARATION OF INTEREST**

MSCM Regulations: **“in the service of the state”** means to be:

- (a) a member of:
  - (i) any municipal council.
  - (ii) any provincial legislature.
  - (iii) the national Assembly or the national Council of provinces.
- (b) a member of the board of directors of any municipal enterprise.
- (c) an official of any municipality or municipal enterprise.
- (d) an employee of any national or provincial department, national or provincial public enterprise 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 enterprise.
- (f) an employee of Parliament or a provincial legislature.

**“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.

- 1 No bid will be accepted from persons **in the service of the state**<sup>1</sup>.
- 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/adjudging authority and/or take an oath declaring his/her interest.
- 3 In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.

3.1 Name of enterprise	Complete T2.1.2.1 Item 1.1
Name of enterprise’s representative	Complete T2.1.2.1 Item 1.2
3.2 ID Number of enterprise’s representative	Complete T2.1.2.1 Item 1.3
3.3 Position enterprise’s representative occupies in the enterprise	Complete T2.1.2.1 Item 1.4
3.4 Company Registration number	Complete T2.1.2.1 Item 3.1 or 3.2
3.5 Tax Reference number	Complete T2.1.2.1 Item 3.3
3.6 VAT registration number	Complete T2.1.2.1 Item 1.7

3.7 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted.

		Circle Applicable	
3.8	Are you presently in the service of the state?	YES	NO
	If yes, furnish particulars: .....		
	.....		
3.9	Have you been in the service of the state for the past twelve months?	YES	NO
	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
-----	----

  
 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
-----	----

  
 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
-----	----

  
 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
-----	----

  
 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
-----	----

  
 If yes, furnish particulars: .....

4 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted

Full Name	Identity No.	State Employee No.	Personal income tax No.
Use additional pages if necessary			

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals): \_\_\_\_\_ Date \_\_\_\_\_  
 SIGNATURE: \_\_\_\_\_

**T2.2.6 MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION  
(ALL APPLICABLE TAXES INCLUDED)**

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

		Circle Applicable	
		YES	NO
1.0	Are you by law required to prepare annual financial statements for auditing?		
1.1	<b>If YES, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.</b>		
2.0	Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?		
2.1	If NO, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.		
2.2	If YES, provide particulars. ..... .....		
3.0	Has any contract been awarded to you by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract?		
3.1	If YES, provide particulars. ..... .....		
4.0	Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?		
4.1	If YES, provide particulars. ..... .....		

**If required by 1.1 above, tenderers are to include, at the back of their tender submission document, a printout of their audited annual financial statements.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and, if required, that the requested documentation has been included in the tender submission.*

NAME (Block Capitals): \_\_\_\_\_ Date \_\_\_\_\_

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

---

**T2.2.7 MBD 6.1: PREFERENCE POINTS CLAIM**  
**In terms of THE PREFERENTIAL PROCUREMENT REGULATIONS (2022)**

**Reference is to be made to Clause F.3.11 of the Tender Data.**

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

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

**1.0 GENERAL CONDITIONS**

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

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

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

1.3 Preference Points for this tender shall be awarded for:

- Price and Specific Goals: 90 (price) and 10 (specific goals), in terms of 1.2 above.
- The total Preference Points, for Price and Specific Goals, is 100.

1.4 Failure on the part of the tenderer to submit the required proof or documentation, in terms of the requirements in the Conditions of Tender for claiming specific goal preference points, will be interpreted that preference points for specific goals are not claimed.

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

**2.0 DEFINITIONS**

2.1 “tender” means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation.

2.2 “price” means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts.

2.3 “rand value” means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes.

2.4 “tender for income-generating contracts” means a written offer in the form determined by Municipality in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the Municipality and a third party that produces revenue for the Municipality, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions.

2.5 “the Act” means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

### 3.0 FORMULA FOR CALCULATION OF PREFERENCE PRICE POINTS

#### 3.1 PROCUREMENT OF GOODS AND SERVICES

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

##### 90 / 10 Points System

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

Where:

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

#### 4.0 POINTS AWARDED FOR SPECIFIC GOALS

- 4.1 In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goal(s) stated in Table 1 below, as supported by proof/ documentation stated in the Conditions of Tender:
- 4.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of:
- (a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system, or
  - (b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,
- then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

TABLE 1: Specific Goals for the tender and maximum points for each goal are indicated per the table below. Tenderers are to indicate their points claim for each of the Specific Goals in the shaded blocks.

The Specific Goals to be allocated points in terms of this tender	Maximum Number of points ALLOCATED (80/20 system)	Maximum Number of points ALLOCATED (90/10 system)	Number of points CLAIMED (80/20 system)	Number of points CLAIMED (90/10 system)
Ownership Goal: Race (black)	n/a	9	n/a	
RDP Goal: Location	n/a	1	n/a	
Total CLAIMED Points (10 Maximum)				

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, certify that the points claimed, based on the specific goals as specified in the tender, qualifies the tendering entity for the preference(s) shown.

I acknowledge that:

- 1) The information furnished is true and correct.
- 2) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.
- 3) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct.
- 4) If the specific goals have been claimed or obtained on a fraudulent basis, or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have:
  - (a) disqualify the person from the tendering process.
  - (b) recover costs, losses or damages it has incurred or suffered as a result of that person’s conduct.
  - (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation.
  - (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
  - (e) forward the matter for criminal prosecution, if deemed necessary.

NAME (Block Capitals): \_\_\_\_\_

Date

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

**T2.2.8 MBD 8: DECLARATION OF BIDDER’S PAST SUPPLY CHAIN MANAGEMENT PRACTICES**

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

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

4.1 Is the bidder or any of its directors listed on the National Treasury’s Database of Restricted Suppliers as companies or persons prohibited from doing business with the public sector?

(Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer / Authority of the institution that imposed the restriction after the audi alteram partem rule was applied.)

The Database of Restricted Suppliers now resides on the National Treasury’s website ([www.treasury.gov.za](http://www.treasury.gov.za)) and can be accessed by clicking on its link at the bottom of the home page.

Circle Applicable	
YES	NO

4.1.1 If YES, provide particulars.

.....

.....

4.2 Is the bidder or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004)?

The Register for Tender Defaulters can be accessed on the National Treasury’s website ([www.treasury.gov.za](http://www.treasury.gov.za)) by clicking on its link at the bottom of the home page.

YES	NO
-----	----

4.2.1 If YES, provide particulars.

.....

.....

4.3 Was the bidder or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?

YES	NO
-----	----

4.3.1 If YES, provide particulars.

.....

.....

4.4 Does the bidder or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?

YES	NO
-----	----

4.4.1 If YES, provide particulars.

.....

.....

4.5 Was any contract between the bidder and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?

YES	NO
-----	----

4.5.1 If YES, provide particulars.

.....

.....

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

*I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.*

NAME (Block Capitals):

Date

.....

SIGNATURE:

.....

**T2.2.9 MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION****NOTES**

- <sup>1</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.
- <sup>2</sup> Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.
- <sup>3</sup> Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

- 1.0 This Municipal Bidding Document (MBD) must form part of all bids<sup>1</sup> invited.
- 2.0 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging).<sup>2</sup> Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.
- 3.0 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
- a. take all reasonable steps to prevent such abuse;
  - b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
  - c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.
- 4.0 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of bid rigging.
- 5.0 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid.

---

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

-----  
(Bid Number and Description)

in response to the invitation for the bid made by:

-----  
(Name of Municipality / Municipal Entity)

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

I certify, on behalf of:

-----  
(Name of Bidder)

that:

1. I have read and I understand the contents of this Certificate.
2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect.
3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;
4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;
5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
  - (a) has been requested to submit a bid in response to this bid invitation.
  - (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience.
  - (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder.
6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement, or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>3</sup> will not be construed as collusive bidding.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices.
  - (b) geographical area where product or service will be rendered (market allocation).
  - (c) methods, factors or formulas used to calculate prices.
  - (d) the intention or decision to submit or not to submit, a bid.
  - (e) the submission of a bid which does not meet the specifications and conditions of the bid.
  - (f) bidding with the intention not to win the bid.
  
8. In addition, there have been no consultations, communications, agreements, or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this bid invitation relates.
  
9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract.
  
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

NAME (Block Capitals):

Date

SIGNATURE:

**T2.2.10 JOINT VENTURES AGREEMENTS**

Joint Venture agreement and Power of Attorney Agreements to be attached here (if applicable).

**T2.2.11 RECORD OF ADDENDA TO TENDER DOCUMENTS**

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

<b>ADD.No</b>	<b>DATE</b>	<b>TITLE OR DETAILS</b>
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

*It is also confirmed that the requirements, as stated on the Addenda, have been complied with.*

NAME (Block Capitals):

Date

SIGNATURE:

**T2.2.12 ELIGIBILITY: DECLARATION OF MUNICIPAL FEES**

Reference is to be made to Clause F.2.1(f)(ii) of the Tender Data.

I, the undersigned, do hereby declare that the Municipal fees of:

.....  
 (full name of Company / Close Corporation / partnership / sole proprietary/Joint Venture)

(hereinafter referred to as the TENDERER) are, as at the date hereunder, fully paid or an Acknowledgement of Debt has been concluded with the Municipality to pay the said charges in instalments.

The following account details relate to property of the said TENDERER:

<u>Account</u>	<u>Account Number</u> : to be completed by tenderer
Consolidated Account	
Electricity	
Water	
Rates	
JSB Levies	
Other	

I acknowledge that should the aforesaid Municipal charges fall into arrears, the Municipality may take such remedial action as is required, including termination of any contract, and any payments due to the Contractor by the Municipality shall be first set off against such arrears.

- Where the tenderer’s place of business or business interests are outside the jurisdiction of eThekweni municipality, a copy of the accounts/ agreements from the relevant municipality are to be provided.
- Where the tenderer’s Municipal Accounts are part of their lease agreement, then a copy of the agreement, or an official letter to that effect, is to be provided.

Tenderers are to include, at the back of their tender submission document, a printout of the above account’s and or agreements signed with the municipality.

**Failure to include the required document will make the tender submission non-responsive.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

NAME (Block Capitals): \_\_\_\_\_ Date \_\_\_\_\_

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

**T2.2.13 ELIGIBILITY: REGISTRATION WITH COMPENSATION COMMISSIONER**

Reference is to be made to Clause F.2.1(f)(i) of the Tender Data.

The Occupational Injuries and Diseases Act (130 of 1993 as amended) (the Act) refers. A summary of the pertinent Clauses are listed below. The act is to be referenced for the full text of the clauses.

**Clause 80: Employer to register with commissioner and furnish him with particulars**

The Act requires that an Employer carrying out business in the Republic to register with the Compensation Commissioner. Any person who fails to comply with the provisions of the this clause is guilty of an offence.

**Clause 82: Employer to furnish returns of earnings**

The Act requires an Employer to furnish the commissioner with a return showing:

- The amount of earnings paid by him to his employees.
- Any further information as may be prescribed or as the commissioner may require.

Any Employer who fails to comply with the provisions of the this clause is guilty of an offence.

**Clause 86: Assessment to be paid by an employer to commissioner**

The Act states that an Employer will receive notices of assessment from the commissioner. The Employer must pay the commissioner the assessment amount on the notices.

**Clause 89: Mandators and contractors**

The Act requires a contractor (a person with a contract with a mandator) to register as an Employer in accordance with the provisions of the Act and pay the necessary assessments. Failing registration or payment of assessments, the mandator is required to pay the assessments in respect of the employees of the contractor. The mandator is allowed to recover the assessment amounts paid from the contractor.

The Department of labour issues contractors with a **Letter of Good Standing** if the contractor has complied with the requirement(s) of the Act and is in "good standing" with the Compensation Fund. Employers can check the validity of such Letters of Good Standing on the internet (<https://cfoonline.labour.gov.za/VerifyLOGS>).

**Tenderers are to include, at the back of their tender submission document, a printout of their most recent Letter of Good Standing from the Department of Labour.**

**Failure to include the required document will make the tender submission non-responsive.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

NAME (Block Capitals): \_\_\_\_\_

Date \_\_\_\_\_

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

**T2.2.14 ELIGIBILITY: CSD REGISTRATION REPORT**

Reference is to be made to Clauses F.2.1(e) and F.2.23 of the Tender Data.

The Conditions of Tender, Clause F.2.1: Eligibility, requires a tenderer to be registered, at the time of tender closing, on the **National Treasury Central Supplier Database (CSD)** as a service provider.

CSD Registration Reports can be obtained from the National Treasury's CSD website at <https://secure.csd.gov.za/Account/Login>.

The date of obtaining the printout is to be indicated on the printout.

The following is an example of the beginning of the printout obtained from the above website.

**Tenderers are to include, at the back of their tender submission document, a printout of their (full) CSD Registration Report.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

NAME (Block Capitals): \_\_\_\_\_ Date \_\_\_\_\_

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

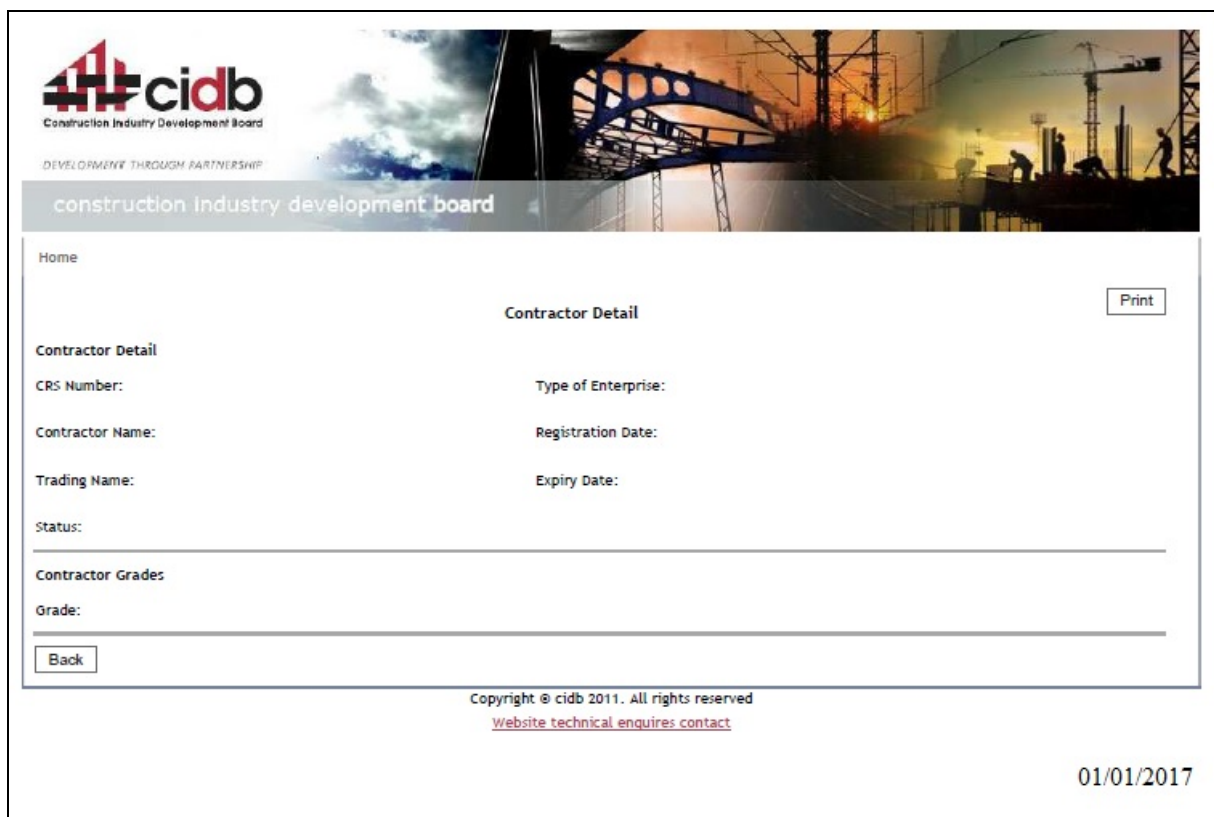
**T2.2.15 ELIGIBILITY: VERIFICATION OF CIDB REGISTRATION AND STATUS**

Reference is to be made to Clause F.2.1.1 and F.2.23 of the Tender Data.

The Conditions of Tender, **Clause F.2.1.1: Eligibility**, requires a tenderer to be registered, as “Active”, with the CIDB (at time of tender closing), in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations. The required class of construction work is specified in Clause F.2.1.1.

CIDB Registrations can be obtained from the CIDB website at <https://registers.cidb.org.za/PublicContractors/ContractorSearch>. The date of obtaining the printout is to be indicated on the printout.

The following is an example of the beginning of the printout obtained from the above website.



**Tenderers are to include, at the back of their tender submission document, a printout of their registration with the CIDB.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

NAME (Block Capitals): \_\_\_\_\_ Date \_\_\_\_\_

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

**T2.2.16 EXPERIENCE OF TENDERER**

Reference is to be made to Clause F.3.11 of the Tender Data.

**This form is to be copied and used for each submission of experience, as may be required.**

The following is a statement of works of a similar nature (in relation to the scope of works) recently (within the past 15 years) executed by me / ourselves./ us. Tenderers are referred to Table 1: Documentation / Information Requirements under Section T1.2.3.5: Functionality Specifications – Tenderer’s Experience for details of returnables to support his experience.

It is a mandatory requirement of the Tenderer to complete the summary table below which implies that all notes have to be marked as “Y” to be considered for evaluation, whether submitting as sub-contractor or as main contractor **as well as the TENDERER’S EXPERIENCE: PROFORMA CLIENT REFERENCE OF COMPARABLE PROJECTS Document as provided on the next page.**

TENDERER’S EXPERIENCE: SUMMARY TABLE				
PROJECT NAME	VALUE OF WORK (VAT inclusive)	LENGTH OF MAINS COMPLETED	SUPPORTING DOCUMENTS	
			<b>Supporting Documents as Sub-Contractor to the project – fill in columns below</b>	
			Note 1: - Compulsory sub-contract agreement submitted	Y / N
			Note 4: - Compulsory final payment certificate with quantities summary submitted	Y / N
			Note 6: - Compulsory scope of work submitted	Y / N
			<b>Supporting Documents as Main Contractor to the project – fill in columns below</b>	
			Note 2: - Compulsory letter of award OR form of offer & acceptance	Y / N
			Note 4: - Compulsory final payment certificate with quantities summary submitted	Y / N
			Note 5: - Compulsory Completion Certificate submitted	Y / N
			Note 6: - Compulsory scope of work submitted	Y / N
Note 1: - Compulsory sub-contract agreement submitted	Y / N			
Note 4: - Compulsory final payment certificate with quantities summary submitted	Y / N			
Note 6: - Compulsory scope of work submitted	Y / N			
<b>Supporting Documents as Main Contractor to the project – fill in columns below</b>				
Note 2: - Compulsory letter of award OR form of offer & acceptance	Y / N			
Note 4: - Compulsory final payment certificate with quantities summary submitted	Y / N			
Note 5: - Compulsory Completion Certificate submitted	Y / N			
Note 6: - Compulsory scope of work submitted	Y / N			

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, and that the requested documentation has been included in the tender submission.*

NAME (Block Capitals): \_\_\_\_\_ Date \_\_\_\_\_

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

**TENDERER'S EXPERIENCE: PROFORMA CLIENT REFERENCE OF COMPARABLE PROJECTS**

The Tenderer shall provide details on each of the previously completed projects listed as "Pipe Replacement Experience" in a brown field's environment. The Client Reference Proforma below must be completed by the respective Clients for each of the completed projects as claimed in the Tenderers Experience Summary Table on the previous page.

**PROFORMA REPORT ON THE TENDERER'S/TENDERING PARTY'S COMPETENCE AND PERFORMANCE ON A SIMILAR COMPLETED PROJECT FOR TENDER RECOMMENDATION PURPOSES**

The following is to be completed and signed by the Tendering Party's project Client for each completed project.

Relevant Field considered for the pipe replacement project in brown-fields environment	Details provided by Tendering Party's Client
Project Name	
Client Name Completing This Form and Evaluating service of Tendering Party:	
Value of relevant pipe replacement work in brown-fields environment as per completion certificate (excluding VAT)	
Length of watermains replaced under the project (100mm diameter and larger) – state the value in km	
Contract Duration – State the value in months	
Contract Completion Date	
Any remarks considered necessary to assist in evaluation of the Tendering Party with respect to the replacement of watermains in a brown-fields	

**NOTE TO PREVIOUS CLIENT COMPLETING THIS FORM:** The project had to be successfully completed within required specifications and quality to qualify for the evaluation. If this has not been the case, do not submit the form.

Client of Tendering party – Contact Person Full Names: \_\_\_\_\_

Telephone number of Contact Person: \_\_\_\_\_

Client Contract Person Signature: \_\_\_\_\_

Date on which this evaluation form was completed: \_\_\_\_\_

**T2.2.17 PROPOSED ORGANISATION and STAFFING**

Refer to Clause F3.11.9 for Functionality Points evaluation prompts (if applicable).

The tenderer should propose the structure and composition of their team i.e. the main disciplines involved, the key staff member / expert responsible for each discipline, and the proposed technical and support staff and site staff.

The roles and responsibilities of each key staff member / expert should be set out as job descriptions. In the case of an association / joint venture / consortium, it should, indicate how the duties and responsibilities are to be shared.

The tenderer must attach his / her organization and staffing proposals to this page. (this is to include both the on-site and off-site staffing resources used for this project)

In addition to any lists, this information should also be shown in an organogram format (flow chart) clearly indicating the staff hierarchy and reporting lines, again for on- and off-site resources.

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

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals):

Date

.....

SIGNATURE:

.....

.....

**T2.2.18    KEY PERSONNEL**

Refer to Clause F3.11.9 for Functionality Points evaluation prompts.

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel (Contract's Manager, Site Agent, and Foremen) 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
Contracts Manager		
Site Agent		
Pipeline/ General Foreman		
Others: .....		

Note: CVs of key personnel may be requested during the contract period.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals):

Date

.....

SIGNATURE:

.....

**T2.2.19 EXPERIENCE OF KEY PERSONNEL**

Refer to Clause F3.11.9 for Functionality Points evaluation prompts (if applicable).

The experience of assigned staff member in relation to the Scope of Work will be evaluated from three different points of view:

- 1) General experience (total duration of professional activity), level of education and training and positions held of each discipline specific team leader.
- 2) The education, training, skills and experience of the Assigned Staff in the specific sector, field, subject, etc which is directly linked to the scope of work.
- 3) The key staff members' / experts' knowledge of issues which the tenderer considers pertinent to the project e.g. local conditions, affected communities, legislation, techniques etc.

**A CV of the Contract Manager, Site Agent(s) and Pipeline/General foreman of not more than 2 pages should be attached to this schedule:**

Each CV should be structured under the following headings, according to the following template:

- a) Personal particulars
  - name
  - date and place of birth
  - place (s) of tertiary education and dates associated therewith
  - professional awards
- b) Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations)
- c) Skills
- d) Name of current employer and position in enterprise
- e) Overview of post-graduate / diploma experience (year, organization and position)
- f) Outline of recent assignments / experience that has a bearing on the scope of work

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals):

Date

SIGNATURE:

**EXPERIENCE AND QUALIFICATIONS OF CONTRACTS MANAGER**

<b>Personal Particulars</b>			
<b>Full Name and Surname:</b>			
<b>Date and Place of Birth:</b>			
<b>Age</b>			
<b>Tendered Post:</b>			
<b>Name of Professional Institution/s Registered With:</b>			
<b>Professional Registration Number:</b>			
<b>Professional Awards:</b>			
<b>Qualifications</b> (Certified copies of all relevant qualifications and registrations must be attached to this form)			
<b>Education / Qualifications:</b>		<b>Year Obtained:</b>	<b>Institution:</b>
<b>Specific Skills</b>			
<b>Overview of Experience</b>			
<b>Date</b>	<b>Organisation</b>		<b>Position Held</b>
<b>Outline of Relevant Experience</b>			
<b>Start (MM/YYYY)</b>	<b>End (MM/YYYY)</b>	<b>Client, Contract Title &amp; Detailed Description of Contract</b>	<b>Client and Engineer Reference &amp; Contact</b>

**NOTE:**

**Client Implies: eThekweni Municipality, City of Cape Town, Umgeni Water etc**

**Make additional copies of this form if required for additional projects.**

**Declaration by nominee for key staff position above:**

I, the undersigned, declare that all the information provided above and in forms that follow correctly describes me and my experience.

I, the undersigned do hereby agree to present myself for an interview with the Client or a representative of the Client should further clarity be required on the information provided herein.

NAME.....

SIGNATURE ..... DATE: .....  
(of the person named on this form)

**Note to Tenderer:**

The Tenderer shall ensure that this form is signed by the person nominated for the above key staff position and that all the information provided is true. Any inconsistency in the information provided will lead to the conclusion that the person nominated is not suitably qualified for the position and NO points will be awarded. Should this key staff member not be available for deployment to this contract upon award, only approved candidates with similar or better credentials will be considered by the employer.

SIGNATURE ..... DATE: .....

**EXPERIENCE AND QUALIFICATIONS OF SITE AGENT / PROJECT MANAGER**

<b>Personal Particulars</b>			
<b>Full Name and Surname:</b>			
<b>Date and Place of Birth:</b>			
<b>Age:</b>			
<b>Tendered Post:</b>			
<b>Name of Professional Institution/s Registered With:</b>			
<b>Professional Registration Number:</b>			
<b>Professional Awards:</b>			
<b>Qualifications</b> (Certified copies of all relevant qualifications and registrations must be attached to this form)			
<b>Education / Qualifications:</b>		<b>Year Obtained:</b>	<b>Institution:</b>
<b>Specific Skills</b>			
<b>Overview of Experience</b>			
<b>Date</b>	<b>Organisation</b>		<b>Position Held</b>
<b>Outline of Relevant Experience</b>			
<b>Start (MM/YYYY)</b>	<b>End (MM/YYYY)</b>	<b>Client, Contract Title &amp; Detailed Description of Contract</b>	<b>Client and Engineer Reference &amp; Contact</b>

--	--	--	--

**NOTE:**

**Client Implies: eThekweni Municipality, City of Cape Town, Umgeni Water etc**

**Make additional copies of this form if required for additional projects.**

**Declaration by nominee for key staff position above:**

I, the undersigned, declare that all the information provided above and in forms that follow correctly describes me and my experience.

I, the undersigned do hereby agree to present myself for an interview with the Client or a representative of the Client should further clarity be required on the information provided herein.

NAME.....

SIGNATURE ..... DATE: .....  
 (of the person named on this form)

**Note to Tenderer:**

The Tenderer shall ensure that this form is signed by the person nominated for the above key staff position and that all the information provided is true. Any inconsistency in the information provided will lead to the conclusion that the person nominated is not suitably qualified for the position and NO points will be awarded. Should this key staff member not be available for deployment to this contract upon award, only approved candidates with similar or better credentials will be considered by the employer.

SIGNATURE ..... DATE: .....

**EXPERIENCE OF PIPELINE/ GENERAL FOREMAN**

<b>Personal Particulars</b>			
<b>Full Name and Surname:</b>			
<b>Date and Place of Birth:</b>			
<b>Age:</b>			
<b>Tendered Post:</b>			
<b>Overview of Experience</b>			
<b>Date</b>	<b>Organisation</b>		<b>Position Held</b>
<b>Specific Skills</b>			
<b>Outline of Relevant Experience</b>			
<b>Start (MM/YYYY)</b>	<b>End (MM/YYYY)</b>	<b>Client, Contract Title &amp; Detailed Description of Contract</b>	<b>Client and Engineer Reference &amp; Contact</b>

**NOTE:**

**Client Implies: eThekweni Municipality, City of Cape Town, Umgeni Water etc**  
**Description implies reservoir, silo, sedimentation tank, digester, etc**

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**Make additional copies of this form if required for additional projects.**

**Declaration by nominee for key staff position above:**

I, the undersigned, declare that all the information provided above and in forms that follow correctly describes me and my experience.

I, the undersigned do hereby agree to present myself for an interview with the Client or a representative of the Client should further clarity be required on the information provided herein.

NAME.....

SIGNATURE ..... DATE: .....  
(of the person named on this form)

**Note to Tenderer:**

The Tenderer shall ensure that this form is signed by the person nominated for the above key staff position and that all the information provided is true. Any inconsistency in the information provided will lead to the conclusion that the person nominated is not suitably qualified for the position and NO points will be awarded. Should this key staff member not be available for deployment to this contract upon award, only approved candidates with similar or better credentials will be considered by the employer.

SIGNATURE ..... DATE: .....



**T2.2.21 CONSTRUCTION APPROACH, METHODOLOGY, PARTICIPATION APPROACH AND QUALITY CONTROL**

Refer to Clause F3.11.9 for Functionality Points evaluation prompts (if applicable).

Construction Approach and Methodology

The construction approach and methodology must respond to the Scope of Work and outline the proposed approach to undertake the work showing a detailed programme including health and safety aspects, the use of plant and resources for this Project.

Quality Control

The quality control statement must discuss what tests and control measures are to be employed on site to attain the specified results and is to cover the program associated activities.

Participation Approach

Refer to Section 3.8 – Procurement, Participation & Empowerment of this document for details regarding sub-contracting goals.

**The tenderer must attach his / her Construction Methodology and Quality Control information to this page.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals):

Date

SIGNATURE:

**ISO CERTIFICATE (PROOF OF)**

Refer to Clause F3.11.9 for Functionality Points evaluation prompts (if applicable).

**The tenderer must attach his / her ISO 9001 certificate here.**

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals):

Date

SIGNATURE:



**T2.2.23 PLANT and EQUIPMENT**

Refer to Clause F3.11.9 for Functionality Points evaluation prompts.

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

- (a) **Details of major equipment that is owned by me / us and immediately available for this contract.**

DESCRIPTION (type, size, capacity etc)	QUANTITY	YEAR OF MANUFACTURE

*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 accepted**

DESCRIPTION (type, size, capacity etc)	QUANTITY	HOW ACQUIRED	
		HIRE/ BUY	SOURCE

*Attach additional pages if more space is required*

The Tenderer undertakes to bring onto site without additional cost to the Employer any additional plant not listed but which may be necessary to complete the contract within the specified contract period.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals): \_\_\_\_\_ Date \_\_\_\_\_

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

**T2.2.24 CONTRACTOR'S HEALTH AND SAFETY PLAN**

Refer to Clause F3.11.9 for Functionality Points evaluation prompts (if applicable).

At tender stage only a brief overview (**to be attached to this page**) of the tenderers perception on the safety requirements for this contract will be adequate.

Only the successful Tenderer shall submit separately the Contractor's Health and Safety Plan as required in terms of Regulation 7 of the Occupational Health and Safety Act 1993 Construction Regulations 2014.

The detailed safety plan will take into consideration the site specific risks as mentioned under C.3: Project Specification. A generic plan will not be acceptable.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.*

NAME (Block Capitals):

Date

SIGNATURE:

**PART C1: AGREEMENT AND CONTRACT DATA**  
**C1.1: FORM OF OFFER AND ACCEPTANCE**

**C1.1.1: OFFER**

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

Contract No: WS-7723

Contract Title: Construction and Replacement of Water Mains in the eThekweni Supply Area: Wards 48 & 110

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 authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

**\* The offered total of the prices inclusive of Value Added Tax is:**

R..... (In words .....  
 .....)

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.

**For the Tenderer:**

\* **Name of Tenderer** (*organisation*) : .....

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

\* **Name** (*of signatory in capitals*) : .....

**Capacity** (*of Signatory*) : .....

**Address** : .....

: .....

**Telephone** : .....

**Witness:**

**Signature** : ..... **Date** : .....

**Name** (*in capitals*) : .....

**Notes:**

\* **Indicates what information is mandatory.**

**Failure to complete the mandatory information and sign this form will invalidate the tender.**

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

**C1.1.2: FORM OF ACCEPTANCE**

This Form will be completed by the Employer

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 C1 : Agreement and Contract Data, (which includes this Agreement)
- Part C2 : Pricing Data, including the Bill of Quantities
- Part C3 : Scope of Work
- Part C4 : Site Information

and the schedules, forms, drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 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 representatives 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 Contract Data) to arrange the delivery of any bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. Failure to 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 Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties.

Signature (*person authorized to sign the acceptance*) : .....

Name (*of signatory in capitals*) : .....

Capacity (*of Signatory*) : .....

Name of Employer (*organisation*) : .....

Address : .....

: .....

Witness:

Signature : ..... Date : .....

Name(*in capitals*) : : .....

**C1.1: FORM OF OFFER AND ACCEPTANCE**  
**C1.1.3: SCHEDULE OF DEVIATIONS**

This form will be completed by THE EMPLOYER and ONLY THE SUCCESSFUL TENDERER

- 1. Subject : .....
- Details: .....
- : .....
- 2. Subject : .....
- Details: .....
- : .....
- 3. 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 this process of offer and acceptance.

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

**FOR THE TENDERER**

**FOR THE EMPLOYER**

.....	Signature	.....
.....	Name ( <i>in capitals</i> )	.....
.....	Capacity	.....
.....	Name and Address of	.....
.....	Organisation	.....
.....		.....
.....	Witness Signature	.....
.....	Witness Name	.....
.....	Date	.....

**C1.2: CONTRACT DATA****C1.2.1 CONDITIONS OF CONTRACT****C1.2.1.1 GENERAL CONDITIONS OF CONTRACT**

The Conditions of Contract are the General Conditions of Contract for Construction Works (2015 3<sup>rd</sup> Edition), (GCC 2015) published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805-5947, Fax: 011-805-5971, E-mail: [civilinfo@saice.org.za](mailto:civilinfo@saice.org.za)).

The Contract Data (including variations and additions) shall amplify, modify, or supersede, the GCC 2015 to the extent specified below, and shall take precedence and shall govern.

Each item of data given below is cross-referenced to the clause in the GCC 2015 to which it mainly applies.

**C1.2.2 CONTRACT DATA****C1.2.2.1 DATA TO BE PROVIDED BY THE EMPLOYER**

1.1.1.13 The **Defects Liability Period**, from the date of the Certificate of Completion, is **1 Year**.  
The Contractor will be responsible to remedy failures on newly constructed infrastructure undertaken during this contract within a 6-hour response period from the time of reported incidents and to remedy the failures within a maximum of 2 days inclusive of the 6-hour reporting period. Should the Contractor fail to respond timeously, the repairs will then be undertaken by EWS. The cost incurred by EWS for the repair will be deducted from the remainder of the Contractors retention held during the Defects Liability Period.

1.1.1.14 The **time for achieving Practical Completion**, from the Commencement Date is **560 Days** as per GCC 2015 3<sup>rd</sup> Edition, Clause 1.1.1.12. The period as stated in 5.3.2, and the 37 days referred to in 5.3.3, are included in the above time for achieving Practical Completion.

The non-working days as stated in 5.8.1 and special non-working days as stated in 5.1.1(a) are included in the above time for achieving Practical Completion.

The special non-working days as stated in 5.1.1(b) are included from the above time for achieving Practical Completion. Calendar days for two builders break have been included in the **560 Days**.

1.1.1.15 The Employer is the eThekweni Municipality as represented by: **BHAVNA SONI**  
Deputy Head: **WATER AND SANITATION ENGINEERING**

1.2.1.2 The address of the Employer is:  
Physical: Water & Sanitation Unit, 3 Prior Road, Durban, 4001  
Postal: Water & Sanitation Unit, 3 Prior Road, Durban, 4000  
Telephone: 031 311 8602  
Fax: 031 311 8549  
E-Mail: [Bhavna.Soni@durban.gov.za](mailto:Bhavna.Soni@durban.gov.za)

1.1.1.16 The **name of the Employer's Agent** is Nadas (Terence) Thumbaya (Pr. Eng.) of Naidu Consulting (Pty) Ltd

1.2.1.2 The address of the Employer' Agent is:  
Physical: No 5 The Boulevard, Westway Office Park, 7 Harry Gwala Road. Westville, 3635  
Postal: N/A

Telephone: 031 265 6007  
Fax: 031 265 6011  
E-Mail: Terence.Thumbaya@NaiduConsulting.com

1.1.1.26 The **Pricing Strategy** is by **Re-measurement Contract**.

3.2.3 The Employer's Agent shall obtain the **specific approval of the Employer** before executing any of his functions or duties according to the following Clauses of the General Conditions of Contract:

- 6.3: Council approval in order to authorise any expenditure in excess of the Tender Sum plus **15%** contingencies.

4.11.1 To carry out and complete the works, the Contractor shall employ a competent Site Agent and Foreman as part of the key staff. It is a requirement for the Contractor's Contracts Manager, Site Agent and Foreman to meet the requirements as set out in the functionality criteria. The CV's of the Contracts Manager, Site Agent and the Foreman should be submitted to the Employer's Agent's Representative for acceptance by the Department (reference is made to Cl.5.3.1 of the Contract Data).

Note:

- i) "similar nature" implies projects that were of a value of at least 70% of this tender's value, and had a comparable Scope of Work in terms of technical requirements and operations.
- ii) "experience" implies experience on projects of a similar nature.
- iii) "accredited degree / diploma" implies a minimum 3-year qualification within the built environment, from a registered University or Institute of Technology.

5.3.1 The **documentation required** before commencement with Works execution are:

- Health and Safety Plan (refer to Clause 4.3)
- Initial Programme (refer to Clause 5.6)
- Security (refer to Clause 6.2)
- Insurance (refer to Clause 8.6)
- CV(s) of Key Site Staff (refer to Clause 4.11.1)
- CPG Implementation Plan (refer to Clause C1.2.3.9 Additional Conditions of Contract)

5.3.2 The **time to submit the documentation** required before commencement with Works is **21 Days**.

5.3.3 Add the following paragraph:

"If a construction work permit, in terms of Clause 3(1) of the Construction Regulations (2014), is applicable, the instruction to commence carrying out of the works may only be issued once the construction work permit has been obtained by the Employer's Agent. If a construction work permit is applicable, the contractor shall allow for a minimum period of 37 days, after the submission (or re-submission) of the documentation referred to in Clause 5.3.1., for the issuing of the construction work permit."

5.4.2 The access and possession of Site shall not be exclusive to the Contractor but as set out in the Site Information.

5.8.1 The **non-working days** are **Saturdays and Sundays**.

(5.1.1) The **special non-working** days are:

- a) All statutory holidays as declared by National or Regional Government.
- b) The year-end break:
  - Commencing on the first working day after 15 December.
  - Work resumes on the first working day after 5 January of the next year.

5.8.1 Delete the words “sunset and sunrise” and replace with “17:00 and 07:00”.

5.12.2.2 **Abnormal Climatic Conditions (Rain Delays)** - The numbers of days per month, on which work is expected not to be possible as a result of rainfall, for which the Contractor shall make provision, is given in the table below. During the execution of the Works, the Employer's Agent's Representative will certify a day lost due to rainfall only if at least 75% of the work force and plant on site could not work during that specific working day.

Extension of time as a result of rainfall shall be calculated monthly being equal to the number days certified by the Employer's Agent's Representative as lost due to rainfall, less the number of days allowed for as in table below, which could result in a negative figure for certain months. The total extension of time for which the Contractor may apply, shall be the cumulative algebraic sum of the monthly extensions. Should the sum thus obtained be negative, the extension of time shall be taken as NIL.

<u>Month</u>	<u>Days Lost</u>	<u>Average Rainfall</u>	<u>Month</u>	<u>Days Lost</u>	<u>Average Rainfall</u>
January	4*	134	July	1	39
February	3	113	August	2	62
March	3	120	September	2	73
April	2	73	October	3	98
May	2	59	November	3	108
June	1	28	December	1*	102
TOTAL	27	1009mm	* = The number of working days lost allows for the annual statutory Construction holiday in December and January of each year.		

5.13.1 The **penalty for delay** in failing to complete the Works is **R 10,000** (per Day).

5.14.1 The **requirements for achieving Practical Completion** will be determined by the Employer's Agent (in consultation with the Contractor) and recorded in the minutes of the first Site Meeting / Handover Meeting. (Refer to 1.1.1.24 for a generic definition.) The requirements are to be regularly reviewed with respect to any variations to the Contract.

5.16.3 The **latent defect liability** period is **10 Years**.

6.2.1 **Security (Performance Guarantee)**: Delete the word “selected” and replace it with “stated”.

The liability of the Performance Guarantee shall be as per the following table:

Value of Contract (incl. VAT)	Performance Guarantee Required
Less than or equal to R 1m	Nil
Greater than R 1m and less than or equal to R 10m	5% of the Contract Sum
Greater than R 10m	10% of the Contract Sum

6.5.1.2.3 The **percentage allowance** to cover overhead charges for daywork are as follows:

- **50%** of the gross remuneration of workmen and foremen engaged in the daywork.
- **15%** on the net cost of materials used in the completed work.
- **10%** on the net cost of plant used in the completed work.

No allowance will be made for work done, or for materials and equipment for which daywork rates have been quoted at tender stage.

6.8.2 **Contract Price Adjustment Factor:** The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule (GCC 2015 - page 86) with the following Indices / Descriptions / Coefficients:

- The proportion not subject to adjustment: **x = 0.10**.
- The base month will be the month prior to the month in which tenders close.
- The Index for Labour, Plant, and Materials shall be based on **December 2021 = 100**.
- The Index for Fuel shall be based on **December 2020 = 100**.

	STATS SA Statistical Release	Table	Description	Coefficient
<ul style="list-style-type: none"> <li>• "L" is the "Labour Index"</li> </ul>	P0141	Table A	Geographic Indices; CPI per Province; Kwa-Zulu Natal	a = 0.28
<ul style="list-style-type: none"> <li>• "P" is the "Contractor's Equipment Index"</li> </ul>	P0151.1	Table 4	Plant and Equipment	b = 0.28
<ul style="list-style-type: none"> <li>• "M" is the "Materials Index"</li> </ul>	P0151.1	Table 6	Civil Engineering Material (excluding bitumen)	c = 0.38
<ul style="list-style-type: none"> <li>• "F" is the "Fuel Index"</li> </ul>	P0142.1	Table 1	Coke, petroleum, chemical, rubber and plastic products; Coal and petroleum products; Diesel	d = 0.06

6.8.3 Price adjustments for **variation in the cost of the special material(s)** listed below, will be allowed.

**Bitumen** - escalation will be calculated using the "Rise and Fall" method as determined by the Employer. The base price for bitumen on this contract shall be the ruling price of 50/70 grade bitumen based on the "Shell Whole Sale List Selling Price for Penetration Grade Bitumen", seven (7) days prior to the closing date of tenders.

6.10.1.5 The **percentage advance** on materials not yet built into the Permanent Works is **80%**.

6.10.3 **Retention Money:** Delete the word "selected".  
The percentage retention on the amounts due to the Contractor is 10%.  
The limit of "retention money" is 5% of the Contract Sum.  
Should the Contract Price exceed the Contract Sum then the limit of "retention money" is 5% of the Contract Price.  
Interest will not be paid on retention withheld by the Employer.

8.6.1.1.2 The **value of Plant and materials** supplied by the Employer to be included in the insurance sum: **Not Required**.

8.6.1.1.3 The **amount to cover professional fees** for repairing damage and loss to be included in the insurance sum: **R 7,500,000**.

8.6.1.2 **SASRIA Coupon Policy** for Special Risks to be issued in joint names of Council and Contractor for the full value of the works (including VAT).

8.6.1.3 The limit of indemnity for **liability insurance**: **R20,000,000**.

8.6.1.4 **Ground Support Insurance:**

- Minimum amount for any one occurrence, unlimited as to the number of occurrences, against any claim for damages or loss caused by vibration and / or removal of lateral support: **R 5,000,000**.
- Maximum first excess: **R 50,000**.

8.6.1.5 Furthermore, the insurance cover effected by the Contractor shall meet the following requirements:

**Third Party Insurance (Public Liability)**

- Minimum amount for any one occurrence, unlimited as to the number of occurrences, for the period of the contract, inclusive of the maintenance period: **R 20,000,000**.
- Consequential loss to be covered by policy: **Yes**
- Liability section of policy to be extended to cover blasting: **Nil**.
- Maximum excess per claim or series of claims arising out of any one occurrence: **R25,000**.

**Principal's own surrounding Property Insurance**

- Minimum amount for any one occurrence unlimited as to the number of occurrences against any claim for damage which may occur to the Council's own surrounding property: **R5,000,000**.
- Maximum first excess: **R 15,000**.

**Insurance of Works**

- Minimum amount for additional removal of debris (no damage): **R 500,000**.
- Minimum amount for temporary storage of materials off site, excluding Contractor's own premises: **R 500,000**.
- Minimum amount for transit of materials to site: **R 500,000**.

8.6.5 **Approval by Employer:** At the end of the sub-clause, add the following paragraph:

"Except where otherwise provided in the Special Conditions of Contract, the insurance cover effected by the Contractor in terms of this clause shall not carry a first loss amount greater than those set out below:

Contract Price	First Loss
Less than R 100,000	R 5,000
R 100,000 to R 500,000	R 10,000
R 500,000 to R 1,000,000	R 20,000
R 1,000,000 to R 2,000,000	R 30,000
R 2,000,000 to R 4,000,000	R 40,000
Greater than R 4,000,000	R 50,000

The insurance policy shall contain a specific provision whereby cancellation of the policy prior to the end of the period referred to in Cause 8.2.1 cannot take place without the prior written approval of the Employer."

10.5.1 **Dispute resolution** shall be by adhoc adjudication.

- 10.5.3 The **number of members** of the Adjudication Board to be appointed: **A minimum of 3 Adjudicators to be appointed, subject to the claimed amount.**
- 10.7.1 Failing ad-hoc adjudication, the determination of disputes shall be by arbitration.

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**C1.2.2.2 DATA TO BE PROVIDED BY CONTRACTOR**

1.1.1.9 The legal name of Contractor is:

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

1.2.1.2 The Physical address of the Contractor is:

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

The Postal address of the Contractor is:

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

The contact numbers of the Contractor are:

Telephone: .....

Fax: .....

The E-Mail address of the Contractor is:

.....

- 
-

### C1.2.3 ADDITIONAL CONDITIONS OF CONTRACT

#### C1.2.3.1 COMMUNITY LIAISON OFFICER

The Ward Councillor(s) in whose ward(s) work is to be done will, collectively, identify a community liaison officer (CLO) for the project and make the person known to the Contractor within two days of being requested to do so. The Contractor will be required to enter a written contract with the CLO that specifies:

- The hours of work and the wage rate of the CLO (200% of the Civil Engineering Industry minimum wage).
- The duration of the appointment.
- The duties to be undertaken by the CLO which could include:
  - Assisting in all respects relating to the recruitment of local labour.
  - Acting as a source of information for the community and councillors on issues related to the contract.
  - Keeping the Contractor advised on community issues and issues pertaining to local security.
  - Assisting in setting up any meetings or negotiations with affected parties.
  - Keeping a written record of any labour or community issue that may arise.
  - Any other duties that may be required by the Contractor.

Responsibility for the identification of a pool of suitable labour shall rest with the CLO, although the Contractor shall have the right to choose from that pool. The Contractor shall have the right to determine the total number labourers required at any one time and this may vary during the contract.

The Contractor shall have the right to replace labour that is not performing adequately. Should such occasion arise, it must be done in conjunction with the CLO.

Payment: The CLO will be reimbursed from the PC Sum item in the Preliminary & General Section of the Bill of Quantities.

#### C1.2.3.2 EMPLOYMENT OF LOCAL LABOUR

It is a condition of contract that the contractor will be required to employ local labour as specified in eThekweni Council Policy "The use of CLOs and Local Labour". The contractor will be required to ensure that a minimum of 50% of the labour force is made up of local labour. For the purposes of this contract, "Local labour" will be deemed to be any **persons who reside within Ward(s) 48 & 110 or within 5km of the ward boundary**. The contractor will be required to provide proof of authenticity of local labour. Signed confirmation by the appointed CLO will suffice for this.

No additional costs will be entertained due to this Particular Specification. The contractor will remain responsible for providing proper supervision of all labour and will be responsible for the quality of work produced.

#### C1.2.3.3 CONTRACTOR PARTICIPATION GOAL (CPG)

It is a condition of contract that the contractor must allow for a minimum of 30% of the contract value (excluding PC Sum items, Escalation, Contingencies and Fixed Cost allowances. Including VO's where applicable) to be subcontracted to contractors who are **>51% Black Owned**. Proof of payment to the subcontractors will be required to verify that the minimum has been achieved.

The penalty for not achieving the specified CPG will be 0.5% of the contract value (excluding PC Sum items and Fixed Cost allowances) for every 1% of CPG not achieved.

**C1.2.3.4 FTE (Full Time Equivalent) EMPLOYMENT INFORMATION**

It is a condition of contract that the Contractor supplies the Employer's Agent's Representative with information in respect of the employment of all foremen, artisans and labour (skilled and unskilled) employed to work on this contract. The information required is:

• Initials (per ID doc)					
• Last Name (per ID doc)					
• ID Number					
• Disability (y / n)					
• Education Level	Level 1 Unknown	Level 2 No Schooling	Level 3 Grade 1-3	Level 4 Grade 4	Level 5 Grade 5-6
	Level 6 Grade 7-8	Level 7 Grade 9	Level 8 Grade 10-11	Level 9 Grade 12	Level 10 Post Matric
• Category of Employment					
Category A: Employed as Local Labour for this contract only Category B: Temporarily employed by the Contractor Category C: Permanently employed by the Contractor					

In addition, the following information is required in respect of each person listed above, on a monthly basis:

- Number of days worked during the month;
- Daily wage rate;
- Number of training days during the month.

The information is to be forwarded in a format acceptable to the Employer's Agent's Representative, but preferably in the form of an emailed EXCEL file (an original file, to be used as a template, will be issued to the Contractor). Contractors without computer facilities will be required to submit a hard copy of the information in a format as agreed to between the Contractor and the Employer's Agent's Representative.

In addition to the tax invoice, to be submitted by the Contractor with his monthly statement, mentioned in Clause 6.10.4 of GCC 2015, the Employer reserves the right to withhold payment until the monthly FTE information has been forwarded to the Employer's Agent's Representative. No additional payment for complying with the above will be made and the Contractor is to make allowance for complying through the time related P & G items (sum) under Part AA: Preliminaries, of the Bill of Quantities.

**C1.2.3.5 PERFORMANCE MONITORING OF SERVICE PROVIDERS**

[For contract awards over R10m] The Contractor shall be subjected to "Performance Monitoring" assessments in terms of the applicable Section (S.53) of the Employer's Supply Chain Management Policy.

Key Performance Indicators (KPIs) are specified in the C3: Scope of Works, or will be discussed and agreed with the Contractor before commencement of the contract.

**C1.2.3.6 EXCEPTED RISKS (Clause 8.3)**

Pursuant to Clause 8.3 of the Conditions of Contract (GCC 2015), the Employer shall not be liable for the payment of standing time costs as a result of the occurrence of any of the "Excepted Risks" as defined under Clause 8.3.

However, the Employer shall reimburse the Contractor in respect of plant de-establishment and re-establishment costs as a result of "Excepted risks" when a written instruction to de-establish is issued to the Contractor.

**C1.2.3.8 SPECIAL SUBCONTRACTING AND SUBCONTRACTOR PAYMENT ARRANGEMENTS**

Add Clause 4.4.8:

Before the Employer's Agent in terms of Clause 6 hereof issues any certificate that includes any payment in respect of work done or goods supplied by any sub-contractor, he shall be entitled to call upon the Contractor to furnish reasonable proof that all payments (less retention moneys) included in previous certificates in respect of the work or goods of such sub-contractors have been made or discharged by the Contractor, in default of which, unless the Contractor:

- 4.4.8.1 Informs the Employer's Agent in writing that he has reasonable cause for withholding or refusing such payment, and
- 4.4.8.2 Submits to the Employer's Agent reasonable proof that he has so informed such sub-contractor in writing,

The Employer shall be entitled to demand that a cession agreement be executed as per clause 6.6.5 below.

Add Clause 6.6.5:

Where work is done in relation to a provisional sum by a sub-contractor, the Contractor shall upon demand from the Employer, in respect of a certificate issued by the Employer's Agent in accordance with Clause 6.10, specifically for an amount due to be paid by the Contractor to the subcontractor, enter into a cession agreement with the Employer and the sub-contractor to whom the amount is due to be paid.

The cession shall be substantially in the format attached hereto, in terms whereof the rights arising from the payment certificate, including the right to demand payment from the Employer, will be ceded to the sub-contractor, thereby facilitating direct payment for that amount from the Employer to the sub-contractor.

The Employer has the right to demand the cession in terms of this clause at any time; entirely in its sole discretion and does not need to furnish reasons for his decision to invoke or not invoke this clause to any of the parties or any third parties. For avoidance of doubt the procedure in clause 4.4.8 is not a prerequisite nor do the circumstances referred to in Clause 4.4.8 need to be present before a cession can be demanded.

The completed cession agreement shall be deemed as the written consent for the cession of the specific obligation ceded as required by Clause 2.5.1

**C1.2.3.9 CPG Implementation Plan**

In accordance with Clause 5.3.1, the Contractor is required to submit a CPG Implementation Plan prior to the commencement of works. It is a requirement that the Contractor includes a detailed breakdown per line item clearly defining the following:

- Preliminary & General;
- Plant;
- Material;
- Labour;
- Contractors overheads;
- Profit;
- Any additional considerations with respect to the rate that the Contractor deems inclusive.

The rates are to be individually detailed in accordance with the tendered rates submitted by the Contractor under C2.2 (Bill of Quantities).

## **C2.1: PRICING ASSUMPTIONS / INSTRUCTIONS**

### **C2.1.1 GENERAL**

The Bill of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents ([refer to F.1.2 of the Tender Data](#)).

### **C2.1.2 PRICING INSTRUCTIONS AND DESCRIPTION OF ITEMS IN THE SCHEDULE**

Measurement and payment shall be in accordance with the relevant provisions of [Clause 8 of each of the Standard Engineering Specifications](#) referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of [C2.1.8](#).

The descriptions of the items in the Bill of Quantities are for identification purposes only and comply generally with those in the Standard Engineering Specification.

[Clause 8 of each Standard Engineering Specification](#), read together with the relevant clauses of the Scope of the works, set out what ancillary or associated work and activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standard Engineering Specification, or the Scope of the works, conflict with the Bill of Quantities, the requirements of the Standard Engineering Specification or Scope of the work, as applicable, shall prevail.

### **C2.1.3 QUANTITIES REFLECTED IN THE SCHEDULE**

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

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Bill of Quantities and in accordance with the General and Special Conditions of Contract, the

Specifications and Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste.

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

### **C2.1.5 MONTHLY PAYMENTS**

Unless otherwise specified in the Specifications and Project Specifications, progress payments in Interim Certificates, referred to in [Clause 6.10.1 of the General Conditions of Contract](#), in respect of "sum" items in the Bill of Quantities shall be by means of interim progress instalments assessed by the Employer's Agent and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

### **C2.1.4 PROVISIONAL SUMS / PRIME COST SUMS**

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

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

### **C2.1.6 PRICING OF THE BILL OF QUANTITIES**

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

Each item shall be priced and extended to the "Total" column by the Tenderer, with the exception of the items for which only rates are required (Rate Only), or items which already have Prime Cost or Provisional Sums affixed thereto. If the Contractor omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price.

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

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

**The Tenderer is to take cognisance of existing services, known and or unknown, which could potentially affect production rates as this is a brownfields project. The Tenderer shall consider and make allowances to mitigate the effects of this in the scheduled rates.**

#### **C2.1.7 "RATE ONLY" ITEMS**

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

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

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

#### **C2.1.8 PRELIMINARY AND GENERAL**

The Preliminary and General Section is provided to cover the Contractor's expenses incurred in complying with the requirements of the tender documents and consists of the following parts:

- Part AA: Preliminaries
- Part AB: General Specifications
- Part AH: Occupational Health and Safety

**Fixed Charge Items:** Each item should be priced separately and, subject to the Engineer certifying in terms of [Clause 6.7 of the General Conditions of Contract](#) that the work has been done, payment will be made as follows:

- (i) the total amount due when the certified value fixed charge items in this section is less than 5% of the net contract price;
- (ii) when the certified value of fixed charge items in this section is greater than 5% of the net contract price, payment will be limited to 5% of the net contract price. The remainder will be paid when the value of the work done under the contract, excluding the value of fixed charge items in this section, is greater than 50% of the net contract price, excluding the value of fixed charge items in this section.

**Time Related Items:** Any Time Related items not priced shall be deemed to be covered by the prices of other items in the section.

Payment of Time Related items in this section will be made throughout the contract period, the amount per month being the value of the item divided by the completion in months or, if specified in weeks, the equivalent number of months, in terms of [Clause 5.5 of the General Conditions of Contract](#). The final monthly increment will only be paid upon the issue of a completion certificate.

## **C2.2: BILL OF QUANTITIES**

The Bill of Quantities follows and comprises of 34 pages. The pages are numbered 79 to 113

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
A0		<b>PRELIMINARY AND GENERAL</b>				
	<b>8.3</b>	<b>FIXED-CHARGE ITEMS</b>				
A0.1	8,3,1	Contractual Requirements	Sum	1.0		
	8.3.2	Establish Facilities on the Site :				
	8.3.2.1	a) Facilities for Engineer				
A0.2	PSA 4.3	Furnished Office (1 No.)	Sum	1.0		
A0.3		Name boards as per eThekwini municipality Water Design Branch plan No. 9	No.	2.0		
	8.3.2.2	b) Facilities for Contractor				
A0.4		Offices and storage sheds	Sum	1.0		
A0.5		Workshops	Sum	1.0		
A0.6		Ablution and latrine facilities	Sum	1.0		
A0.7		Tools and equipment	Sum	1.0		
A0.8		Water supplies, electric power and communications	Sum	1.0		
A0.9		Dealing with water (Sub-clause 5.5)	Sum	1.0		
A0.10		Access (Sub-clause 5.8)	Sum	1.0		
A0.11	PSA 8.9	Security (unarmed) on site for the duration of the contract	Sum	1.0		
A0.12	PSA 8.10	Security (armed) on site for the duration of the contract	Sum	1.0		
A0.13	PSA 8.11	Daily photographing of Works and Traffic Accommodation, including record keeping.	Sum	1.0		
A0.14	PSA 8.12	Provision of "As-Built" information by professional surveyor	Sum	1.0		
A0.15	8.3.3	Other fixed-charge obligations	Sum	1.0		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A0.16	8.3.4	Remove Engineer's and Contractor's Site establishment on completion	Sum	1.0		
A0.17	AH 14.1	Contractor's initial obligations in respect of the Occupational Health and Safety Act and Construction Regulations (Regulations (Contractor to provide full breakdown for this pricing item in accordance with H&S Specification and Construction Regulations requirements at time of submission of Detailed Health & Safety Plan)	Sum	1.0		
A0.18	AH 14.3	Prepare and submit Health and Safety file for Employer's approval	Sum	1.0		
	<b>8.4</b>	<b>TIME-RELATED ITEMS</b>				
A0.19	8.4.1	Contractual Requirements	Days	560.00		
A0.20	PSA 8.14	Provision of Mentorship by main contractor to CPG contractors	Days	560.00		
	8.4.2	Operate and maintain facilities on the Site: a) Facilities for Engineer				
A0.21	PSA 4.3	Furnished Office (1 No.)	Days	560.00		
A0.22		Name boards (up to a maximum of 4)	Days	560.00		
	8.4.2.2	b) Facilities for Contractor for duration of construction, except where otherwise stated				
A0.23		Offices and storage sheds	Days	560.00		
A0.24		Workshops	Days	560.00		
A0.25		Ablution and latrine facilities	Days	560.00		
A0.26		Tools and equipment	Days	560.00		
A0.27		Water supplies, electric power and communications	Days	560.00		
A0.28	PSA 8.9	Security (unarmed) on site for the duration of the contract	Days	560.00		
A0.29	PSA 8.10	Security (armed) on site for the duration of the contract	Days	560.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A0.30	PSA 8.11	Daily photographing of works and Traffic Accommodation, including record keeping.	Days	560.00		
A0.31	PSA 8.12	Provision of "As-Built" information by professional surveyor	Days	560.00		
A0.32	8.4.3	Supervision for the duration of the contract	Days	560.00		
A0.33	8.4.4	Company and head office overhead costs	Days	560.00		
A0.34	8.4.5	Other time-related obligations	Days	560.00		
A0.35	AH 14.2	Contractor's time related obligations in respect of the Occupational Health and Safety Act and Construction Regulations (Contractor to provide full breakdown for this pricing item in accordance with H&S Specification and Construction Regulations requirements at time of submission of Detailed Health & Safety Plan)	Days	560.00		
A0.36	PSA 8.21	Management of CPG Contractors (a maximum of 10 sub-contractors) during the course of the construction period. The contractor will be paid pro-rate for the number of days that the specific sub-contractors is managed.				
A0.36.1		CPG Sub Contractor 1	Days	560.00		
A0.36.2		CPG Sub Contractor 2	Days	560.00		
A0.36.3		CPG Sub Contractor 3	Days	560.00		
A0.36.4		CPG Sub Contractor 4	Days	560.00		
A0.36.5		CPG Sub Contractor 5	Days	560.00		
A0.36.6		CPG Sub Contractor 6	Days	560.00		
A0.36.7		CPG Sub Contractor 7	Days	560.00		
A0.36.8		CPG Sub Contractor 8	Days	560.00		
A0.36.9		CPG Sub Contractor 9	Days	560.00		
A0.36.10		CPG Sub Contractor 10	Days	560.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A0.37		Provision of traffic safety officer	Days	560.00		
	<b>8.8</b>	<b>TEMPORARY WORKS</b>				
A0.38	PSA 8.15	Provide temporary access to properties over open trench excavation	No.	1150.00		
	8.8.4	Existing services				
A0.39	8.8.4 c)	Excavate by hand in soft material to expose existing services as instructed by the Engineer	m <sup>3</sup>	2690.00		
A0.40	8.8.4 d)	Temporary protection of Electricity service	Sum	1.0		
A0.41	8.8.4 d)	Temporary protection of all Telecommunication & Fibre Services	Sum	1.0		
A0.42	8.8.4 d)	Temporary protection of Sewer service	Sum	1.0		
A0.43	8.8.4 d)	Temporary protection of Stormwater service	Sum	1.0		
A0.44	8.8.4 d)	Temporary protection of Petrochemical/Gas services	Sum	1.0		
A0.45	8.8.4 d)	Temporary protection of any water mains not being replaced under the Project Scope, typically trunk mains.	Sum	1.0		
A0.46		All-inclusive rate for supervision, lighting, attending to health and safety requirements for tie-ins / water connections of size up to 250mm diameter of any configuration - undertaken by the contractor on behalf of eThekweni Water and Sanitation / Operations. The duration of the tie-in would be a maximum of 48 hours. The cost of labour, plant and consumables required in preparing and undertaking the tie-in work is measured under Dayworks and the respective extra-over items for dayworks performed after normal hours including night work.	No.	5.00		
Total Carried Forward To Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A1</b>		<b>SUMS STATED PROVISIONALLY</b>				
A1.1	PSA 8.18	Material and other tests ordered by the Employer or his representative	P Sum	1.00	R336 000.00	R336 000.00
A1.1.1	8.5 b) 2	Overheads, charges and profits on item above	%	R336 000.00		
A1.2	PSA 8.13	Community Liaison Officer (CLO)	P Sum	1.00	R360 000.00	R360 000.00
A1.2.1	8.5 b) 2	Overheads, charges and profits on item above	%	R360 000.00		
A1.3	PSA 8.16	Supply use (or hire) of specialist equipment for the detection of underground services (Prov)	P Sum	1.00	R75 000.00	R75 000.00
A1.3.1	8.5 b) 2	Overheads, charges and profits on item above	%	R75 000.00		
A1.4	PSA 8.19	Leak detection on existing pipes by an approved specialist	P Sum	1.00	R75 000.00	R75 000.00
A1.4.1	8.5 b) 2	Overheads, charges and profits on item above	%	R75 000.00		
A1.5	PSA 8.20	Institutional and Social Facilitator rendered by sub-contractor as per clause 4.4.4 of the General Conditions of Contract	P Sum	1.00	R420 000.00	R420 000.00
A1.5.1	8.5 b) 2	Overheads, charges and profits on item above	%	R420 000.00		
A1.6	PSA 8.17	As-built/GIS field work and verification	P Sum	1.00	R25 000.00	R25 000.00
A1.6.1	8.5 b) 2	Overheads, charges and profits on item above	%	R25 000.00		
A1.7		Inspection, structural design, supply, test, comission steel pipe supports and fixing brackets for bridge crossings	P Sum	1.00	R112 000.00	R112 000.00
A1.7.1	8.5 b) 2	Overheads, charges and profits on item above	%	R112 000.00		
A1.8		Provisional sum for Computer equipment (Software and Hardware) for the Engineer and Employer	P Sum	1.00	R120 000.00	R120 000.00
A1.8.1	8.5 b) 2	Overheads, charges and profits on item above	%	R120 000.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A1.9		Provisional sum for Allowance for mentorship of 2 student technician resources for the duration of the Contract Period	P Sum	1.00	R200 000.00	R200 000.00
A1.9.1	8.5 b) 2	Overheads, charges and profits on item above	%	R200 000.00		
A1.10		Provisional sum for Additional lateral support where ordered by the Engineer	P Sum	1.00	R200 000.00	R200 000.00
A1.10.1	8.5 b) 2	Overheads, charges and profits on item above	%	R200 000.00		
A1.11		Provisional sum for Additional Quality Control Equipment for use by the Engineer	P Sum	1.00	R50 000.00	R50 000.00
A1.11.1		Overheads, charges and profits on item above	%	R50 000.00		
A1.12		Construction of new and Rehabilitation of Existing PRV Chambers	P Sum	1.00	R200 000.00	R200 000.00
A1.12.1	8.5 b) 2	Overheads, charges and profits on item above	%	R200 000.00		
A1.13	PSA 8.22	Provisional Sum for Adhoc Watermain repair or replacement as and when requested by the Client	P Sum	1.00	R5 000 000.00	R5 000 000.00
A1.14	8.5 b) 2	Overheads, charges and profits on item A1.13	%	R5 000 000.00		
Total Carried Forward To Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A2</b>	<b>SANS 1921-2</b>	<b>TRAFFIC ACCOMMODATION</b>				
A2,4,1	PSA 8.8.2	Accommodation of traffic and re-use or removal of temporary traffic control facilities	m	19500.00		
A2,4,2		Flagmen (including equipment) - including all CPG sub-contractor flagmen requirements, assuming a maximum of 10 CPG sub-contractors	man-day	2480.00		
A2,4,3		Portable STOP and GO signs	No.	40.00		
A2,4,4		Amber flicker lights	No.	25.00		
A2,4,5		Road signs, R- and TR-series, 900mm diameter	No.	30.00		
A2,4,6		Road signs, TW-TWA series, 1200mm sides	No.	30.00		
A2,4,7		Road signs, TGP series, 900mm x 675mm TGP1	No.	30.00		
A2,4,8		900mm x 675mm TGP3	No.	30.00		
A2,4,9		900mm x 675mm TGP4	No.	30.00		
A2,4,10		900mm x 675mm TGP9	No.	50.00		
A2,4,11		Traffic cones (750mm high with high visibility reflectorized jackets)	No.	200.00		
A2,4,12		Delineators (TW401/402) including stands and supports Single sided (250mm x 1000mm)	No.	450.00		
A2,4,13	PSDA 5,1,1,1	Plastic Mesh Safety Fencing	m	3950.00		
Total Carried Forward To Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A3.4</b>	<b>SANS 1200 A 8.</b>	<b>DAYWORKS (Quantities are only indicative and shall only be used upon instruction by Engineer)</b>				
		<b>Labour</b>				
A3,4,1		Artisan	h	150.00		
A3,4,2		Extra over Item A3,4,1 for work undertaken after hours including night work.	h	75.00		
A3,4,3		Construction hand	h	150.00		
A3,4,4		Extra over Item A3,4,3 for work undertaken after hours including night work.	h	75.00		
A3,4,5		Unskilled Labourer	h	250.00		
A3,4,6		Extra over Item A3,4,5 for work undertaken after hours including night work.	h	75.00		
A3,4,7		Semi-skilled labourer	h	250.00		
A3,4,8		Extra over Item A3,4,7 for work undertaken after hours including night work.	h	75.00		
A3,4,9		Flagmen	h	250.00		
A3,4,10		Extra over Item A3,4,9 for work undertaken after hours including night work.	h	75.00		
		<b>Equipment</b>				
A3,4,11		Air compressor of at least 7 m <sup>3</sup> /min (includes breakers and hose)	h	100.00		
A3,4,12		Extra over Item A3,4,11 for work undertaken after hours including night work.	h	50.00		
A3,4,13		Generator or Alternator set of at least 10 kW capacity	h	100.00		
A3,4,14		Extra over Item A3,4,13 for work undertaken after hours including night work.	h	50.00		
A3,4,15		Vibrating plate compactor	h	100.00		
A3,4,16		Extra over Item A3,4,15 for work undertaken after hours including night work.	h	50.00		
A3,4,17		Rammer	h	100.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A3,4,18		Extra over Item A3,4,17 for work undertaken after hours including night work.	h	50.00		
A3,4,19		Tractor/Loader/Backhoe, power approximately 55kW	h	200.00		
A3,4,20		Extra over Item A3,4,19 for work undertaken after hours including night work.	h	100.00		
A3,4,21		Tippers (5m <sup>3</sup> )	h	200.00		
A3,4,22		Extra over Item A3,4,21 for work undertaken after hours including night work.	h	100.00		
A3,4,23		Tippers (10m <sup>3</sup> )	h	200.00		
A3,4,24		Extra over Item A3,4,23 for work undertaken after hours including night work.	h	100.00		
A3,4,25		Hand propelled vibratory roller, 0,5t	h	200.00		
A3,4,26		Extra over Item A3,4,25 for work undertaken after hours including night work.	h	100.00		
A3,4,27		Water Tanker (6 kℓ)	h	250.00		
A3,4,28		Extra over Item A3,4,27 for work undertaken after hours including night work.	h	100.00		
A3,4,29		Excavator (130 kW)	h	250.00		
A3,4,30		Extra over Item A3,4,29 for work undertaken after hours including night work.	h	100.00		
A3,4,31		Hydraulic Breaker (Pecker), 22t	h	250.00		
A3,4,32		Extra over Item A3,4,31 for work undertaken after hours including night work.	h	100.00		
A3,4,33		Small concrete mixer, ± 200 ℓ	h	250.00		
A3,4,34		Extra over Item A3,4,33 for work undertaken after hours including night work.	h	100.00		
A3,4,35		Industrial drill	h	250.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A3,4,36		Extra over Item A3,4,35 for work undertaken after hours including night work.	h	100.00		
		<b>Transport</b>				
A3,4,37		LDV	km	2500.00		
A3,4,38		Extra over Item A3,4,37 for work undertaken after hours including night work.	km	1000.00		
A3,4,39		Flatbed truck (incl 5t crane)	km	4500.00		
A3,4,40		Extra over Item A3,4,39 for work undertaken after hours including night work.	km	2000.00		
A3,4,41		Low bed trailer with mechanical horse	km	1500.00		
A3,4,42		Extra over Item A3,4,41 for work undertaken after hours including night work.	km	800.00		
A3,4,43	PSA 8.7	<b>Materials</b>				
A3,4,43,1		Sand (Building)	m <sup>3</sup>	15.00		
A3,4,43,2		Sand (river)	m <sup>3</sup>	10.00		
A3,4,43,3		50 kg pocket of Cement	No.	80.00		
A3,4,43,4		Hard burnt red Face Brick (satin red)	m <sup>2</sup>	150.00		
		<b>Dayworks Provisional Sum</b>				
A3,4,44	PSA 8.7	Allowance for Dayworks activities not covered under the Daworks section / quantities allowed for in the BOQ.	P Sum	1.00	R500 000.00	R500 000.00
Total Carried Forward To Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A4.4</b>	<b>"SANS1200 C"</b>	<b>SECTION : SITE CLEARANCE</b>				
		<b>CLEAR SITE</b>				
A4.4.1	8.2.1 & PSC 5.3	Clear and grub Site (excluding items listed below)	m <sup>2</sup>	11500.00		
A4.4.2	8.2.1 & PSC 5.3	Roadways	m <sup>2</sup>	18850.00		
A4.4.3	8.2.1 & PSC 5.3	Side walks and other paved areas	m <sup>2</sup>	8750.00		
A4.4.4	8.2.1 & PSC 5.3	Removal of fire hydrants and associated material	No,	160.00		
A4.4.5	8.2.1 & PSC 5.3	Removal of guard rails and posts	m	400.00		
A4.4.6	8.2.1 & PSC 5.3	Removal of traffic signs, bollards and posts	No,	300.00		
A4.4.7	8.2.1 & PSC 5.3	Removal of brick walls	m <sup>2</sup>	870.00		
	8.2.2	Remove and grub large trees and tree stumps of girth:				
A4.4.8		Under 1 m	No,	15.00		
A4.4.9		Over 1 m and up to 2 m	No,	8.00		
A4.4.10	8.2.5	Take down existing fences, and stockpile on site	m <sup>2</sup>	2350.00		
A4.4.11	PSC 8.2,20	Take down existing pre-cast walling, and stockpile on site	m <sup>2</sup>	1500.00		
A4.4.12	PSC 8.2,17	Reinstate existing fences	m <sup>2</sup>	2350.00		
A4.4.13	PSC 8.2,21	Reinstate pre-cast walling	m <sup>2</sup>	1500.00		
A4.4.14	PSL 8.2,22	Construct new pre-cast walling	m <sup>2</sup>	150.00		
A4.4.15	PSC 8.2,23	Construct new double leaf brick wall	m <sup>2</sup>	100.00		
A4.4.16	PSC 8.2,18	Reinstate guard rails and guard rail posts	m	400.00		
A4.4.17	PSC 8.2,19	Reinstate traffic and street signs, bollards and posts	No,	300.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A4.4.18	PSC 8.2.14	Landscape preservation and conservation of Flora	m <sup>2</sup>	2710.00		
A4,4,19	8,2,7	Dismantle and remove pipelines encased in concrete	m	301.00		
A4,4,20	8,2,7	Dismantle and remove pipelines (not encased in concrete), including valves and fittings	m	2350.00		
A4,4,21	PSC 8,2,11	Extra over item A4,4,20 for dismantling, removal and disposal of Asbestos Cement (AC) pipelines (not encased in concrete), including valves and fittings	m	3800.00		
A4.4.22	PSC 8.2.12	Recovering and stockpiling of re-usable material from clearing operation	t	9.50		
A4.4.23	PSC 8.2.13	Loading, transporting and offloading of Re-usable Material to EWS store or Municipal Depot	t	9.50		
A4.4.24	PSC 8.2.10	Remove topsoil along pipeline route to nominal depth of 150mm and stockpile on site	m <sup>3</sup>	1938.00		
A4,4,25	PSC 8,2,15	Reinstate topsoil from stockpile	m <sup>3</sup>	1938.00		
A4,4,26	PSC 8,2,16	Reinstate topsoil by importation from commercial sources	m <sup>3</sup>	300.00		
A4,4,27	PSDB 8,3,6,2	Grassing	m <sup>2</sup>	12250.00		
Total Carried Forward to Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A5.4</b>	<b>"SANS1200 DB"</b>	<b>SECTION : PIPE TRENCHES</b>				
		<b>EXCAVATION</b>				
	<b>8.3.2(a)</b>	<b>Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for all pipes up to 110 mm diam. for total trench depth:</b>				
A5,4,1		Exceeding 0,0 m but not exceeding 1,0 m	m	400.00		
A5,4,2		Exceeding 1,0 m but not exceeding 2,0 m	m	800.00		
A5,4,3		Exceeding 2,0 m but not exceeding 3,0 m	m	100.00		
		Over 110 up to 300 mm diam. for total trench depth:				
A5,4,4		Exceeding 0,0 m but not exceeding 1,0 m	m	250.00		
A5,4,5		Exceeding 1,0 m but not exceeding 2,0 m	m	500.00		
A5,4,6		Exceeding 2,0 m but not exceeding 3,0 m	m	75.00		
		Over 300 up to 400 mm diam. for total trench depth:				
A5,4,7		Exceeding 0,0 m but not exceeding 1,0 m	m	10.00		
A5,4,8		Exceeding 1,0 m but not exceeding 2,0 m	m	100.00		
A5,4,9		Exceeding 2,0 m but not exceeding 3,0 m	m	50.00		
	<b>8.3.2(b)</b>	<b>Extra-over items A5.4.1 to A5.4.9 incl. for (prov):</b>				
A5.4.10		Intermediate excavation	m <sup>3</sup>	150.00		
A5.4.11		Hard rock excavation	m <sup>3</sup>	50.00		
A5.4.12		Boulder excavation Class A	m <sup>3</sup>	15.00		
A5.4.13		Boulder excavation Class B	m <sup>3</sup>	10.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A5.4.14	8.3.2(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m <sup>3</sup>	200.00		
	<b>SANS 1200 PSDA 8.3.2 (a)</b>	<b>Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, in RESTRICTED AREAS for pipes: 110 mm diam, at depth ranges:</b>				
A5,4,15		Exceeding 0,0 m but not exceeding 1,0 m	m	1250.00		
A5,4,16		Exceeding 1,0 m but not exceeding 2,0 m	m	17950.00		
A5,4,17		Exceeding 2,0 m but not exceeding 3,0 m	m	100.00		
		Over 110 up to 300 mm diam. for total trench depth:				
A5,4,18		Exceeding 0,0 m but not exceeding 1,0 m	m	500.00		
A5,4,19		Exceeding 1,0 m but not exceeding 2,0 m	m	3750.00		
A5,4,20		Exceeding 2,0 m but not exceeding 3,0 m	m	50.00		
		Over 300 up to 400 mm diam. for total trench depth:				
A5,4,21		Exceeding 0,0 m but not exceeding 1,0 m	m	25.00		
A5,4,22		Exceeding 1,0 m but not exceeding 2,0 m	m	100.00		
A5,4,23		Exceeding 2,0 m but not exceeding 3,0 m	m	50.00		
	<b>SANS 1200 PSDA 8.3.2(b)</b>	<b>Extra-over items A5.4.15 to A5.4.23 incl. for (prov):</b>				
A5.4.24		Intermediate excavation	m <sup>3</sup>	4915.00		
A5,4,25		Hard rock excavation	m <sup>3</sup>	1620.00		
A5.4.26		Boulder excavation Class A	m <sup>3</sup>	100.00		
A5.4.27		Boulder excavation Class B	m <sup>3</sup>	50.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
		<b>EXCAVATION ANCILLARIES Make up deficiency in backfill material (Provisional)</b>				
A5.4.28	8.3.3.1 (a)	from other necessary excavations on site	m³	2650.00		
A5.4.29	8.3.3.1 (c)	by importation from commercial sources	m³	1300.00		
	8.3.4 (a)	Shore trench opposite structure or service or as instructed by Engineer, for total trench depth:				
A5.4.30		Exceeding 0,0 m but not exceeding 1,0 m	m	500.00		
A5.4.31		Exceeding 1,0 m but not exceeding 2,0 m	m	2250.00		
A5.4.32		Exceeding 2,0 m but not exceeding 3,0 m	m	125.00		
		<b>EXISTING SERVICES</b>				
A5,4,33	PSDB 8,3,5(a)	Services that intersect a trench	No,	500.00		
A5,4,34	PSDB 8,3,5(b)	Services that adjoin a trench	m	8500.00		
Total Carried Forward to Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A6.4</b>	<b>SASTT-TS-TT3: 2016</b>	<b>HORIZONTAL DIRECTIONAL DRILLING</b>				
		<b>Horizontal Directional Drilling (HDD) as directed by the Engineer</b>				
A6,4,1	Annex C 1,2,1	HDD establishment on site	Sum	1.00		
A6,4,2	Annex C 1,2,2	HDD installation setup	No,	100.00		
A6,4,3	Annex C 1,2,3	Excavation of drilling Pits	No,	200.00		
A6,4,4	Annex C 1,2,4	Hand excavation of pits	m <sup>3</sup>	500.00		
	Annex C 1.2.5	HDD installation of HDPE sleeves (SDR 11, PE 100, PN 16), see Standard eThekweni Drawing #118 ""Typical Watermain Pipe Duct for Road Crossings""				
A6,4,5		75 mm diam,	m	56.00		
A6,4,6		110 mm diam,	m	125.00		
A6,4,7		160 mm diam,	m	80.00		
A6,4,8		200 mm diam,	m	29.00		
A6,4,9		250 mm diam,	m	15.00		
A6,4,10		315 mm diam,	m	25.00		
A6,4,11		355 mm diam,	m	10.00		
	Annex C 1.2.5	Supply, install, test and commission under the HDD installation the following HDPE pipes (SDR 11, PE 100, PN 16) inside HDPE sleeves (items A6,4,5 to A6,4,11) complete with stainless steel Table 1600 puddle flange but-welded to one end, Item includes stainless steel Table 1600 flanged to both ends of pipes				
A6,4,12		110mm diam,	m	90.00		
A6,4,13		160mm diam,	m	50.00		
Total Carried Forward To Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A7,4</b>	<b>"SANS1200 LB"</b>	<b>SECTION : BEDDING AND SUB-SOIL DRAINS</b>				
		<b>PROVISION OF BEDDING</b>				
		Available from trench excavations (All haul regarded as free haul)				
A7,4,1	8,2,1	Selected granular material	m <sup>3</sup>	750.00		
A7,4,2		Selected fill material	m <sup>3</sup>	4915.00		
	<b>PSLB 8,2,2,3</b>	<b>Provision of bedding from commercial sources</b>				
A7,4,3		Selected granular material	m <sup>3</sup>	7400.00		
A7,4,4		Selected fill blanket	m <sup>3</sup>	2850.00		
A7,4,5		Rock fill	m <sup>3</sup>	150.00		
A7,4,6		Stone bedding	m <sup>3</sup>	300.00		
A7,4,7		Supply, place and compact 5% soilcrete using material on site.	m <sup>3</sup>	100.00		
A7,4,8		Supply, install and join Bidim (Grade A4) around stone bedding,	m <sup>2</sup>	750.00		
	<b>SANS 1200 LE &amp; PSLB 5,2,5</b>	<b>SUB-SOIL DRAINS</b>				
		<b>Supply and lay slotted HDPE subsoil drainage pipe complete with couplings in stone bedding</b>				
A7,4,8		110 mm	m	435.00		
A7,4,9		160 mm	m	205.00		
		<b>Supply and lay uPVC bends, junctions and stops in stone bedding</b>				
A7,4,10		110 mm Bend	No.	10.00		
A7,4,11		160 mm Bend	No.	10.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A7,4,12		110 mm Junction	No.	25.00		
A7,4,13		160 mm Junction	No.	25.00		
A7,4,14		110 mm Stop End	No.	10.00		
A7,4,15		160 mm Stop End	No.	10.00		
		<b>Geofabric</b>				
A7,4,16		Supply, install and join Bidim (Grade A4) around slotted pipes, bedding and fittings,	m <sup>2</sup>	210.00		
		<b>Crushed Stone for Subsoil drains</b>				
A7,4,17		Supply and lay 13 mm stone	m <sup>3</sup>	80.00		
		<b>Outlet/Join to existing</b>				
A7,4,18	PSLE 8,2,14	Join subsoil drains to existing stormwater manholes and repair	No.	50.00		
A7,4,19	SANS 1200 GA 8,4,3	Concrete V-drain (Class 20/19), including formwork (see SANRAL drawing TD-D-RD-1001-V1 Type E )	m <sup>3</sup>	25.00		
Total Carried Forward To Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A8.4</b>	<b>"SANS1200 L"</b>	<b>SECTION : WATER MAINS</b>				
	<b>PSL 8.2.1</b>	<b>Supply, lay and bed pipes complete with Couplings. Rate includes disinfection and pressure testing.</b>				
	<b>PSL 8.2.1</b>	<b>HDPE pipes (SDR 11, PE 100, PN 16)</b>				
A8.4.1		25mm diam,	m	500.00		
A8.4.2		50 mm diam,	m	6700.00		
	<b>PSL 8,2,1</b>	<b>mPVC pipes (Class 12)</b>				
A8.4.3		75mm diam,	m	1370.00		
A8.4.4		110 mm diam,	m	9900.00		
A8.4.5		160 mm diam,	m	3715.00		
A8.4.6		200 mm diam, (Provisional)	m	50.00		
A8.4.7		250 mm diam, (Provisional)	m	20.00		
A8.4.8		315 mm diam, (Provisional)	m	15.00		
A8.4.9		355 mm diam, (Provisional)	m	10.00		
	<b>PSL 3,4 &amp; PSL 8,2,1</b>	<b>Steel flanged pipes for road crossings, all flanges Table 16, pipe diameters and wall thicknesses, pipe coating and corrosion protection as per project specification, All pipe lengths to be 12m unless otherwise instructed by Engineer, Pipe fully flanged both sides and welded to meet required length for road crossing,</b>				
A8.4.10		80mm diameter - 10m long pipe flanged both sides	No.	75.00		
A8.4.11		100 mm diameter - 10m long pipe flanged both sides	No.	20.00		
A8.4.12		150 mm diameter - 10m long pipe flanged both sides	No.	25.00		
A8.4.13		200 mm diameter - 10m long pipe flanged both sides	No.	3.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.14	<b>PSL 3,4 &amp; PSL 8,2,1</b>	250 mm diameter - 10m long pipe flanged both sides	No.	1.00		
		<b>Extra over flanged steel pipes for road crossings where lengths are to be adjusted to meet specific road width requirements.</b>				
A8.4.15		Item A8.4.10 - 80mm diameter	m	220.00		
A8.4.16		Item A8.4.11 - 100 mm diameter	m	100.00		
A8.4.17		Item A8.4.12 - 150 mm diameter	m	50.00		
A8.4.18		Item A8.4.13 - 200 mm diameter	m	5.00		
A8.4.19		Item A8.4.14 - 250 mm diameter	m	16.00		
	<b>PSL 8,2,1</b>	<b>uPVC Class 34 solid wall (heavy duty) sleeves at road crossings</b>				
A8.4.20		160 mm diam,	m	200.00		
A8.4.21		200 mm diam,	m	250.00		
A8.4.22		250 mm diam,	m	50.00		
A8.4.23		315 mm diam,	m	25.00		
A8.4.24		355 mm diam,	m	25.00		
A8.4.25		400mm diam,	m	25.00		
A8.4.26		450mm diam,	m	25.00		
	<b>PSL 8,2,1</b>	<b>HDPE (SDR 11, PE 100, PN 16), sleeves at road crossings</b>				
A8.4.27		200mm diam,	m	50.00		
A8.4.28		250mm diam,	m	460.00		
A8.4.29		315mm diam,	m	30.00		
A8.4.30		355mm diam,	m	10.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.31		400mm diam,	m	10.00		
A8.4.32		450mm diam,	m	10.00		
	<b>PSL 8,2,18</b>	<b>Extra-over item A8,4,2 to A8,4,9 for laying pipes through uPVC pipes Class 34 solid wall (heavy duty) pipe sleeves at road crossings</b>				
A8.4.33		50mm diam,	m	20.00		
A8.4.34		75mm diam,	m	100.00		
A8.4.35		110mm diam,	m	200.00		
A8.4.36		160mm diam,	m	250.00		
A8.4.37		200mm diam,	m	25.00		
A8.4.38		250mm diam,	m	25.00		
A8.4.39		315mm diam,	m	25.00		
A8.4.40		355mm diam,	m	25.00		
A8.4.41	PSL 8,2,22	Pressure testing and disinfection of existing pipe (in-situ)	m	3000.00		
	<b>PSL 8,2,23</b>	<b>CCTV inspection of pipes</b>				
A8.4.42		300 mm up to 450 mm diam,	m	2000.00		
A8.4.43		450 mm up to 900 mm diam,	m	500.00		
		<b>BENDS AND FITTINGS</b>				
	<b>8.2.2</b>	<b>90 deg mPVC Bend (Class 16) as per eThekwini Municipality Water Design branch Plan No. 69</b>				
A8.4.44		75 mm diam,	No.	35.00		
A8.4.45		110 mm diam,	No.	52.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.46		160 mm diam,	No.	11.00		
A8.4.47		200 mm diam,	No.	2.00		
	<b>8,2,2</b>	<b>45 deg mPVC Bend (Class 16) as per eThekwini Municipality Water Design branch Plan No, 68</b>				
A8.4.48		75 mm diam,	No.	28.00		
A8.4.49		110 mm diam,	No.	76.00		
A8.4.50		160 mm diam,	No.	36.00		
A8.4.51		200 mm diam,	No.	2.00		
	<b>8,2,2</b>	<b>22,5 deg mPVC Bend (Class 16) as per eThekwini Municipality Water Design branch Plan No, 67</b>				
A8.4.52		75 mm diam,	No.	65.00		
A8.4.53		110 mm diam,	No.	90.00		
A8.4.54		160 mm diam,	No.	48.00		
A8.4.55		200 mm diam,	No.	2.00		
	<b>8,2,2</b>	<b>11,25 deg mPVC Bend (Class 16)</b>				
A8.4.56		75 mm diam,	No.	20.00		
A8.4.57		110 mm diam,	No.	50.00		
A8.4.58		160 mm diam,	No.	30.00		
A8.4.59		200 mm diam,	No.	2.00		
	<b>8,2,2</b>	<b>90 degree "AQUALOCK" socketed bend as per eThekwini Municipality Water Design branch Plan No, 72</b>				
A8.4.60		250 mm diam,	No.	2.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.61	8,2,2	<b>45 degree "AQUALOCK" socketed bend as per eThekwini Municipality Water Design branch Plan No, 71</b> 250 mm diam,	No.	4.00		
A8.4.62	8,2,2	<b>22,5 degree "AQUALOCK" socketed bend as per eThekwini Municipality Water Design branch Plan No, 70</b> 250 mm diam,	No.	3.00		
A8.4.63	8,2,2	<b>11,25 degree "AQUALOCK" socketed bend as per eThekwini Municipality Water Design branch Plan No, 70</b> 250 mm diam,	No.	5.00		
A8.4.64		315 mm diam,	No.	1.00		
A8.4.65	8,2,2	<b>STEEL FLANGED EQUAL TEE as per eThekwini Municipality Water Design branch Plan No, 73 Rev A</b> 80 mm diam,	No.	22.00		
A8.4.66		100 mm diam,	No.	118.00		
A8.4.67		150 mm diam,	No.	58.00		
A8.4.68		200 mm diam,	No.	2.00		
A8.4.69		250 mm diam,	No.	2.00		
A8.4.70		300mm diam	No.	2.00		
A8.4.71		400mm diam	No.	1.00		
A8.4.72	8,2,2	<b>90 degree HDPE compression BEND (PN16)</b> 25 mm	No.	10.00		
A8.4.73		50 mm	No.	75.00		
A8.4.74		110 mm	No.	5.00		
A8.4.75	8,2,2	<b>Ductile Iron socketed/flanged TEE (for Hydrants)</b> 80mm (socketed) x 80mm (socketed) x 80mm (flanged)	No.	20.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.76		110 mm (socketed) x 110 mm (socketed) x 80mm (flanged)	No.	30.00		
A8.4.77		160 mm (socketed) x 160 mm (socketed) x 80mm (flanged)	No.	20.00		
A8.4.78		200 mm (socketed) x 200 mm (socketed) x 80mm (flanged)	No.	4.00		
A8.4.79		250 mm (socketed) x 250 mm (socketed) x 80mm (flanged)	No.	4.00		
A8.4.80		315 mm (socketed) x 315 mm (socketed) x 80mm (flanged)	No.	1.00		
	<b>8,2,2</b>	<b>STEEL TAPER FLANGED as per eThekweni municipality water design branch plan No, 80</b>				
A8.4.81		80/50mm	No.	215.00		
A8.4.82		100/80mm	No.	25.00		
A8.4.83		150/80mm	No.	10.00		
A8.4.84		150/100 mm	No.	10.00		
A8.4.85		200/80 mm	No.	1.00		
A8.4.86		200/100 mm	No.	1.00		
A8.4.87		200/150 mm	No.	1.00		
A8.4.88		250/80 mm	No.	1.00		
A8.4.89		250/100 mm	No.	1.00		
A8.4.90		250/150 mm	No.	2.00		
A8.4.91		250/200 mm	No.	1.00		
A8.4.92		300/80 mm	No.	1.00		
A8.4.93		300/100 mm	No.	5.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.94		300/150 mm	No.	2.00		
A8.4.95		300/200 mm	No.	1.00		
A8.4.96		300/250 mm	No.	1.00		
A8.4.97		400/80 mm	No.	1.00		
A8.4.98		400/100 mm	No.	1.00		
A8.4.99		400/150 mm	No.	1.00		
	<b>8,2,2</b>	<b>END CAP as per eThekwini municipality water design branch plan No, 74</b>				
A8.4.100		50 mm diam,	No.	75.00		
A8.4.101		75 mm diam,	No.	15.00		
A8.4.102		110 mm diam,	No.	5.00		
A8.4.103		160 mm diam,	No.	5.00		
A8.4.104		200 mm diam,	No.	1.00		
A8.4.105		250 mm diam,	No.	1.00		
A8.4.106		315 mm diam,	No.	1.00		
	<b>8,2,2</b>	<b>FLANGE ADAPTOR as per eThekwini municipality water design branch plan No, 77</b>				
A8.4.107		75 mm diam,	No.	450.00		
A8.4.108		110 mm diam,	No.	270.00		
A8.4.109		160 mm diam,	No.	156.00		
A8.4.110		200 mm diam,	No.	1.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.111		250 mm diam,	No.	1.00		
A8.4.112		315 mm diam,	No.	42.00		
	8,2,2	UNIVERSAL FLANGE ADAPTOR as per eThekwini municipality Water Design Branch Plan No, 78 Rev B				
A8.4.113		75 mm diam,	No.	25.00		
A8.4.114		110 mm diam,	No.	10.00		
A8.4.115		160 mm diam,	No.	5.00		
A8.4.116		200 mm diam,	No.	5.00		
A8.4.117		250 mm diam,	No.	4.00		
A8.4.118		315 mm diam,	No.	2.00		
	8,2,2	<b>UNIVERSAL COUPLING as per eThekwini municipality Water Design Branch Plan No. 81 Rev A</b>				
A8.4.119		75 mm diam,	No.	10.00		
A8.4.120		110 mm diam,	No.	2.00		
A8.4.121		160 mm diam,	No.	2.00		
A8.4.122		200 mm diam,	No.	2.00		
A8.4.123		250 mm diam,	No.	2.00		
A8.4.124		315 mm diam,	No.	4.00		
	8,2,2	<b>"AQUALOK" STEPFIT COUPLING, including saddle, as per eThekwini municipality Water Design Branch Plan No, 79 Rev A</b>				
A8.4.125		200-232 mm diam, (mPVC to AC)	No.	4.00		
A8.4.126		250-286 mm diam, (mPVC to AC)	No.	4.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.127		315-345 mm diam, (mPVC to AC) including 315 x 100 mm saddle	No.	4.00		
	<b>PSL 8,2,21</b>	<b>RECOVERED FITTINGS FROM CLEARING OPERATION</b>				
A8.4.128		All diameters and types	No.	453.00		
	8.2.3	Supplying, Laying, bedding and installation of Valves				
		<b>Flanged Gate valves as per EWS Technical specification - PART B</b>				
A8.4.129		300 mm diam,	No.	4.00		
A8.4.130		400 mm diam,	No.	4.00		
		<b>Flanged RSV valves as per EWS Technical specification - PART B</b>				
A8.4.131		50mm diam,	No.	31.00		
A8.4.132		80 mm diam,	No.	10.00		
A8.4.133		100 mm diam,	No.	47.00		
A8.4.134		150 mm diam,	No.	16.00		
A8.4.135		200 mm diam,	No.	1.00		
A8.4.136		250 mm diam,	No.	1.00		
A8.4.137		315 mm diam,	No.	4.00		
	<b>PSL 8,2,</b>	<b>AIR VALVES,Standard eThekwini Water &amp; Sanitation Drawing No 40306, Sheet 2</b>				
A8.4.138		75mm diam	No.	25.00		
	<b>PSL 8,2,21</b>	<b>RECOVERED VALVES FROM CLEARING OPERATION</b>				
A8.4.139		All diameters and types	No.	250.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
		<b>TEMPORARY CONNECTION</b>				
	<b>PSL 8.2.19</b>	<b>Temporary house and property water connections, including supply, commissioning, maintenance, design of rider main, connection to existing mains and removal on completion of customer connection.</b>				
A8.4.140		25 mm dia,	No.	982.00		
A8.4.141		50 mm dia,	No.	80.00		
A8.4.142		80 mm dia,	No.	20.00		
A8.4.143		100 mm dia,	No.	10.00		
		<b>PERMANENT CONNECTIONS</b>				
	<b>PSL 8.2,20</b>	<b>House Connection, complete with saddle (Plan 75 REV A), ball valve and pipework inclusive of 5m HDPE (SDR 11, PE 100, PN 16) pipe of size 25mm or 50mm to match connection size</b>				
A8.4.144		25 mm dia, (Plan 56 B of the eThekwini Design Branch)	No.	982.00		
A8.4.145		50 mm dia, (Plan 56C of the eThekwini Design Branch)	No.	80.00		
A8.4.146		Extra-over item A8,4,131 to A8,4,132 to re-locate existing house connection to position as instructed by the Engineer,	No.	20.00		
A8.4.147		Extra-over item A8,4,131 includes removal of existing saddle, supply, install and test new saddle over existing ferrule and blanking off	No.	10.00		
A8.4.148		Extra-over item A8,4,132 includes removal of existing saddle, supply, install and test new saddle over existing ferrule and blanking off	No.	10.00		
	<b>PSL 8.2.1</b>	<b>Supply, lay and bed steel pipes (flanged) for consumer meter connections (Refer to EWS standard drawing 72056)</b>				
A8.4.149		50 mm dia,	m	25.00		
A8.4.150		80mm dia,	m	25.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.151		100mm dia	m	25.00		
A8.4.152		150mm dia	m	25.00		
	<b>8,2,2</b>	<b>HDPE COMPRESSION COUPLING (PN 16)</b>				
A8.4.153		25 mm	No.	982.00		
A8.4.154		50 mm	No.	80.00		
A8.4.155		90 mm	No.	5.00		
	<b>8,2,2</b>	<b>HDPE COMPRESSION T- PIECE (PN 16)</b>				
A8.4.156		50 mm	No.	20.00		
A8.4.157		110 mm	No.	4.00		
A8.4.158	PSL 8,2,16	Extra over for cutting of pipe	No.	500.00		
	<b>8,2,2</b>	<b>Supply, handle and install 90 deg steel BEND (flanged) for consumer meter connections (Refer to EWS standard drawing 72056):</b>				
A8.4.159		50 mm dia,	No.	1500.00		
A8.4.160		80 mm dia,	No.	255.00		
A8.4.161		100 mm dia,	No.	0.00		
A8.4.162		150 mm dia,	No.	0.00		
	PSL 8,2,17	Connecting to Existing Pipeline				
A8.4.163		75 mm diam,	No.	2.00		
A8.4.164		110 mm diam,	No.	5.00		
A8.4.165		160 mm diam,	No.	5.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.166		200 mm diam,	No.	3.00		
A8.4.167		250 mm diam,	No.	2.00		
A8.4.168		315 mm diam,	No.	1.00		
A8.4.169		355mm diam,	No.	1.00		
A8.4.170		400mm diam,	No.	0.00		
<b>FIRE HYDRANTS</b>						
A8.4.171		Supply and install Standard Hydrant as per eThekwini Water Design Branch Plan No, 26B including 100mm dia, gate valve with valve cover, spacer rings, 110mm dia, "Plasson" flange adaptors, 110mm dia, "Plasson" 90deg elbow, 110mm dia, HDPE pipe, concrete anchor blocks (T-piece measured elsewhere),	No.	61.00		
A8.4.172		Supply and install Double Standard Hydrant as per eThekwini Water Design Branch Plan No, 20B including 100mm dia, gate valves with valve covers, spacer rings, 110mm dia, "Plasson" flange adaptors, 110mm dia, "Plasson" 90deg elbow, 110mm dia, HDPE pipe, concrete anchor blocks,	No.	5.00		
A8.4.173	PSL 8,2,11	ANCHOR/THRUST BLOCKS AND PEDESTALS as per eThekwini municipality Water Design Branch Plan No, 39 (Grade 20/19), Final thrust block dimensions to be confirmed on site with the Engineer,	No.	455.00		
	<b>8,2,13</b>	<b>VALVE CHAMBERS AND MANHOLES:</b>				
A8.4.174		Air valve chamber as per eThekwini municipality Water Design Branch Drawing No, 40306	No.	8.00		
A8.4.175		Pressure Reducing Valve Chamber as per eThekwini municipality Water Design Branch Drawing No, 43718 & 43719	No.	2.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A8.4.176		Valve chamber constructed from precast concrete valve spacer rings ( eThekwini municipality Water Design Branch, Plan No, 6) complete with Valve Cap ( eThekwini municipality Water Design Branch, Plan Number 28, Valve Cover 5B),	No.	145.00		
		<b>MARKER BLOCKS</b>				
A8.4.177		Valve Marker as per eThekwini water and Sanitation Plan No, 27	No.	212.00		
	<b>PSL 8,2,15</b>	<b>CORROSION PROTECTION for Buried Fittings or valves (DENSO or similar approved)</b>				
	<b>PSL 8,2,15</b>	<b>Flanged Joints for diameters:</b>				
A8.4.178		80 mm diam,	No.	220.00		
A8.4.179		100 mm diam,	No.	260.00		
A8.4.180		150 mm diam,	No.	110.00		
A8.4.181		200 mm diam,	No.	60.00		
A8.4.182		250 mm diam,	No.	20.00		
A8.4.183		300 mm diam,	No.	10.00		
A8.4.184		400 mm diam,	No.	1.00		
Total Carried Forward To Summary						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
<b>A9.4</b>	<b>COD PART S</b>	<b>SECTION : REINSTATEMENT</b>				
	<b>S.8.2</b>	<b>Roads and Hardened Areas</b>				
A9,4,1		Temporary Reinstatement of Road	m <sup>2</sup>	18850.00		
		<b>Permanent Reinstatement of Road for (including additional compaction of backfill as specified):</b>				
A9,4,2		Road Category A	m <sup>2</sup>	100.00		
A9,4,3		Road Category B	m <sup>2</sup>	2500.00		
A9,4,4		Road Category C	m <sup>2</sup>	5000.00		
A9,4,5		Road Category D	m <sup>2</sup>	13350.00		
		<b>Permanent Reinstatement of Side walks, Footpaths and Median Areas complying to Part EG of City of Durban Standard Engineering Specification:</b>				
A9,4,6		Reinstatement of paved side walks (Pre-cast Concrete slabs)	m <sup>2</sup>	20.00		
A9,4,7		Reinstatement of paved side walks (Brick paving blocks)	m <sup>2</sup>	500.00		
A9,4,8		Reinstatement of paved side walks (Asphalt)	m <sup>3</sup>	950.00		
A9,4,9		Reinstatement of Asphalt Access Hardening and Scoops for property entrances/accesses	m <sup>2</sup>	1500.00		
A9,4,10		Reinstatement of Concrete Access Hardening and Scoops property entrances/accesses	m <sup>2</sup>	750.00		
	<b>S.8.3</b>	<b>Kerbing and Haunching</b>				
A9,4,11		Type A Barrier Kerb and Channel, complete as per eThekwini Standard drawing 38577	m	15.00		
A9,4,12		Type B Barrier Kerb and Channel, complete as per eThekwini Standard drawing 38577	m	15.00		
A9,4,13		Type C Mountable Kerb and Channel, complete as per eThekwini Standard drawing 38577	m	15.00		
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A9,4,14		Type D Barrier Kerb and Channel, complete as per eThekwini Standard drawing 38577	m	5650.00		
A9,4,15		Type E Semi Mountable Kerb and Channel, complete as per eThekwini Standard drawing 38577	m	3560.00		
A9,4,16		Type F Mountable Kerb and Fillet, complete as per eThekwini Standard drawing 38577	m	9620.00		
A9,4,17		Type G Extruded Barrier Kerb and Channel, complete as per eThekwini Standard drawing 38577	m	400.00		
A9,4,18		Type H Extruded Mountable Kerb and Channel, complete as per eThekwini Standard drawing 38577	m	60.00		
	<b>"SANS 1200 MM"</b>	<b>SECTION: ROAD MARKINGS</b>				
	<b>8.4.1</b>	<b>Road Markings (5.3)</b>				
		<b>a) White lines</b>				
A9,4,19		i) 100 mm wide, broken	m	2000.00		
A9,4,20		ii) 200 mm wide, broken	m	2750.00		
A9,4,21		iii) 150 mm wide, continuous	m	3500.00		
A9,4,22		iv) 200 mm wide, continuous	m	500.00		
		<b>b) Yellow lines</b>				
A9,4,23		i) 100 mm wide, continuous	m	1000.00		
A9,4,24		ii) 150 mm wide, continuous	m	500.00		
		<b>c) Red lines</b>				
A9,4,25		i) 100 mm wide, continuous	m	200.00		
A9,4,26		ii) 150 mm wide, continuous	m	200.00		
		<b>d) Symbols or characters</b>				
Total Carried Forward						

ITEM NO	PAYMENT	DESCRIPTION	UNIT	QTY	RATE	AMOUNT R
Brought Forward						
A9,4,27		i) White symbols or characters	m <sup>2</sup>	200.00		
A9,4,28		ii) Yellow symbols or characters	m <sup>2</sup>	200.00		
	<b>8,4,2</b>	<b>Variation in Rate of Application</b>				
A9,4,29		White paint	ℓ	250.00		
A9,4,30		Yellow paint	ℓ	100.00		
A9,4,31		Red paint	ℓ	25.00		
A9,4,32		Glass beads	kg	55.00		
Total Carried Forward to Summary						

**SUMMARY OF SECTIONS**

<b>SECTION</b>	<b>DESCRIPTION</b>	<b>AMOUNT (RAND)</b>
A0	PRELIMINARY & GENERAL	R
A1	SUMS STATED PROVISIONALLY	R
A2	TRAFFIC ACCOMMODATION	R
A3.4	DAYWORKS	R
A4.4	SITE CLEARENCE	R
A5.4	PIPE TRENCHES	R
A6.4	HDD AND TRENCHLESS TECHNOLOGY	R
A7.4	BEDDING & SUB-SOIL DRAINS	R
A8.4	WATER MAINS	R
A9.4	REINSTATEMENT OF ROAD & ROAD RESERVE	R
	<b>SUBTOTAL</b>	R
	ADD 15% VAT	R
	<b>TOTAL CARRIED FORWARD TO SECTION C1.1 "FORM OF OFFER"</b>	R

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**PART C3: SCOPE OF WORK**

	<b><u>PAGE</u></b>
<b>C3.1 PROJECT DESCRIPTION AND SCOPE OF CONTRACT</b>	<b>113</b>
<b>C3.2 PROJECT SPECIFICATIONS</b>	<b>115</b>
PS.1 Programme, Method of Work, and Accommodation of Traffic	
PS.2 Services	
PS.3 Watermains	
PS.4 Sewers	
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### **C3.1: PROJECT DESCRIPTION AND SCOPE OF CONTRACT**

#### **C3.1.1 Description of Works**

The objective of this contract is to assist the Municipality in its long-term objective to replace approximately 2% of existing water mains year on year in critical reservoir zones within the eThekweni Municipal supply area.

The expected outcome of this programme is that the budget provided in respect of each financial year will be spent on replacing water mains in accordance with the critical reservoir zones identified in the programme.

The works will include but are not limited to the following:

- Proving of existing services
- Accommodation of traffic
- Clearing of pipeline route
- Trench excavations
- Supply of material, pipes, fittings and valves
- Recovery and/or disposal of existing pipes and fittings
- Temporary rider mains, water connections and access to properties
- Installation of new water mains in trenches along new and existing alignments
- Installation of water mains in bridge decks or attached to bridges
- Installation of new fittings and valves
- Horizontal directional drilling for selected road crossings
- Pressure testing and disinfection of pipes
- Construction of new pressure management
- Refurbishment of existing pressure management infrastructure
- Reinstatement of road crossings and other affected infrastructure and surrounds
- Surveying, measuring and providing as-built information

The works shall be performed for the following critical reservoir zone as indicated on the drawings:

- Contract WS7723 (Total 21 km)
- Phoenix 1 Reservoir Zone
- Sub Zone 37D – 21 km of water mains and associated fittings

Attention is to be given to the following (but not limited to):

- Proving and protection of existing underground services
- Traffic accommodation in busy roads and at peak times
- Maintaining health and safety requirements and procedures
- Disposal of asbestos cement pipe (AC Pipe)
- Reinstatement of road crossings and other infrastructure affected by the works
- Preservation of topsoil and reinstatement of verges
- Design and maintenance of rider mains and temporary water connections
- Maintaining accesses to properties over trench excavations

<i>Contract</i>	<i>Package</i>	<i>Description</i>	<i>Duration</i>	<i>Completion Date</i>
Contract WS7723	Package 1	Phoenix 1 Reservoir Zone	560 days	560 day after commencement date

**C3.1.2 Description of Site and Access**

Refer to Item Part C4 – Site Information.

**C3.1.3 Nature of Ground and Subsoil Conditions**

Refer to Item Part C4 – Site Information.

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## **C3.2: PROJECT SPECIFICATION**

### **PREAMBLE**

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

### **C3.2.1 GENERAL**

#### **PS.1 PROGRAMME, METHOD OF WORK, AND ACCOMMODATION OF TRAFFIC**

This Clause is to be read in conjunction with the provisions and obligations as contained in [SANS 1921-1](#) and [SANS 1921-2](#).

##### **PS.1.1 Preliminary Programme**

The Contractor shall include with his tender a preliminary programme on the prescribed form ([see T2.2: Preliminary Programme](#)) to be completed by all Tenderers. The programme shall be in the form of a simplified bar chart with sufficient details to show clearly how the works will be performed within the time for completion as stated in the Contract Data.

Tenderers may submit tenders for an alternative Time for Completion in addition to a tender based on the specified Time for Completion. Each such alternative tender shall include a preliminary programme similar to the programme above for the execution of the works, and shall motivate his proposal clearly by stating all the financial implications of the alternative completion time.

The Contractor shall be deemed to have allowed fully in his tendered rates and prices as well as in his programme for all possible delays due to normal adverse [weather conditions](#) ([refer to Clause 5.12.2.2](#)) and special non-working days ([refer to Clause 5.1.1.1](#)) as specified in the in the Contract Data.

##### **PS.1.2 Programme in Terms of Clause 5.6 of the General Conditions of Contract**

It is essential that the construction programme, which shall conform in all respects to [Clause 5.6 of the General Conditions of Contract](#), be furnished within the time stated in the Contract Data ([refer to Clause 5.3.1/2](#)).

The preliminary programme to be submitted with the tender shall be used as basis for this programme.

The Tenderer's attention is drawn to the fact that a number of factors will affect the programming of and method of carrying out the works. The more important of these are:

[\[Detail any factors which may affect the programming of the project\]](#)

- (1) Time required for service relocations.
- (2) Time allowances to be made for the ordering of special items.
- (3) Notification required by service organisations.
- (4) Any special sequence in which work must be carried out. Must certain areas of work be finished before work commences on others?
- (5) If delays are anticipated with service relocations the contractor should be asked to allow time.
- (6) Is work required out of normal hours? (eg. to accesses).
- (7) Vehicular access to private property is to be maintained.
- (8) Traffic restrictions.

Those known, existing services in the area of the works have been depicted on the contract drawings. It is evident, however, that the status of existing service records as far as can be ascertained might not reflect the actual situation in the field. As such, due allowance has been made in the Bill of Quantities for the proving of services where directed by the Engineer.

### **PS.1.3 Requirements for Accommodation of Traffic**

#### **PS.1.3.1 General**

Accommodation of traffic, where applicable, shall comply with **SANS 1921-2: 2004: Construction and Management Requirements for Works Contracts, Part 2: Accommodation of Traffic on Public Roads occupied by the Contractor**. The Contractor shall obtain this specification from Standards South Africa if accommodation of traffic will be involved on any part of the construction works.

**Clause 4.10.4 of SANS 1921-2: 2004** shall be replaced with the following:

“Road signs and markings shall comply with the requirements of the **“SADC Road Traffic Signs Manual - Volume 2: Roadworks Signing”**.”

#### **PS.1.3.2 Basic Requirements**

The travelling public shall have the right of way on public roads, and the Contractor shall make use of approved methods to control the movement of his equipment and vehicles so as not to constitute a hazard on the road.

The Contractor shall ensure that all road signs, barricades, delineators, flagmen and speed controls are effective, and that courtesy is extended to the public at all times.

Failure to maintain road signs, warning signs or flicker lights, etc, in a good condition shall constitute ample reason for the Employer’s Agent to suspend the work until the road signs, etc, have been repaired to his satisfaction.

The Contractor may not commence constructional activities affecting existing roads before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual.

The Contractor shall construct and maintain all temporary drainage works necessary for temporary deviations. The Contractor shall ensure that the existing property accesses are maintained at all times. Where necessary the Contractor shall make allowance in the rates for

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completing the work required to the accesses out of normal hours.

#### **PS.1.3.3 Traffic Safety Officer**

Where warranted by traffic conditions on or near the site, the Contractor shall nominate a suitable member of his staff as traffic safety officer to be responsible for the arrangement and maintenance of all the measures for the accommodation of traffic for the duration of the project. Duties of the traffic safety officer shall be in compliance with the Occupational Health and Safety Act 1993 and the Construction Regulations 2014.

#### **PS.1.3.4 Payment**

The Contractor's tendered rates for the relevant items in the Bill of Quantities shall include full compensation for all possible additional costs which may arise from this, and no claims for extra payment due to inconvenience as a result of the modus operandi will be considered.

#### **PS.1.3.5 Pedestrian Movement**

The Contractor shall make provision for accommodating all pedestrian movements in the area of the works. Allowance shall be made in the relevant rates for any barricades and signs required.

#### **PS.1.3.6 Temporary Reinstatement**

Provided always that if in the course or for the purpose of the execution of the works or any part thereof any road or way shall have been broken up, then notwithstanding anything herein contained:

- (a) if the permanent reinstatement of such road or way is to be carried out by the appropriate authority or by some person other than the contractor (or any subcontractor to him), the contractor shall at his own cost and independently of any requirement of or notice from the Engineer be responsible for the making good of any subsidence or shrinkage or other defect, imperfection or fault in the temporary reinstatement of such road or way, and for the execution of any necessary repair or amendment thereof from whatever cause the necessity arises, until the end of the period of maintenance in respect of works beneath such road or way until the authority or other person as aforesaid shall have taken possession of the site for the purpose of carrying out permanent reinstatement (whichever is the earlier), and shall indemnify and save harmless that Council against and from any damage or injury to the Council or to third parties arising out of or in consequence of any neglect or failure of the Contractor to comply with the foregoing obligations or any of them and against and from all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto.
- (b) where the authority or person as aforesaid shall take possession of the site as aforesaid in sections or lengths, the responsibility of the contractor under paragraph (a) of this sub-clause shall cease in regard to any such section or length at the time possession thereof is so taken, but shall during the continuance of the said period of maintenance continue in regard to any length of which possession has not been taken and the indemnity given by the contractor under the said paragraph shall be construed and have effect accordingly.

## **PS.2 SERVICES**

This Clause is to be read in conjunction with the provisions and obligations as contained in [SANS 1921-1 and SANS 1921-2](#).

### **PS.2.1 Existing Services**

The Tenderer's attention is drawn to the numerous existing services in the area. Although every effort has been made to depict these services accurately the positions shown must be regarded as approximate.

It should be noticed that there are various known and unknown services within the project footprint that may impact/affect the proposed construction works. Care shall be taken to not damage any of these trunk mains at any time.

### **PS.2.2 Proving Underground Services**

This clause must be read in conjunction with [Clause DB.5.1.2](#), the requirements of which shall be extended to cover all earthworks operations whether for trenching or bulk earthworks, in the vicinity of underground services.

It is stressed that all services in a particular area must be proven before commencing work in that area.

Insofar as bulk earthworks are concerned, where services are indicated on the drawings or where from site observations can reasonably be expected that such services are likely to exist where excavations are to take place, the Contractor shall without instructions from the Employer's Agent carefully excavate by hand to expose and prove their positions.

The cost of the proving trenches is to be included in the work covered by [Clause DA.8.3](#).

When a service is not located in its expected position the Contractor shall immediately report such circumstances to the Employer's Agent who will decide what further searching or other necessary action is to be carried out and shall instruct the Contractor accordingly. The cost of this additional searching shall be to the Council's cost and shall be paid for under [DB.8.19 - Proving Existing Services](#).

Should any service be damaged by the Contractor in carrying out the works and should it be found that the procedure as laid down in this clause has not been followed then all costs in connection with the repair of the service will be to the Contractor's account.

When electrical cables are not in the positions shown on drawings of eThekweni Electricity and cannot be found after proving trenches have been put down, assistance may be obtained by calling an official of the [Works Branch on Telephone No. 311-1111](#) during office hours, or by contacting [Control on Telephone No. 305-7171](#) after hours.

It should be noted that 33,000 Volt and 132,000 Volt cables may only be exposed by the eThekweni Electricity's personnel. The cables are usually protected by concrete covering slabs, and therefore if the slabs are inadvertently exposed, excavation work must stop, and the eThekweni Electricity shall be contacted immediately on the above telephone numbers.

Proving of services shall be completed at least two weeks in advance of the actual programmed date for commencing work in the area. The position of these services located must be co-ordinated and levelled by the Contractor, and the information given in writing to the Employer's Agent's Representative.

The requirements of this clause do not relieve the Contractor of any obligations as detailed in the Conditions of Contract or under [Clause 4.17 of SANS 1921-1](#).

### **PS.2.3 New Services and Relocation of Existing**

This clause shall be read in conjunction with [Clause PS.1](#).

New services are either to be installed by the Contractor as part of the contract or by others during the contract period. In the latter case excavation and subsequent backfilling of the trench from the top of the bedding layer shall generally be carried out by the Contractor.

Relocation of services shall generally be carried out by the relevant services organisation. Generally their work shall include the excavating and bedding the service which will include backfilling to a depth of approximately 300 mm above the service. The remainder of the backfilling shall be carried out by the Contractor.

Generally work shall only commence on the installation of new services once the bulk earthworks have been completed and roughly trimmed to level along a substantial portion of the services route. In addition no sidewalk, verge, median or island shall be surfaced or topsoiled until all work on the services has been completed.

Services affected by the contract are described as follows:

- [PS.3: Watermains;](#)
- [PS.4: Sewers;](#)
- [PS.5: Stormwater;](#)
- [PS.6: Electrical Cables / Lighting;](#)
- [PS.7: Telecommunications & Fibre Services;](#)
- [PS.8: CCTV;](#)

Further to the above, tenderers are referred to the services drawing and are to note that several minor cables / pipes may be encountered during excavation works which may require to be relocated to some extent. It is anticipated that the two week period required under [PS.2.2](#) will allow sufficient time for these relocations.

### **PS.2.4 Accommodation of Services**

Further to [Clauses PS.1 and PS.2](#) of this specification, tenderers are to note that allowance must be made under this item and / or the appropriate rates, for all costs incurred as a result of complying with these clauses. It shall also cover liaison with the services organisations and accommodation of their work gangs / contractors on site.

## **PS.3 WATERMAINS**

### **PS.3.1 General**

Tenderer's attention is drawn to the following points regarding the watermains to be installed as part of this contract.

Quality of material.

- mPVC and HDPE pipes shall comply with the relevant SANS specifications and manufacturers of the material are affiliated with are SATAS and SAPPMA approved.
- The Employer or Employers Agent can at any time request material samples identified by the Employer or his Agent to be tested by a SANAS accredited laboratory of his choice.

### **PS.3.2 Water Main Valve Access**

Due to the dangerous situation occurring when water main valves are covered over, the Contractor shall maintain access to all water main valves at all times. During asphalt layer work, after each pass by the paving machine, the valves shall be exposed and access maintained in a safe condition.

Whatever method the Contractor chooses to use for this work, the cost of raising the valves from existing level to ultimate level shall be paid only once, irrespective of the number of times the valve is uncovered. Spacer rings required for the height adjustment of valve covers shall be supplied by the Water and Sanitation Unit. Tolerances on valve cover levels shall be as follows: The difference in level between the frame and the finished paved surface level adjacent to the frame shall not exceed -

- 2 mm in a roadway
- 3 mm in a footway

Before final setting in position of valve covers the Contractor shall liaise with the Employer's Agent regarding the direction in which covers shall be placed.

### **PS.3.3 Restriction on Compactive Equipment**

The Contractor is to note that existing watermains traverse the site of the works and special care is to be taken in close proximity to these mains and connections. The existing mains and connections shall be proved on site by the Contractor prior to any construction work commencing in the vicinity of the watermains.

Under no circumstances will heavy road-making equipment, other heavy plant or vibratory compaction equipment be permitted to operate within 800 mm vertically or horizontally of the existing mains or connections. The permissible compaction plant within this restricted area shall be the equivalent of a "Bomag 90" under static compaction, or similar approved plant. When the roadworks are far enough advanced to provide a minimum of 800 mm cover to the existing mains, the above restriction will fall away.

The Contractor is to take cognisance of the above requirements when entering rates in the Bill of Quantities and in the programming of the works. No claim for additional payment based on the inability to use plant as a result of the requirements of this clause will be accepted. The Contractor will be held liable for any costs should the watermain or electrical cables be damaged during construction of the road.

## **PS.4 SEWERS**

### **PS.4.1 Blockage of Foul Water Sewers**

The Contractor shall be responsible for ensuring that cementitious sludge, sand and rubble from the works do not enter the foul water reticulation system. The Contractor shall be liable for any costs incurred by the Council or others as a result of blockages in the reticulation system attributed to failure to comply with the above requirement.

**PS.5 STORMWATER**

**PS.5.1 Blockage Stormwater Sewers**

The Contractor shall be responsible for ensuring that cementitious sludge, sand and rubble from the works do not enter the stormwater reticulation system. The Contractor shall be liable for any costs incurred by the Council or others as a result of blockages in the reticulation system attributed to failure to comply with the above requirement.

**PS.6 ELECTRICAL PLANT**

No construction/repair work to any electrical cabling is envisaged. Tenderers' attention is however drawn to the fact that electrical cables (low, medium and high voltage) are existing in the project area and great care should be taken when working close to these. All applicable health and safety measures should be in place prior to working close to any electrical cables.

**PS.6.1 General**

Various types of electrical cables including high voltage, low voltage, street lighting and domestic connection cables are affected by the contract. The laying, relocation and jointing of all cables will be carried out by eThekweni Electricity's work gangs, or agents appointed by them, whilst the excavation and backfilling forms part of this contract. Close liaison will therefore be necessary with eThekweni Electricity throughout the contract.

**PS.6.2 Street Lighting**

The existing lighting will be removed in stages and replaced in the centre median / intersection corners. Relocation will take place during this contract and be executed by eThekweni Electricity or their agents. It is a requirement that the street lighting be operational at all times.

**PS.6.3 MV / LV Cables**

Certain MV / LV cables are to be replaced within the contract area (Refer to Relevant Drawings). The actual cable work associated with this relocation and / or replacement of these cables will be carried out by eThekweni Electricity and it is stressed that the **two-week** period referred to in Clause PS.2 is the minimum period required to enable eThekweni Electricity to be on site timeously.

**PS.6.4 Relocation of Existing Services**

Should it be necessary to adjust the line, level and / or position of any service not catered for in the contract to enable the construction to proceed the Contractor shall on no account effect such adjustment himself but shall notify the Engineer who will arrange for the work to be carried out at no cost to the Contractor.

**PS.7 TELKOM S.A. LIMITED / NEOTEL PLANT**

No work to any telecommunications and fibre plant is envisaged. The tenderers attention is drawn to the fact that various telecommunication and fibre services are present in the project area.

**PS.8 CCTV PLANT**

No work to CCTV Plant is envisaged, but the tenderers attention is drawn to the fact that CCTV cables and fibre optic cables are existing in the contract area.

**PS.9 MANAGEMENT OF THE ENVIRONMENT**

The Contractor shall pay special attention to the following:

**PS.9.1 Natural Vegetation**

The Contractor shall confine his operation to as small an area of the site as may be practical for the purpose of constructing the works.

Only those trees and shrubs directly affected by the works and such others as the Employer's Agent may direct in writing shall be cut down and stumped. The natural vegetation, grassing and other plants shall not be disturbed other than in areas where it is essential for the execution of the work or where directed by the Engineer.

**PS.9.2 Fires**

The Contractor shall comply with the statutory and local fire regulations. He shall also take all necessary precautions to prevent any fires. In the event of fire the Contractor shall take active steps to limit and extinguish the fire and shall accept full responsibility for damages and claims resulting from such fires which may have been caused by him or his employees.

**PS.9.3 Environmental Management Plan**

In addition to the above, all requirements according to the Environmental Management Plan as detailed in [C3.4: Particular Specifications](#), will be adhered to.

**PS.10 OCCUPATIONAL HEALTH AND SAFETY****PS.10.1 General Statement**

When considering the safety on site the Contractor's attention is drawn to the following:

- Site clearance with risk of using improper tools or risk of snake bites
- Transportation and stacking of material on site, risk of material falling on people or damaging property
- Open trench excavations with the risk of falling.
- Attaching watermains to bridge decks or structures or laying watermains inside bridge decks or bridge walkways
- Construction or rehabilitation of new/existing PRV chambers, both pipework and brick structures

- Working inside trenches with the risk of collapsing trench walls.
- Location of services, striking electrical cables, risk of being electrocuted
- Traffic alongside construction activities in public roads with the risk of running over construction workers and pedestrians.
- Moving construction machinery and vehicles like excavators and tipper trucks.
- Falling into open water areas and risk of drowning
- Welding and flame cutting, the risk of inhalation of toxic fumes

It is a requirement of this contract that the Contractor shall provide a safe and healthy working environment and to direct all his activities in such a manner that his employees and any other persons, who may be directly affected by his activities, are not exposed to hazards to their health and safety. To this end the Contractor shall assume full responsibility to conform to all the provisions of the Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the OHS Act 1993 Construction Regulations 2014 issued on 7 February 2014 by the Department of Labour.

For the purpose of this contract the Contractor is required to confirm his status as mandatory and employer in his own right for the execution of the contract by entering into an agreement with the Employer in terms of Section 37(2) of the Occupational Health and Safety Act.

## **PS.10.2 Health and Safety Specifications and Plans to be submitted at tender stage**

### **PS.10.2.1 Employer's Health and Safety Specification**

The Employer's Health and Safety Specification is included in [C3.4: Particular Specifications](#).

### **PS.10.2.2 Tenderer's Health and Safety Plan**

At tender stage only a brief overview of the tenderers perception on the safety requirements for this contract will be adequate. This will be attached to [T2.2: Contractor's Health and Safety Plan](#).

Only the successful Tenderer shall submit a separate Health and Safety Plan as required in terms of Regulation 7 of the Occupational Health and Safety Act 1993 Construction Regulations 2014, and referred to in [T2.2: Contractor's Health and Safety Plan](#).

The detailed safety plan will take into consideration the [site specific risks as mentioned under PS.10.1](#) and must cover at least the following:

- (i) A proper risk assessment of the works, risk items, work methods and procedures in terms of Regulations 9 to 29;
- (ii) Pro-active identification of potential hazards and unsafe working conditions;
- (iii) Provision of a safe working environment and equipment;
- (iv) Statements of methods to ensure the health and safety of subcontractors, employees and visitors to the site, including safety training in hazards and risk areas (*Regulation 7*);
- (v) Monitoring health and safety on the site of works on a regular basis, and keeping of records and registers as provided for in the Construction Regulations;
- (vi) Details of the Construction Supervisor, the Construction Safety Officers and other competent persons he intends to appoint for the construction works in terms of Regulation 8 and other applicable regulations; and
- (vii) Details of methods to ensure that his Health and Safety Plan is carried out effectively in

accordance with the Construction Regulations 2014.

The Contractor's Health and Safety Plan will be subject to approval by the Employer, or amendment if necessary, before commencement of construction work. The Contractor will not be allowed to commence work, or his work will be suspended if he had already commenced work, before he has obtained the Employer's written approval of his Health and Safety Plan.

Time lost due to delayed commencement or suspension of the work as a result of the Contractor's failure to obtain approval for his safety plan, shall not be used as a reason to claim for extension of time or standing time and related costs

A generic plan will not be acceptable.

### **PS.10.3 Cost of compliance with the OHSA Construction Regulations**

The rates and prices tendered by the Contractor shall be deemed to include all costs for conforming to the requirements of the Act, the Construction Regulations and the Employer's Health and Safety Specification as applicable to this contract. Should the Contractor fail to comply with the provisions of the Construction Regulations, he will be liable for penalties as provided in the Construction Regulations and in the Employer's Health and Safety Specification.

Items that may qualify for remuneration will be specified in the Employer's Health and Safety Specification.

### **PS.11 SITE SECURITY**

The Contractor shall, for the duration of the contract, provide sufficient security and watchmen to adequately ensure the safety and protection of the works on a 24 hour basis, the Contractor's staff, including local labour and subcontractors, and all site plant and construction equipment required for the works.

Site Security, in conjunction with the SAPS or Metro Police (where necessary), shall be responsible for removal of disruptive elements, that may interrupt the progress of the contract through acts such as, but not limited to, intimidation, threats of disruption, violent disruption, or criminal and illegal activity by the local community or independent organisations or entities that may result in slowing down or partial or total stoppage of the works.

Payment for this item shall be made under Section 1, Part AB of the Bill of Quantities.

### **PS.12 PERFORMANCE MONITORING OF SERVICE PROVIDERS**

The performance of service providers will be measured in terms of the performance of the watermain system once replaced. The performance of the system is measured by calculating the Infrastructure Leakage Index (ILI) that is basically a measure of how well the system perform compared to a perfect system.

The ILI consider the leakage measured from the zone through physical flow measurement at pre-defined nodes corresponding to the same nodes used pre-construction to identify the DMA/zone as a zone for watermain replacement.

Please refer to section C3.10.9 Contractor Key Performance Indicators for further details on

performance monitoring.

**C3.3: STANDARD SPECIFICATIONS****C3.3.1 Standard Specifications**

The Specifications on which this contract is based are the "South African National Standards - Standardised Specification for Civil Engineering Construction (SANS 1200)". This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections.

Part	Description	Date of Issue
A	General	1986
C	Site clearance	1982
DB	Earthworks (Pipe trenches)	1989
DA	Earthworks (Small works)	1988
GA	Concrete (Small Works)	1982
L	Medium-Pressure Pipelines	1983
LB	Bedding (Pipes)	1983
LE	Storm water drainage	1982

### C3.3.2 AMENDMENTS TO THE STANDARD SPECIFICATIONS

#### INTRODUCTION

In certain clauses the standard, standardized and particular specifications allow a choice to be specified in the project specifications between alternative materials or methods of construction and for additional requirements to be specified to suit a particular contract. Details of such alternative or additional requirements applicable to this contract are contained in this part of the project specifications. It also contains additional specifications required for this particular contract.

The number of each clause and each payment item in this part of the project specifications consists of the **prefix PS** followed by a number corresponding to the number of the relevant clause or payment item in the standard specifications. The number of a new clause or payment item, which does not form part of a clause or a payment item in the standard specifications and which is included here, is also prefixed by PS, but followed by a new number which follows on the last clause or item number used in the relevant section of the standard specifications.

PS – SECTION	Description
PSC	Site Clearance
PSDA	Earthworks (Small Works)
PSDB	Earthworks (Pipe Trenches)
PSGA	Concrete (Small Works)
PSL	Medium Pressure Pipelines
PSLB	Bedding (Pipes)
PSLE	Stormwater Drainage
PSMK	Kerbing and Channelling

**PSA: GENERAL (Applicable to SABS 1200 A – 1986)****PSA 3 MATERIALS****PSA 3.1 Quality**

Add to the Sub-Clause:

No used or recycled material may be used in the Works unless expressly authorised by the Employer's Agent.

Samples of concrete aggregates are to be delivered to an approved laboratory.

**PSA 4 PLANT****PSA 4.2 Contractor's Office, Stores and Services (Refer SANS 1921-1 Clause 4.14)**

Add to the Sub-Clause:

Neither housing nor shelters are available for the Contractor's employees, and the Contractor shall make his own arrangements to house his employees off-site and transport them to site.

The Employer may place an area of ground at the disposal of the Contractor at the works site to enable him to erect his site offices, workshops and stores if required. The temporary facilities and ablution facilities shall comply with the requirements of the Local Authority.

The following points are noted:

- 1) Water-borne sewerage reticulation is not available in the area.
- 2) Water and electricity services are available in the area. The Contractor shall be responsible for making all arrangements for the necessary connections to these services. The cost of providing these services is deemed to be included in the tendered rates. See contract data "C3.4.1.2 Facilities provided by the contractor".
- 3) Existing services may traverse the site. Care shall be exercised to avoid damage to these services.
- 4) The site shall be completely fenced in accordance with the specification and to the approval of the Employer's Agent.
- 5) On completion of the contract, the site shall be fully reinstated to its original condition inclusive of placing of topsoil and planting of grass, all to the satisfaction of the Employer's Agent.
- 6) The Contractor shall provide at his own cost and in an approved location both at the site camp and at the working front/s, adequate sanitary accommodation for the use of his employees engaged in the Works. Such conveniences which shall comply with the Local Authority's regulations, shall be maintained in a clean and hygienic condition and shall be properly secluded from public view and their use shall be strictly enforced. On removal of such conveniences the sites thereof shall be left in a clean, sanitary and tidy condition.

**PSA 4.3 Facilities for Engineer (New Clause)**

Add new Sub-Clause:

The Contractor shall provide on the Site, for the duration of the Contract and for the exclusive use of the Employer's Agent and/or his Representative (as applicable), the facilities as set out in the Bill of Quantities which include furnished offices and name boards. These facilities shall be provided promptly on the commencement of the Contract and failure on the part of the Contractor to provide any facility required in terms of this specification shall constitute grounds for the Employer's Agent to withhold payment of the Contractor's tendered Preliminary and General items until the facility has been provided or restored as the case may be.

The Contractor shall erect and maintain the two contract name boards at such positions and locations as are directed by the Employer's Agent. The Contractor shall before ordering or manufacturing any such Contract name boards, obtain the Employer's Agent's written approval in respect of all names and wording to appear on the Contract name boards.

The offices shall be sited in a position decided upon by the Engineer. Each office shall be weatherproof, shall have a wooden boarded floor that is at least 150 mm above ground and shall be provided with a ceiling and lining to the walls or equivalent insulation, with an approved type of door with a secure lock and 4 keys and two opening windows of glazed area at least 3 m<sup>2</sup>. Each office shall be well ventilated and shall be insulated to provide comfortable working conditions.

The Contractor shall supply toilet facilities for the exclusive use of the Engineer and his representatives. The facilities shall include a suitable drinking water supply, a water closet toilet or other acceptable toilet facilities should sewerage not be available within 20 m of the proposed office site, a wash hand basin, soap and towel. The Contractor shall provide for the duration of the contract period proper maintenance of the offices and toilets and their approaches and arrange for the daily cleaning of the offices and toilets which shall be completed by 08:00. The Contractor, upon completion of the contract, shall arrange for the complete removal of the office and toilets together with the disconnection of all services.

The furnished office shall be of minimum size 3 m x 6 m with a minimum of height to ceiling of 2,5 m. It shall be provided with an air conditioner whose capacity is acceptable by the Engineer as reasonably adequate for the size of office provided and shall have adequate fluorescent lighting. It shall be furnished with one desk having a top size of at least 1,5 m x 0,9 m with one lockable drawer, 6 (six) suitable chairs, a notice board minimum size 2 m long x 1 m high, a 4-drawer filing cabinet and an angled smooth-topped plan table of minimum size 1,8 m long x 0,9 m wide with suitable provision underneath for the storage of plans.

All electricity supply to the Engineers office(s) and laboratory (if applicable), whether provided by the Contractor by way of a reticulated supply from a local authority or other authorised electricity supply, or by way of on-site generators, shall be regulated by the Contractor to within limits such as to prevent damage due to fluctuations in the electrical current supply that may occur to any electrical plant and equipment provided by the Contractor or the Engineer.

The Contractor shall be liable for and pay to the Engineer on demand, all costs that the Engineer may incur in the repair or replacement of any electrical equipment provided by the Engineer on the Site. Reliance by the Contractor on the regulation of the electrical supply by the supplier or on current regulators fitted to generators shall not absolve the Contractor of his liabilities in terms of this Sub clause and, where appropriate, the Contractor shall provide and install at his own cost, all such electrical current-regulating equipment as is necessary to prevent damage to the said equipment.

The Employers Agent office shall have a floor area of at least 18m<sup>2</sup>. In addition, the offices shall be fitted with:

- Correctly sized air conditioning units.
- Refrigerator of 100l capacity
- 4 No 15 Amp earther power plug points reticulated within the offices for computer powering and other office equipment.
- An approved stand and holders for 20 vertically hung A0 drawings.
- An approved colour printer and scanner to print and scan A3 documents adequate printer cartridges shall be provided throughout the contract duration
- A lockable cabinet
- 3 desks and 3 chairs
- A drawing table shall be supplied to each office, capable of spreading an A0 drawing satisfactorily.
- 4 carports shall be provided for exclusive use of the Employers Agent and the Employer. The carports shall have suitable roof cladding and be covered on 3 sides

The offices must comply with the requirements of Clause 3.2 of SANS 1200AB and must be located in a shady area or be protected from the sun by shade cloth suspended over its roof. In addition to the above comfortable, air-conditioned accommodation shall be made available for holding regular site meetings. This accommodation must comfortably cater for up to 15 persons seated around a table.

Time Related charges of R1000 per month shall be included for airtime for use by the Engineer for the duration of the Contract.

A wireless internet service is to be provided at the site offices with minimum 50GB data access per month for Employers Agent and Employer's use.

## **PSA 5                    CONSTRUCTION**

### **PSA 5.1.2              Preservation and Replacement of Beacons and Pegs subject to Land Survey Act (Refer SANS 1921-1 Clause 4.15)**

Add to the Sub-Clause:

- The Employer's Agent will arrange for any pegs that are missing to be replaced at the Contractor's expense.
- All survey reference marks shall be clearly marked and protected by the erection of three fencing standards.
- All plot boundary pegs shall be marked with fencing droppers and shall be painted.

### **PSA 5.7                Safety (Refer SANS 1921-1 Clause 4.18)**

Add to the Sub-Clause:

All work and particularly work carried out in the proximity of buildings, bridges, tanks or other structures shall be carried out in conformance with the regulations framed under the Occupational Health and Safety Act, 1993 and the Minerals Act, Act 50 of 1991, including

shoring where necessary, to ensure the safety of structures that are at risk.

The Contractor shall make available for the duration of the contract safety helmets, gumboots and any other necessary safety equipment for sole use by the Employer's Agent and his representative(s).

**PSA 6 TOLERANCES**

**PSA 6.2 Degrees of Accuracy**

Add to the Sub-Clause:

Degree of Accuracy II shall be applicable to the whole of the Works.

**PSA 8 MEASUREMENT AND PAYMENT**

**PSA 8.2.1 Fixed Charge Items**

Add the following:

The amount, if any, by which the sum of the fixed-charge items exceeds three percent (3%) of the net total tendered amount (excluding allowances for contingencies and price escalation) shall be regarded for payment purposes as time-related items and will be paid in accordance with Clause 8.2.2.

**PSA 8.2.2 Time-related Items**

Delete the third and fourth lines and substitute the following:

"..... incremental amounts (calculated by the division of the remainder of the tendered sum by the number of the remaining months of the duration of construction as assessed by the Employer's Agent) will be....."

Add to the Sub-Clause:

Notwithstanding the provisions of Sub-Clause 8.2.2, an approved extension of time will not entitle the Contractor to receive any payment for that portion of fixed-charge and value-related items which have become regarded as "time-related" items in terms of PSA 8.2.1.

Add new Sub-Clause:

Unit of measurement is Provisional Sum.

Due to the adhoc nature of the works, all activities initiated under this provisional sum shall have no effect on the Contractors Programme and Due Completion Date.

The works will include repairing burst pipes, emergency replacement of watermains on behalf of EWS Operations as and when required. The Contractor may also be required to assist the EWS Operations team with supply of materials and or plant e.g. Valves, Pipelines, Fittings and TLB. The works envisaged to be undertaken are primarily for pipeline networks DN200 and below to expedite repairs in critical areas.

The Contractor is to provide a suitable team to respond to the Clients requests. The team selected must be suitably qualified with relevant experience to undertake the Adhoc tasks.

The work carried out under this provisional sum will be eligible for inclusion in CPG spend expenditure if carried out by an identified CPG Partner:

- a. Contractor's
- b. Suppliers
- c. Plant Hire Companies

Due to the nature of this activity, works will be under undertaken using a cost-plus system for payment.

The Cost will constitute all proven direct costs associated with the works. The Contractor is required to produce records of all proven costs for all works carried out e.g. plant, labour, materials etc.

The Contractors mark up and overheads (Plus) will be covered under the associated percentage mark-up item in the BOQ below this line item.

The following was added to PSDA 2.3. Again we welcome any additions or feedback on this clause.

Restricted excavation - An excavation so restricted in area or width as to preclude removal of material by excavating machinery used for bulk excavation measured in terms of Sub-Clause 8.3.1(b). Restricted excavation may be carried out by smaller machinery or by hand, as selected by the Contractor. The extent of restricted excavation shall be as scheduled and/or shown on the drawings; all other excavation shall be regarded as bulk excavation. This also includes and applies to areas with vast amounts of known and unknown services e.g. fibre networks, telecommunications, water reticulation, sewer reticulation, stormwater reticulation, electricity cables etc which can be restrictive in nature.

#### **PSA 8.7 Dayworks**

Add to Sub-Clause:

No work shall be measured on a daywork basis unless the Contractor has been instructed to do so by the Employer's Agent in writing. All work carried out on dayworks shall be recorded in detail on a daily basis. Dayworks plant and labour returns shall be submitted to the Employer's Agent daily for consideration and approval.

No transport costs to and from the site will be paid for plant removed from site at the Contractor's request or where such plant is listed in the Schedule of Plant and Equipment as available for this Contract.

The Employer's Agent may request the Contractor to clarify or provide updated rates for any Dayworks item deemed not market related.

Any Dayworks i.e. Plant & Equipment, Labour and Materials not included in the Dayworks schedule shall be paid for in terms of clause 6.5.1.2.3 of the Contract Document under the allocated Provisional Sum.

#### **PSA 8.8.2 Accommodation of Traffic and re-use or removal of temporary traffic control facilities**

New Sub-Clause:

The rate for traffic accommodation will be per metre (m) of traffic accommodation along the

centreline of pipe trench. Any section of the works may only be measured once for the duration of the contract. Refer to Project specification PS.1.3

The Contractor is to be aware that the sites are bordered by busy roads and streets which are subject to increase traffic volumes during peak hours. Interference with usual traffic flow is to be kept to a minimum for the duration of the contract.

If any such interference is unavoidable, for example, during the supply or installation of any materials, then the Contractor shall provide all necessary traffic control materials, equipment and personnel in compliance with the prevailing Council Legislation and Bylaws.

The Contractor shall make provision for accommodating all pedestrian and vehicular movement in the area of the works. Allowance shall be made in the relevant rates for any barricades and signs required. Accommodation of traffic, where applicable, shall comply with the requirements of The South African Road Traffic Signs Manual - Volume 2: Roadworks Signing". The rate shall also include the provision of a traffic safety officer to monitor the traffic accommodation.

This Clause is to be read in conjunction with the provisions and obligations as contained in SANS 1921-1 and SANS 1921-2. (SANS 1921-1:2004 Construction and management requirements for works contracts:

Part 1: General engineering and construction works.

Part 2: Accommodation of traffic on public roads occupied by the contractor)

#### **PSA 8.9 Security (unarmed) on site for the duration of the contract**

Add new Sub-Clause:

The rate shall include the acquiring and managing of the services of a registered security company for unarmed security. The rate shall include the securing of the camp site as well as on any location on the site where there exists a risk of theft of materials and equipment as well as the security of personnel. The service shall be provided on a 24-hour basis.

#### **PSA 8.10 Security (armed) on site for the duration of the contract**

Add new Sub-Clause:

The rate shall include the acquiring and managing of the services of a registered security company for armed security. The rate shall include the securing of the camp site as well as on any location on the site where there exists a risk of theft of materials and equipment as well as the security of personnel. The services shall be provided on a 24-hour basis.

#### **PSA 8.11 Daily Photographing and of works and Traffic Accommodation, including record keeping.**

Add new Sub-Clause:

The rate shall include the camera/s, data storage devices, data back-up's, including any items deemed necessary for the daily photographing of the works and traffic accommodation.

The Engineer or Employer may at any time request specific records of the photos which will be submitted to the Engineer or Employer in soft copy format within 24 hours. The photos will be date stamped.

**PSA 8.12 Provision of "As-Built" information by professional surveyor**

Add new Sub-Clause:

The rate shall include the surveying of newly installed infrastructure which shall include any valves, fittings and directional changes in pipe by a professionally registered surveyor. The as built record shall be submitted in DWG or DXF format as well as hard copy. The data will include the size and type of fittings and valves.

**PSA 8.13 Community Liaison Officer (CLO)**

Add new Sub-Clause:

Unit of measurement is Provisional Sum. The community liaison officer (CLO) will be paid monthly proportion of the total provisional sum under the contract as determined and instructed by the employer.

**PSA 8.14 Provision of a full-time Enterprise Development Mentor for the duration on the contract**

Add new Sub-Clause:

Unit of measurement is a Monthly Rate. The Enterprise Development Mentor will be paid a monthly rate under the contract as determined and instructed by the employer as set out in the scope of works.

**PSA 8.15 Provide temporary access to properties over open trench excavation**

Add new Sub-Clause:

Unit of measurement is Number (No.). The rate shall include the total number of temporary accesses provided to properties in the form of a crossing structure, irrespective of the duration of each temporary access provided. The structure will be designed by the Contractor and able to withstand the current and expected traffic loads to the respective property. The rate shall include the design, materials, construction and installation required for the accesses. The access will be sufficient to provide safe access to properties over open trenches, irrespective of the trench width.

**PSA 8.16 Supply and use (or hire) of specialist equipment for the detection of underground services (Provisional)**

Add new Sub-Clause:

Unit of measurement is Provisional Sum. The rate shall include the supply and use of the equipment to locate existing services as directed by the Employer or Engineer. The Contractor shall submit more than one quote to the engineer for the work which will be claimed as a proportion of the provisional sum.

**PSA 8.17 As built / GIS field work and verification (Provisional)**

Add new Sub-Clause:

Unit of measurement is Provisional Sum for field work to verify and correct existing as-built information by an approved supplier.

**PSA 8.18            Material and other tests ordered by the Employer or his representative**

Add new Sub-Clause:

Unit of measurement is Provisional Sum. The rate will be for random selection of material samples, shipping to an approved testing facility, and reporting and certification of the sample. The Employer or his representative shall be present at the selection and loading of such material samples. The contractor shall provide proof of all cost incurred from the above.

Plastic Pipes will be partially tested according to SANS 966-2 and shall include the following tests:

Item    Description

- |   |   |
|---|---|
| 1 | Vicat Softening Point SANS966-2 / ISO2507   |
| 2 | Tensile Properties ISO527-1 & 2   |
| 3 | Resistance to Dichloromethane ISO9852   |
| 4 | Hydrostatic Pressure Testing (Pipes) – Pressure Testing at 60 degrees C, 1000 hours applied pressure (Clause 5.7, SANS 130) |
| 5 | Hydrostatic Pressure Testing Resistance to end-socket assembly 1 hour at 20 degrees C                                       |
| 6 | Endurance Test Fracture Toughness ISO11673  |
| 7 | Impact Test Impact at 20 degrees C  |
| 8 | Visual Inspection (Workmanship)   |

The contractor shall liaise with the testing facility on the sample requirements before shipping. The Class (Pressure Rating) of the sample shall be clearly indicated and the testing and test results shall only be valid for the respective class tested.

The Employer or his representative shall provide the Contractor with the contact details of the approved testing facility.

**PSA 8.19            Leak detection on existing pipes by an approved specialist**

Add new Sub-Clause:

Unit of measurement is Provisional Sum. The rate shall include the services of an approved leak detection specialist for leak detection on existing pipes, if such pipes did not pass the specified pressure test. The rate shall include all pipe diameters and any all locations within the site boundary. The leak detection shall include a detailed report with analysis results and recommendations compiled by the specialist.

**PSA 8.20            Institutional and Social Facilitator rendered by sub-contractor as per clause 4.4.4 of the General Conditions of Contract.**

Add new Sub-Clause:

Unit of measurement is Provisional Sum.

The ISD Consultant will be responsible for the following:

- Be responsible for identifying and engaging all stakeholders relevant to the guiding and supporting eThekweni Metro with regards to implementation of water services objectives.
- Ensuring that there are no work stoppages in the project that might emanate from the miscommunication of project information.
- Undertake a rapid mapping of all stakeholders that are affected by water services projects such as civil society organizations, business chambers, business forums, business associations, as well as other relevant government departments
- Support technical teams to gain access to communities and privately-owned properties where bulk water lines cut through multiple communities and/or properties
- Preparing relevant ISD reports
- Avoid at all cost any community protests that might be related to the project.

The quality of workmanship shall be to the standard required by this Department's Standard Specifications and executed to the satisfaction of the Employer's Agent or his representative. Where the quality of the workmanship appears to be sub-standard or not in compliance with the Departmental Specifications, the Consultant will be required to remedy the work at his/her own expense.

Two ISD Consultants / Managers / Experts with a relevant degree and sufficient experience in such Projects at a senior level (B.Ed in social science or similar and a qualification in Project Management) are available to do the work. The ISD Consultant / Manager will attend all project related meetings as directed by the Employer's Agent. The ISD Experts should be capable of managing and directing the activities as indicated under his responsibilities above.

All persons employed on this contract shall be fully qualified ISD Officers, in the particular field of work specified.

Because of the nature of the work and tasks to be completed by the ISD Consultant she/he may be required to work outside the contractual working hours or during weekends, or on Sundays or during public holidays as defined in the Public Holidays Act. No extra costs will be borne by the Municipality for working outside normal working hours by the ISD Consultant.

#### **PSA 8.21 Management of CPG Contractors**

Add new Sub-Clause:

Unit of measurement is Calendar Days. The rate shall include the services for executing the Contract Participation Goal Plan (CPG Contractors). The rate to include for everything required by the Contractor to achieve the CPG Participation Goal Plan including, but not limited to, engaging with CPG contractors from start to finish, to assist in resolving conflicts and rates disputes, administering all payments to CPG Contractors for the successful completion of the project. The rate shall include for the management of a single sub-contractor (CPG Contractor). Allowance has been made for a total of 10 CPG sub-contractors in the contract. The number of 10 may not be exceeded unless approval from the Employer is received.

**PSC: SITE CLEARANCE (Applicable to SABS 1200 C – 1980 As Amended 1982)****PSC 3 MATERIALS****PSC 3.1 Disposal of Material**

Add to this Sub-clause:

Material obtained from clearing must be disposed of off-site, at an approved site or authorised landfill by the Contractor at his expense. Evidence of disposal shall be provided to the Engineer upon request. The Contractor will be held responsible for observing the by-laws and regulations of the relevant local authority and for any injury to persons and damage to property caused by any fire starting on site, in his camp or a fire started for any reason by his employees, regardless of whether such injury or damage is the direct or indirect result of such fire. The Contractor shall indemnify the Employer against all claims or damages arising from this source. Burning of combustible material shall not be allowed.

**PSC 5 CONSTRUCTION****PSC 5.2.3.2 Individual Trees**

Delete the second sentence of the Sub-Clause and substitute the following:

The amount of the penalty payable by the Contractor for the removal or damage by him of a tree designated for preservation shall be R500 for each tree having a girth of less than 1000mm and R1 000 for each tree having a girth of 1000mm or more.

**PSC 5.3 CLEARING**

Add to the Sub-Clause:

In the sixth line, add the following:

..or excavator with similar flywheel power.

Add to the Sub-Clause:

Clearing shall also include the following:

- In Roadways: the breaking up and complete removal of all asphalt layers, asphalt and concrete haunching and cement or lime stabilised layer work which would normally entail the use of mechanical break-out equipment as well as the breaking up and removal of concrete kerb and channel/haunching. Asphalt shall be saw-cut before removal.
- On Sidewalks and other Paved Areas: the breaking up and removal of concrete sidewalks, scoops, ramps, parapets, paving slabs, blocks, bricks, slasto, etc.
- Removal of fences and hedges.
- Removal of Fire Hydrants and associated material.
- Removal of Guard Rails and Posts
- Traffic signs, bollards and posts
- Removal of Brick Walls

**PSC 5.4 Grubbing**

In the fourth line delete "200mm" and substitute 300mm.

**PSC 5.6 Conservation of Topsoil**

And 8.2.10

Add to the Sub-Clause:

All topsoil shall be conserved for later use by stockpiling clear of the working area.

**PSC 8 MEASUREMENT AND PAYMENT****PSC 8.2 Scheduled Items****PSC 8.2.10 Topsoil**

Add to the Sub-Clause:

The topsoil, where approved by the Employer's Agent, shall be conserved for later use by stockpiling clear of the working area.

**PSC 8.2.11 Extra over for dismantling and removal of Asbestos Cement (AC) pipelines (not encased in concrete), including valves and fittings.**

New Sub-Clause:

The unit of measurement will be linear meters (m). In the case of Asbestos Cement (AC) pipes, the rate shall include all the necessary precautions and measures to be taken for removal and disposal of AC pipes in the appropriate and safe manner and authorised disposal site as prescribed by the Occupational Health and Safety Act and Asbestos Regulations, 2001. Also refer to clause (ZZ) Asbestos regulation (AR) of the Health and Safety Specification (AH)

**PSC 8.2.12 Recovering and stockpiling of re-useable material from clearing operation**

New Sub-Clause:

The unit of measurement is ton (t) for the recovering of items from clearing operations such as valves, fittings, fire hydrants, paving blocks and any other material as directed by the employer or his representative. The rate shall include haulage to stockpile on site

**PSC 8.2.13 Loading and Transportation of Re-usable Material to any Municipal Depot**

New Sub-Clause:

The unit of measurement is ton for the loading and transportation of all re-usable materials that have been reclaimed to any Municipal depot or site specified by EWS.

**PSC 8.2.14 Landscape preservation and conservation of Flora**

New Sub-Clause:

The unit of measurement is square metres (m<sup>2</sup>) for the preservation and conservation of natural landscape and flora. The rate shall include all established flora from landscaped areas on public and private properties, including all indigenous flora. Clause 5.7 (SANS 1200 C) shall apply. The work shall include the replacement of topsoil and replanting of all grass, turf, flowers, gardens, etc., and the Contractor shall maintain and water the replanted areas until growth is properly established. The contractor could alternatively negotiate with property owners, a compensation fee. Upon completion of work in any property the Contractor shall obtain a written clearance from the owner or occupier of the property confirming that the property has been cleared and reinstated to their satisfaction.

**PSC 8.2.15 Reinstatement topsoil from stockpile**

New Sub-Clause:

The unit of measurement is cubic metres (m<sup>3</sup>) for placing and spreading (reinstating) topsoil from stockpile before grass and or any other relevant flora is reinstated. The rate shall include all haulage from and to stockpile.

**PSC 8.2.16 Reinstatement topsoil by importation from commercial sources**

New Sub-Clause:

The unit of measurement is cubic metres (m<sup>3</sup>) for placing and spreading (reinstating) topsoil from commercial sources before grass and or any other relevant flora is reinstated. The rate shall include all haulage from and to stockpile. The Contractor shall only import topsoil from commercial sources if approved by the employer or his representative.

**PSC 8.2.17 Reinstatement existing fences**

New Sub-Clause:

The unit of measurement is linear metres (m<sup>2</sup>) for the reinstatement of existing fences to its original state. The rate shall include all haulage, and any additional materials required for the reinstatement.

**PSC 8.2.18 Reinstatement Guard Rails and Guard Rails Posts**

New Sub-Clause:

The unit of measurement is linear metres (m) for the reinstatement of existing guard rails and guard rail posts to its original state. The rate shall include all haulage, backfilling of cavities, and any additional materials required for the reinstatement.

**PSC 8.2.19 Reinstatement Traffic and street signs, bollards and posts**

New Sub-Clause:

The unit of measurement is number of (No.) for the reinstatement of traffic and street signs, bollards and posts to its original state. The rate shall include all haulage, backfilling of cavities,

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and any additional materials required for the reinstatement.

**PSC 8.2.20      Take down existing Pre-Cast walling, and Stockpile on site**

New Sub-Clause:

The unit of measurement is square metre (m<sup>2</sup>) for taking down existing Pre-Cast walling, and stockpile on site. The rate shall include sorting, stacking, loading, haulage, and offloading of material.

**PSC 8.2.21      Reinstatement Pre-Cast walling**

New Sub-Clause:

The unit of measurement is square metre (m<sup>2</sup>) for the reinstatement pre-cast walling from a stockpile to its original state. The rate shall include all haulage, backfilling of cavities, new foundations and any additional materials required for the reinstatement.

**PSC 8.2.22      Construct New Pre-cast Walling**

New Sub-Clause:

The unit of measurement is square metre (m<sup>2</sup>) for the construction of new pre-cast walling to match the existing. The rate shall include all haulage, backfilling of cavities, new foundations and any additional materials required.

**PSC 8.2.23      Construct new double leaf brick wall**

New Sub-Clause:

The unit of measurement is square metre (m<sup>2</sup>) for the construction of new double leaf brick walls (230 mm, plastered and painted) to match existing. The rate shall include all haulage, backfilling of cavities, new foundations and any additional materials required. Clauses 3.4.1 (Bricks), 5.5.3 (Brickwork) and 5.5.4 (Plaster) of SANS 1200 LE shall apply.

**PSDA: EARTHWORKS (SMALL WORKS)**  
**(Applicable to SABS 1200 DA - 1988 as amended 1990)**

**PSDA 2 INTERPRETATIONS**

**PSDA 2.3 Definitions**

Delete the sentence headed "Restricted excavation" and substitute:

Restricted excavation - An excavation so restricted in area or width as to preclude removal of material by excavating machinery used for bulk excavation measured in terms of Sub-Clause 8.3.1(b). Restricted excavation may be carried out by smaller machinery or by hand, as selected by the Contractor. The extent of restricted excavation shall be as scheduled and/or shown on the drawings; all other excavation shall be regarded as bulk excavation.

**PSDA 3 MATERIALS**

**PSDA 3.2.1 Embankments & Backfill**

In third line delete "150 mm" and substitute "100 mm".

Embankment material shall be compacted to 90% modified AASHTO density.

**PSDA 3.3 Material Suitable for Replacing Overbreak in Excavations for Foundations**

Add new Sub-Clause:

Where, in excavations for foundations, the replacement of overbreak is required, Grade 10/40 concrete is to be used to fill all voids and to bring the excavated surface up to the correct level. No additional payment will be made for the cost of the additional excavation or for the cost of the mass concrete filling.

Any overbreak, in locations where concrete work is to be cast against excavated undisturbed surfaces (e.g., below restricted or bulk excavation) is to be refilled with Grade 10/20 concrete (refer Clause PSG 8.1.3.1(b)).

**PSDA 3.4 Backfilling and Embankments**

Add new Sub-Clause:

Sufficient material arising from excavations for structures, foundations, footings and the like and which is suitable for forming embankments and backfilling against finished structures shall be temporarily stockpiled in the vicinity of the structures. All other material from the excavations shall be disposed of off-site.

**PSDA 4 PLANT**

**PSDA 4.3 Compaction Plant**

Add new Sub-Clause:

The plant used for applying the dynamic load, controlling the moisture content and grading or mixing shall be capable of achieving the compaction specified using the materials available for the construction of the Works.

## **PSDA 5 CONSTRUCTION**

### **PSDA 5.1.1.1 Barricading and Lighting**

Delete the Sub-Clause and substitute:

Without limiting any obligation which the Contractor may have in terms of any Act, Ordinance or other legislation, the Contractor shall ensure that all excavations which are accessible to the public or which is adjacent to a public road or thoroughfare, or by which the safety of persons may be endangered are protected as set out in clause 13 of the General Safety Regulations of the Occupational Health and Safety Act, 1993 and that watchmen are employed to ensure that barricades, barriers and lights are effective at all times.

Trench excavations shall be protected by orange "Haznet" fencing approved by the Employer's Agent. The fencing shall be stretched tightly between supports along both sides and ends of the excavation at levels approximately 0,45 m and 1,25 m above the ground. The supports shall consist of poles or iron standards securely planted in solid ground at not more than 10 m centres so as to enclose the spoil and the excavations.

Bridges for vehicles and/or pedestrians shall be provided along the route of the work as and where may be considered necessary by the Employer's Agent. They shall consist of a number of suitably sized steel plates laid across open excavated trenches. They shall be protected on each side by a stout two-rail timber fence, at least 1 m high, consisting of 150 mm x 75 mm timber verticals set firmly into the ground, with 75 mm x 50 mm rails securely fastened to them. At least 4 lamps or reflective markers must be provided at each crossing.

Where construction is in, or across, public roads the barricades or barriers and temporary road signs shall be erected. All such signs and positioning thereof shall comply with the requirements set out in Road Note 13 read in conjunction with the SA Road Traffic Signs Manual.

The Contractor shall include in his tendered rates for excavation all costs associated with complying with barricading.

### **PSDA 5.1.1.2 Safeguarding of Excavations**

In sub clause a) delete the words "Machinery and Occupational Safety Act" in the third and fourth lines and substitute "regulations to the Occupational Health and Safety Act, 1993."

### **PSDA 5.1.1.3Explosives**

Delete the last sentence and substitute:

The Contractor shall make good at his own expense any additional excavation necessitated by the shattering of rock in excess of an overbreak allowance of 200 mm as measured beyond the required outline of the structure and at right angles to it.

In the case of overbreak to surfaces where a blinding layer is indicated, or ordered, the 200 mm overbreak allowance will be measured from the uppermost surface of the blinding layer and the concrete refilling shall take the place of the blinding layer and payment will be made under the item for concrete refilling and not for blinding.

#### **PSDA 5.1.1.4 Excavation of rock by blasting**

Add new Sub-Clause:

In addition to complying with the provisions of Sub-Clause 5.1.1.3, the Contractor shall record (for the information of the Employer's Agent) the spacing and loading of the charge in each blast and compliance with this requirement will not relieve the Contractor of any responsibility in terms of the said Sub-Clause. The Contractor shall not carry out blasting within 10 m of existing services (e.g. a water main or sewer) or within 10 m of any structure or building.

#### **PSDA 5.1.3 Existing Services**

Add to the Sub-Clause:

The Employer's Agent may order excavation by hand in order to search for and expose services. An item has been included in the Schedule of Quantities to cover the cost of such work if so ordered by the Employer's Agent.

Where a service is damaged because of the Contractor's negligence, he shall be liable for the costs involved in the repair of the service and any other costs consequent upon the interruption of the damaged service.

#### **PSDA 5.1.4 Stormwater and Groundwater**

Delete the third sentence and substitute:

Except where the use of tremies has been approved, foundation excavations for structures shall be kept free of water at all times until they have been inspected and approved and the concrete sub-structures, together with their related super-structures, have been completed.

#### **PSDA 5.1.5 Excessive Pollution**

Add the words "noise and", before the word "dust" in the first line.

#### **PSDA 5.1.6 Excavated Material Not to Endanger or Interfere**

Delete the last sentence and substitute:

"All material that is unsuitable or not required for backfilling shall be disposed of at the nearest available solid waste site for spreading by others. No additional payment will be made for these activities."

#### **PSDA 5.1.8 Road Traffic Control**

Delete from the third and fourth lines and words "and such barricades and warning lights as are

ordered" and add:

"and shall accommodate all traffic at any point on the site by providing by-passes, temporary bridges or the like"

An item has been included in the Schedule of Quantities to cover all costs required to accommodate any and all traffic on site.

#### **PSDA 5.2.1 Site Preparation**

Delete the last sentence and substitute:

"Material so removed shall be disposed of by the Contractor to Sites designated by the Employer's Agent".

#### **PSDA 5.2.2 Excavation**

Delete paragraph (f) of the Sub-Clause and substitute:

(f) Borrow pits where and when ordered shall be so maintained that they do not become a danger to persons and livestock. The necessary access shall be constructed to each site. Topsoil and overburden shall be stockpiled temporarily and, on completion of the work, returned to and spread over the area of the borrow pit in such a manner that the sides are graded 1:2 and the floor is self-draining, or otherwise as directed. Any access constructed by the Contractor shall be scarified and the area reinstated.

Add to the Sub-clause:

(h) Where outside shuttering is ordered by the Employer's Agent, the excavations shall be carried out for an extra width of not more than 600 mm all around the structure, measured from the base of the face to be shuttered, to allow for the shuttering to be fixed, this extra excavation and refilling where necessary is to be measured and paid for under quantities allowed for this purpose in the Schedule. Outside shuttering shall be used for the construction of all major structures unless ordered otherwise by the Employer's Agent.

(i) Where permanent concrete is to be placed against an excavated face, the excavation shall be trimmed to ensure that there is no projection greater than 20 mm protruding into the excavation profile.

(j) The Contractor shall not spoil, waste or stockpile excavated material without approval.

#### **PSDA 5.2.3.1 Embankments**

In the thirteenth line delete "600 mm" and substitute "300 mm".

In the sixteenth line delete "300 mm" and substitute "150 mm".

Delete the nineteenth line and substitute the following:

Each layer shall be compacted to achieve 90% modified AASHTO density except where indicated otherwise on the Drawings.

**PSDA 5.2.3.2 Restricted Backfill and Compaction at Structures**

Delete the eighth and ninth lines and substitute:

not exceeding 200 mm and compacted by means of mechanical tampers to achieve a 90% modified AASHTO density except where indicated otherwise on the Drawings.

**PSDA 5.2.3.3 Backfill of Unavoidable Over-Excavation in Boulder Formation**

Add new Sub-Clause:

Upon completion of the excavation in boulder formation, the excavation is to be backfilled, in part or in total as instructed by the Employer's Agent, with approved material obtained from other excavations or from borrow pits or with selected sandy material stabilised with 4% (by volume) of cement and compacted with mechanical tampers in accordance with the requirements of Sub-Clause 5.2.3.2 so as to achieve a 95% modified AASHTO density at OMC before being re-excavated to the lines and levels shown on the Drawings. (See also Sub-clause 8.1.1).

**PSDA 5.2.5.2 Top soiling**

Delete the wording of Sub-Clause 5.2.5.2 and replace with the following:

Where scheduled, topsoil shall be placed on all surfaces and on embankments and shall be lightly compacted by wheeled vehicles or by tamping, and trimmed neatly to the required lines, grades and levels. The final thickness of topsoil after compaction shall be at least 100 mm. Prior to top soiling, the surfaces to be top soiled shall be prepared by pulling horizontal ruts into the soil with the tines of a front-end loader or other suitable method to retard erosion of the topsoil.

**PSDA 5.2.5.3 Grass and other vegetation**

Add to the Sub-Clause:

The surface of top soiled embankments, terraces and other designated areas are to be planted or seeded, fertilised and watered until the area is fully covered with grass.

**PSDA 5.2.6.1 Freehaul**

Delete the wording of Sub-Clause 5.2.6.1 and replace with the following:

All haul will be regarded as free haul. No overhaul will be paid under this Contract.

**PSDA 5.2.6.2 Overhaul**

Delete the Sub-Clause.

**PSDA 6 TOLERANCES****PSDA 6.1 Degree of Accuracy**

Delete the Sub-clause and substitute:

The work shall, subject to Sub-Clause 6.2, be finished off within the limits of Degree of Accuracy II as set out in Sub-Clause 6.1 of SABS 1200 D.

## **PSDA 6.2 Permissible Deviations**

Add the following permissible deviations for work to Degree of Accuracy II:

Add the following permissible deviations for work to Degree of Accuracy II:

6.2(a)	1	± 300 mm
	2	± 100 mm
	3	± 50 mm
	4	From direction of slope
		Between 1/100 and 1/300
		1/400 and flatter
		Nil
		10%
		5
6.2(b)	1	± 35 mm
	2	± 50 mm
	3	± 50 mm
	4	± 15 mm
6.2(c)	1	Read "-2% +1%" in place of "± 2%".

## **PSDA 6.3 Excavation by Mechanical Means**

Add new Sub-Clause:

Where bulk excavation is carried out by earthmoving equipment, such excavation will only be allowed to within a level of 300 mm, or less as ordered by the Employer's Agent, above the general level to which the ground has to be reduced, the balance of the bulk excavation being carried out by hand or by other means approved by the Employer's Agent.

## **PSDA 7 TESTING**

### **PSDA 7.2 Taking and Testing of Samples**

Add to the Sub-Clause:

Determination of the standard of compaction achieved shall be carried out in accordance with Standard methods of testing road construction materials published by the Department of Transport Division of National Roads, Publication TMH.1.

## **PSDA 8 MEASUREMENT AND PAYMENT**

### **PSDA 8.1.1 Basic Principles**

Delete the third line of the first sentence and substitute:

"material in backfilling, forming embankments, etc., including any necessary additional offloading, stock-piling and reloading and the cost of disposal of any"

---

In the seventh line delete "Drawing DA-2" and substitute "Fig DA-2".

Add to the Sub-Clause:

Unavoidable over-excavation for structures located in boulder formation will be measured and paid for up to a maximum of 600 mm in Class A boulder formation and 300 mm in the case of Class B boulder formation, as applicable, as measured beyond the required outline of the structure and at right angles to it.

### **PSDA 8.1.2 Basic Principles**

Delete the first line and substitute:

"Excavations which are required to be backfilled, or partially backfilled, will be measured as if taken out"

Delete the fifth and sixth lines and substitute:

"other such structures, the volume will be measured from the finished outline of the concrete, or the blinding to the concrete (as the case may be), as shown on the Drawings".

### **PSDA 8.1.3 Basic Principles**

Delete the third line and substitute:

"will be measured as part of the bulk excavation or restricted excavation, as applicable.

### **PSDA 8.3.1(a) Excavation**

Add to the Sub-Clause:

Where removal to greater depths is ordered, the area measured for payment will, unless otherwise scheduled, be increased pro rata to the average increase in depth.

### **PSDA 8.3.1(b) Excavation**

"Drawing DA-1" in the third line to read "Fig DA-1".

Delete the third line of the second sentence and substitute:

"-action, offloading to stockpile, stockpiling and reloading as may be necessary, spreading or backfilling, compacting and watering.

### **PSDA 8.3.1(c) Excavation**

"Drawing DA-1" in the last line to read "Fig DA-1".

### **PSDA 8.3.2(a) Restricted Excavation**

"Drawing DA-2" in the fourth line to read "Fig DA-2".

### **PSDA 8.3.2(b) Restricted Excavation**

Add to the Sub-Clause:

(3) Boulder excavation Class A Unit: m3

(4) Boulder excavation Class B Unit: m3

Delete the last two lines and substitute:

(a) above for any portion of the excavated material that is classified as intermediate, hard rock, boulder

Class A or boulder Class B as applicable.

#### **PSDA 8.3.4 Importation of Materials**

Delete the last five lines and substitute:

##### **PSDA 8.3.4.1 for embankment construction**

The rate shall cover the cost of royalties (if any) and acquiring suitable material, loading, transporting within free haul distance, unloading, spreading in layers not exceeding 150 mm thick, watering, compacting to 90% Mod AASHTO density, trimming slopes of embankment to required outline all in accordance with the Specifications. The rate shall also include for carrying out density testing and the disposal of any surplus material.

##### **PSDA 8.3.4.2 for backfilling around structures**

The rate shall cover the cost of royalties (if any) and acquiring suitable material, loading, transporting within free haul distance, unloading, spreading in layers not exceeding 150 mm thick, watering, compacting to 90% Mod AASHTO density and trimming upper surfaces to the required outline all in accordance with the Specifications.

#### **PSDA 8.3.9 Additional Compaction**

Add the following new Sub-Clause:

Where so scheduled additional compaction over that required to achieve 90% Mod AASHTO density in order to achieve the scheduled higher density shall be paid for by the volume so compacted Unit: m3

The rate shall include for all additional plant, labour and materials necessary to achieve the additional compaction scheduled.

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**PSDB: EARTHWORKS (PIPE TRENCHES)**  
**(Applicable to SABS 1200 DB - 1989)**

**PSDB 3 MATERIALS**

**PSDB 3.3 Selected Granular Material**

Delete the Sub-Clause and substitute the following:

Selected granular material shall be material of a granular, non-cohesive nature that is singularly graded between 0,6 mm and 10 mm, is free-draining and has a compatibility factor (as determined by the test given in Section LB of Part 3 of SABS 0120) not exceeding 0,4.

**PSDB 3.4 Selected Fill Material**

Delete the Sub-Clause and substitute the following:

Selected fill material shall be a sandy clay material having a PI not exceeding 6 and that is free from vegetation and from uncrushable lumps and stones of diameter exceeding 20mm.

**PSDB 3.5(a) Backfill Material**

In the third line delete "150mm" and substitute "100mm".

**PSDB 3.5(b) Backfill Material**

In the second line delete "PI not exceeding 12" and substitute "PI not exceeding 6".

**PSDB 3.5(c) Cement Stabilised Backfill**

Add the following new Sub-Clause:

Where scheduled, or directed by the Employer's Agent, backfill shall be stabilised with 5% cement by mass. The backfill material shall have a plasticity index not exceeding 10 and all material must pass through a sieve of aperture size not exceeding that specified in SABS 1200 LB, Sub-Clause 3.2, as amended.

The dry materials shall first be mixed in a concrete mixer where after sufficient water is to be added to produce the stiffest consistency available for placing and compacting with vibrators.

**PSDB 3.7 Selection**

Delete the second sentence and substitute the following:

The Contractor is not required to use selective methods of excavating but shall, if so, instructed by the Employer's Agent, screen or otherwise treat excavated material in order to produce material suitable for the bedding cradle or the bedding blanket.

**PSDB 4 PLANT****PSDB 4.1 Excavation Equipment**

In the first line delete "The Contractor" and substitute: "In sections deemed to be excavated by mechanical means, the Contractor".

Add to the Sub-Clause:

Should any portion of a pipe trench exceed the specified depth, the Contractor will be held responsible for any additional costs which may arise as a result of such over-excavation. Concrete filling or imported compacted fill may be ordered by the Employer's Agent to be placed below the bottom of the trench.

**PSDB 5 CONSTRUCTION****PSDB 5.2 Minimum Base Widths**

Add to the Sub-Clause:

Trench sides shall be as near vertical as possible in order to minimise the quantity of backfill material required and to avoid possible difficulties where pipelines have to be installed parallel to existing services, fences, hedges, etc and to minimise the loading on the pipe.

The base width of trenches for cables, ducts and un-bedded flexible continuous piping, of external diameter less than 125mm laid at a depth not exceeding 1,5 m, shall be equal to the external diameter of the cable, duct or pipe, plus a side allowance of 200 mm on either side.

**PSDB 5.5 Trench Bottom**

Add to the Sub-Clause:

In waterlogged conditions and/or where so instructed by the Employer's Agent a 150 mm thick layer (See PSLB 5.2.5) of imported single sized stone (19 mm size unless otherwise instructed by the Employer's Agent) with a geo-fabric filter surround ("Bidim" Grade A4 or similar approved) shall be constructed under the bedding layer specified for the pipes.

**PSDB 5.6.1 Backfilling - General**

Add to the Sub-Clause:

Notwithstanding the requirements of Sub-Clauses 5.6.1 and 5.6.6, no pipe joint or pipe fitting shall be covered by either blanket or backfill material prior to the successful completion of the visual inspection and pressure testing of the relevant section of the pipeline.

All backfilling shall be carried out by hand and the Contractor must price his tender accordingly. No mechanical plant shall be used in backfilling without prior written consent of the Employer's Agent.

**PSDB 5.6.2 Material for Backfilling**

Delete fourth, fifth and sixth lines and substitute the following:

Hard rock material shall not be used for, or incorporated into, the backfill above the bedding layers without the Employer's Agent's approval.

#### **PSDB 5.6.3 Disposal of Soft Excavation Material**

Add to the Sub-Clause:

Surplus material or unsuitable material shall be disposed of off-site by the Contractor.

#### **PSDB 5.6.4 Disposal of Intermediate and Hard Rock Material**

Add to the Sub-Clause:

Surplus intermediate and hard rock material from trench excavations shall be disposed of off-site by the Contractor.

#### **PSDB 5.6.8 Transport for Earthworks for Trenches**

Delete the Sub-Clause and substitute:

The requirements of Sub-Clause 5.2.6 of SABS 1200 DA as amended and as applicable shall apply.

### **PSDB 8 MEASUREMENT AND PAYMENT**

#### **PSDB 8.1.4 Basic Principles**

Delete Sub-Clause and substitute:

Except that the volume will be computed as specified in 8.2.3, the requirements of Sub-Clause 5.2.6.1 (Free haul) of SABS 1200 DA as amended and as relevant, shall apply to free haul.

#### **PSDB 8.3.3.1 Deficiency in Backfill Materials**

Payment for imported graded stone laid under pipelines in accordance with PSDB 5.5 shall be paid for under Sub-Clause 8.3.3.1(c) as scheduled.

#### **PSDB 8.3.3.4 Overhaul**

Delete the Sub-clause and substitute:

All haul will be regarded as free haul.

#### **PSDB 8.3.5 Existing Services that Intersect or Adjoin a Pipe Trench**

Add to the end of the Sub-Clause:

- (v) All work involved in locating the service by hand excavation
- (vi) Notifying and attending upon the proprietor of the service
- (vii) Supporting and protecting the service while the pipeline is installed,

inspected, tested and backfilled.

**PSDB 8.3.6.2      Grassing (New Sub-Clause)**

Grassing Unit: m2

Instant lawn (*Cynodon dactylon*) shall be planted after top soiling has been completed. The planted area shall be neatly trimmed, fertilised and watered. The Contractor shall ensure that the planted areas are not permitted to dry out. Any grass that fails to grow shall be replaced by the Contractor, at his expense, with fresh grass, until satisfactory cover is obtained. The rate shall cover the supplying, planting and maintenance of grass, all in accordance with this specification.

**PSGA: CONCRETE (SMALL WORKS)**  
**(Applicable to SABS 1200 GA - 1982)**

**PSGA 2 DEFINITIONS**

**PSGA 2.3(a) General**

Add to the Sub-Clause:

Adverse weather: Cold weather or weather in which:

- (a) The ambient temperature is above 250C, or
- (b) The relative humidity is low, or
- (c) The wind velocity is high

or weather in which any combination of these three conditions occurs, and which tend to impair the quality of fresh or hardened concrete or otherwise causes the concrete to have abnormal properties.

**PSGA 2.3(b)Quality**

Add to the Sub-Clause:

Consistency: The extent, as measured by the slump test, to which fresh concrete resists flow or deformation.

**PSGA 2.3(d)Exposure Conditions (New Sub-Clause)**

Add new Sub-Clause:

Mild Conditions: Conditions under which the concrete is protected from the weather and exposed only to air.

Moderate Conditions: Conditions under which the concrete is:

- (a) sheltered from severe rain and is not subject to freezing when wet, or
- (b) buried in non-aggressive soil, or
- (c) continuously under fresh water

Severe Conditions: Conditions under which the concrete is exposed or subjected to any of the following:

- (a) Driving rain
- (b) Alternate wetting and drying out
- (c) Freezing when wet
- (d) Fresh water (at the waterline)
- (e) Splashing or spraying with fresh water
- (f) Corrosive fumes or heavy condensation of water
- (g) Aggressive soil
- (h) Salt-laden air

**PSGA 3 MATERIALS****PSGA 3.2.1 Cement**

Add to the Sub-Clause:

Unless agreed to otherwise by the Employer's Agent, the cement used on the works shall be Ordinary Portland Cement complying with the requirements of SABS 471 (or the equivalent in accordance with SABS ENV 197-1).

**PSGA 3.2.2 Cement Storage**

Cement and other cementitious materials shall not be kept in storage for longer than two months without the Employer's Agent's permission.

**PSGA 3.4.4 Admixtures (New Sub-Clause)**

Add new Sub-Clause:

Unless approved by the Employer's Agent, neither admixtures nor air-entraining agents shall be used in any concrete.

**PSGA 3.4.5 Sand (New Sub-Clause)**

Add new Sub-Clause:

Sand from a source selected by the Contractor and approved by the Employer's Agent after testing will be used under this Contract.

**PSGA 4 PLANT****PSGA 4.4.2 Finish**

The quality of the finished surface of the concrete shall be as scheduled.

**PSGA 5 CONSTRUCTION****PSGA 5.1.2 Fixing**

Add to the Sub-Clause:

Welding reinforcement as a means of securing it against displacement will not be permitted.

**PSGA 5.1.3 Cover**

In second line of the Sub-Clause delete 30mm and add "(50 mm for strip footings and bases and 30 mm for columns and beams with a tolerance of +10 mm 0)", between "least", and "unless".

**PSGA 5.2.1 Classification of Finishes**

Delete the eighth and ninth lines of the Sub-Clause.

**PSGA 5.2.1(a) Classification of Finishes**

Add to the Sub-Clause:

The finish of the concrete is to be within the tolerances of Degree of Accuracy III as set out in Sub-Clause 6.4.

**PSGA 5.2.1(b) Classification of Finishes**

Add to the Sub-Clause:

The finish of the concrete is to be within the tolerances of Degree of Accuracy II as set out in Sub-Clause 6.4.

**PSGA 5.2.3 Removal of Formwork**

Add to the Sub-Clause:

The minimum times for removal of formwork from concrete containing blast furnace cement given in Table 1 of SABS 1200 GA apply also to members of concrete made from a blend of equal parts of Ordinary Portland Cement and other cementitious materials.

**PSGA 5.2.5 Fixing Blocks for Reinforcing and Fixtures in Concrete (New Sub-Clause)**

Add new Sub-Clause:

Fixing blocks for the attachment of fixtures may be embedded in concrete provided that the strength and other desirable features such as appearance of the member are not, in the opinion of the Employer's Agent impaired thereby.

**PSGA 5.4.1.2 Consistency**

Delete the third line and substitute the following:

Employer's Agent in respect of prescribed mix and/or strength concrete.

**PSGA 5.4.1.4 Prescribed Mix Concrete**

Delete the Sub-Clause and substitute the following:

The grades of prescribed mix concrete are designated Grades 30, 25, 20, 15 and 10 and are composed of cement, sand and stone, as specified hereinbefore, proportioned as follows:

Grade	Size of Stone (mm)	Cement (kg)	Sand (m <sup>3</sup> )	Stone (m <sup>3</sup> )

20/19	19	50	0.110	0.140
30/19	19	50	0.080	0.090
25/19	19	50	0.090	0.100
15/19	19	50	0.130	0.140
10/19	19	50	0.170	0.160

While the proportion of cement to the combined quantity of sand and stone must remain constant for each grade of concrete, as set out above, the relative proportions of sand and stone are to be adjusted, if required by the Employer's Agent, so as to obtain the most suitable consistency of concrete, due to allowance being made for the bulking of sand due to moisture.

The addition of water shall be regulated by the use of properly calibrated containers, only sufficient water being added as will, in the opinion of the Employer's Agent, afford a workable mix.

#### **PSGA 5.4.1.6 Ready-mixed Concrete**

Delete the Sub-Clause and substitute the following:

Concrete produced at a central concrete production facility other than at the site of the Works shall only be accepted for use in the Works with the prior and express approval of the Employer's Agent. When such approval has been given the Employer's Agent shall then decide whether or not to accept the test results obtained by the facility concerned.

#### **PSGA 5.4.5.5 Adverse Weather Conditions (See PSGA 2.3(a)) (New Sub-Clause)**

Add new Sub-Clause:

Under adverse cold weather conditions, effective measures shall be taken to ensure that the temperature of the concrete, from the time of placing until it has hardened (i.e. about 24 h), is maintained at not less than 5°C. If the atmospheric temperature in the vicinity of the concrete is below 2°C or is expected to fall below 2°C during the curing period (see Sub-Clause 5.4.7), water shall not be used for curing. All surfaces shall be protected from ice or frost damage.

When the ambient temperature is above 32°C, the temperature of the concrete when deposited shall not be allowed to exceed 32°C. Under adverse hot weather conditions, the Contractor shall take all reasonable steps to reduce to a minimum the placing temperature of the concrete. Stockpiles of aggregates and all metal surfaces in contact with aggregates and concrete shall be shielded from the direct rays of the sun or cooled by being sprayed with water, and windbreaks shall be erected, if necessary, to prevent the initial rapid drying-out of concrete which would otherwise occur before normal curing procedures can be undertaken.

Concrete shall not be placed during periods of heavy or prolonged rainfall.

#### **PSGA 5.4.7 Curing and Protection**

Add to the Sub-Clause:

- a) Continuously spraying the exposed surfaces with water.
- b) Covering the concrete with waterproof or plastic sheeting firmly anchored at the edges.

**PSGA 5.4.8.2 Concrete Surfaces**

Concrete surfaces shall be finished as indicated in the Schedule.

**PSGA 6 TOLERANCES**

**PSGA 6.1.1 General**

Read "Degree of Accuracy II" for "Degree of Accuracy III" in the third line.

**PSGA 8 MEASUREMENT AND PAYMENT**

**PSGA 8.1.1.4 Formwork**

Add to the first line between the word's "concrete" and "and" the following:

"including forming fillets or splays up to 20 x 20 mm"

PSGA 8.4.1 Prescribed Mix Concrete

Delete from the Sub-Clause all but the first sentence.

Add to the Sub-Clause:

Where scheduled the rate shall include for all shuttering and finishing.

**PSL: MEDIUM-PRESSURE PIPELINES**  
**(Applicable to SABS 1200 L - 1983)**

**PSL 2 INTERPRETATIONS**

**PSL 2.4 Abbreviations**

mPVC: Modified Polyvinyl Chloride (SANS 966-2)

HDPE: High Density Polyethylene

**PSL 3 MATERIALS**

**PSL 3.1 General**

Add to the Sub-Clause:

The types of pipe materials called for under this Contract are:

mPVC

Appurtenant couplings, fittings, bends, valves and specials.

**PSL 3.4 Steel Pipes, Fittings and Specials**

**PSL 3.4.1 General**

Delete the Sub-Clause and substitute:

All permanent steel pipes, fittings and specials shall be to the dimensions and details shown on the drawings or schedule of quantities. All pipes, fittings and specials shall have their relevant item numbers painted onto the exterior surface prior to dispatch from the factory.

All steel pipework shall be API Schedule 40 steel pipes. All steel pipes shall be coated internally and externally with "Rilsan" or Plascoat PPA571 aqua with a minimum Dry Film Thickness of 300 microns and applied strictly in accordance with the manufacturer's instructions.

All flanges on flanged couplings shall be drilled in accordance with SANS 1123. Except for the matching flanges supplied by the Employer in respect of the valves, the Contractor shall supply all other flanges on pipes and specials, suitable for the welding of the pipes and specials in accordance with SANS 1123. Bolts and Nuts shall be in accordance with SABS 1700 unless otherwise approved by the Engineer and shall project two threads beyond the run-out of the nuts. All bolts and nuts and washers shall be hot dip galvanised. Electrolytic or other special corrosion protection methods are not required.

Alternative proposals (other than those scheduled) for jointing, lining and coating may be offered but the Bidder shall submit detailed specifications with his Bid. A sample of the alternative type of jointing or corrosion protection system proposed by the Bidder shall be submitted to the Employer's Agent's office within one week of the closing date of the Bid.

The sides of taper pieces shall diverge at an angle of not more than 11 degrees to each other. The Bidder shall be responsible for the provision of strengthening webs, crotch plates, gussets

etc as may be necessary to prevent excessive deflection or deformation of fittings and specials when subjected to hydraulic tests, and his rate for the work will be deemed to include for the design and provision of this reinforcing wherever necessary.

The pipe manufacturer shall obtain and make available to the Employer's Agent a certificate or certificates from the steel manufacturer covering all steel used, showing by which process the steel was made and giving the chemical analysis of the steel and its physical properties. A record shall be kept of pipe serial numbers and the cast numbers of the steel used.

The pipe manufacturer shall supply written confirmation that all hand welding was carried out by coded welders.

#### **PSL 3.4.2 Pipes of Nominal bore up to 150 mm**

Delete this Sub-Clause

#### **PSL 3.4.3 Pipes of Nominal Bore over 150 mm**

Delete this Sub-Clause

#### **PSL 3.4.4 Fittings and Specials**

Delete this Sub-Clause

#### **PSL 3.4.5 Pipe Sizes and Lengths**

Add new Sub-Clause:

The outside diameter, wall thickness and the end preparation of pipes to be supplied under this Contract are as follows:

<b>Nominal Bore</b>	<b>Outside Diameter</b>	<b>Wall Thickness</b>	<b>End Preparation</b>
250 mm	273.1 mm	6.35 mm	As scheduled
200 mm	219.1 mm	6.35 mm	As scheduled
150 mm	168.3 mm	7.11 mm	As scheduled
100 mm	114.3 mm	6.02 mm	As scheduled
80 mm	88.9 mm	5.49 mm	As scheduled
50 mm	60.3 mm	3.91 mm	As scheduled

All mPVC pipes, DN80 to DN250, are PN12 and all HDPE pipes, DN50, are PN12.5.

#### **PSL 3.4.6 Welds**

Add new Sub-Clause:

Pipes shall be manufactured from steel strips or plates continuously welded along the seams and the height of the inner weld reinforcement shall not exceed 1 mm. In the case of pipes to be used with couplings, the external weld reinforcement shall be ground flush with the outer wall of the pipe over a suitable distance from the end of the pipe. Pipes should preferably have a continuous helical seam, but nevertheless longitudinal and circumferential seams would be

acceptable for this Contract.

#### **PSL 3.4.7 Hydraulic Testing at Factory**

Add new Sub-Clause:

Each pipe shall be hydraulically tested in accordance with SABS 719 Clause 7.3.

#### **PSL 3.4.8 Fittings and Specials (Pipes over 150 NB)**

Add new Sub-Clause:

##### **PSL 3.4.8.1 General**

All fittings and specials shall be manufactured from straight pipe specified elsewhere in this Specification. The pipe so used shall have satisfactorily passed the stipulated hydraulic pressure tests.

Fittings and specials shall be manufactured and tested in accordance with the specification for straight pipe and additionally with Section 8 of BS 534. The nominal dimensions of each fitting and special required are itemised in the Schedule of Quantities and 'exact length' tolerances shall be adhered to.

Bends shall generally be of the gusseted type having dimensions as given by Table 8 of BS 534 except where specified to the contrary in the Schedule of Quantities or where the Bidder can offer a price advantage for supplying even curvature bends.

The manufacturer shall be responsible for designing and providing strengthening webs, crotch plates, gussets, etc. as may be necessary to prevent excessive deflection or deformation of fittings and specials when subjected to hydraulic tests.

##### **PSL 3.4.8.2 Closure Pipes**

Closure pipes, which are to be cut on site to the exact lengths, required, shall have the diametrical tolerances specified for the pipe ends applied over the full length of the pipe. Closure pipes shall be supplied in standard lengths.

##### **PSL 3.4.8.3 Puddle Collars (New Sub-Clause)**

Puddle collars used as pipe anchorages shall be of the same dimensions as corresponding flanges but are to be undrilled. The collar shall be capable of transmitting a longitudinal force 33% greater than the internal hydraulic pressure to be applied when testing multiplied by the area of the bore; and under that condition the stress in the metal shall not exceed its yield stress.

#### **PSL 3.4.9 Welding Tests at Factory**

Add new Sub-Clause:

##### **PSL 3.4.9.1 Qualification Tests for Welding Procedure**

The qualification tests for welding procedure shall be carried out generally in accordance with the requirements of the American Petroleum Institute API 1104: The detailed procedure to be adopted during manufacture shall be established and the quality of the welds so produced shall be determined by carrying out ONE transverse tensile weld test and TWO guided cold bend tests on suitable coupon plates.

The tests are to be carried out either before manufacture of the pipes to be supplied under this contract is commenced or before the manufacture of pipes in excess of a number previously agreed by the Employer's Agent is carried out.

The coupon plates shall be prepared either from plates of the same material as the pipe and welded in a similar manner to that to be used during production, or by cutting suitable specimens from a pipe selected at random by the Employer's Agent from the first production pipes. The coupon plate for the tensile weld test and those for the guided cold bend tests shall be prepared in accordance with the requirements of SABS 719.

The qualification tests shall be considered satisfactory if:

- (a) The weld has a joint efficiency greater than 95% of the minimum specified tensile strength of the parent metal and,
- (b) The bend test specimens are capable of being bent around a former with a diameter equal to six times the nominal thickness of the plate to an angle of 180 degrees without developing a crack, except at the arises of the specimen, of length or width greater than 3 mm.

Failure to pass the above qualification tests shall result in the rejection of any pipes welded with the procedure used and the preparation of a new qualification of procedure test.

Any changes in the electrode case type used or change of flux used shall require a qualification test before approval of the procedure is granted.

#### **PSL 3.4.10 Radiographic Examination of Shop Welds**

Add new Sub-Clause:

The Contractor shall include in his prices for the supply of pipes, fittings and specials, the cost of carrying out, under the supervision of the inspector appointed by the Employer, examination of shop welds on the following basis:

##### **PSL 3.4.10.1 Pipes**

- c) FIVE percent random radiographic examination of all welds deposited by an approved automatic process.
- b) TEN percent random radiographic examination of all welds deposited manually or semi-automatically, and repairs to welds done by an automatic process (should repairs exceed 25% of the tests the percentage of examination shall be increased to 20%).

##### **PSL 3.4.10.2 Fittings and Specials**

- a) ONE HUNDRED percent radiographic examination of all weld deposited manually or

semi-automatically in fittings and specials which cannot be hydraulically tested prior to the fittings and specials being installed in the pipeline.

b) TEN percent radiographic examination of all welds deposited manually or semi-automatically in specials and fittings that are to be tested hydraulically prior to the fittings and specials being installed in the pipeline.

The Employer's Agent shall in all cases determine which welds are to be radiographed on the quantity basis specified above. All radiographs and records thereof made by the Contractor shall be made available to the Employer's Agent to enable him to determine whether the welds are acceptable or not and no lining or wrapping of pipes shall be permitted until the welds have been accepted by the Employer's Agent. To avoid unnecessary delay, at the option of the manufacturer, radiographs may be approved by the manufacturer's inspectors subject to them being subsequently approved by the Employer's Agent.

When a section of the weld is shown by radiography to be unacceptable and if the limits of the deficient weld are not defined by the radiograph, additional radiography shall be carried out at the Contractor's expense until the limits of the deficiency are determined.

Repairs shall be made to defective welds at the Contractor's expense. All repair welds shall be identified with a stamp marking, indicating which welder conducted the repair. Repaired welds shall be radiographed at the Contractor's expense but after any repair welder has had ten consecutive repairs approved, the extent of the radiography of the repairs conducted by the welder may be decreased by agreement between the Employer's Agent and the Contractor.

#### **PSL 3.4.11 Production Testing of Welds**

Add new Sub-Clause:

The Contractor shall also include in his prices for the supply of pipes, the cost of carrying out at the factory, non-destructive tests of shop production welds (additional to the qualification tests for welding procedure) on the following basis:

One pipe from each one hundred pipes produced shall be selected at random and specimens for two guided cold bend tests and one transverse tensile test shall be cut therefrom and tested in accordance with SABS 719, Section 7.

In the case of the guided cold bend tests, where welding is carried from one side only, bend specimens shall be tested with the rest of the bend in tension where welded from both sides the specimens shall be tested with the inner and outer welds in tension alternately.

Tensile tests shall be carried out as for the qualification tests.

The pipes from which successfully tested specimens have been taken shall be trimmed to the maximum possible length and shall be accepted by the Employer for payment purposes as full standard pipe lengths.

In the event of the welds of any pipe failing to reach the standard of acceptance, such pipe shall be rejected. Two further plate coupons shall be prepared from different pipes, selected at random by the Employer's Agent, for each specimen that has failed to reach the required standard. In the event of such additional tests proving to be satisfactory repairs to the pipe

originally failing any test will be permitted by the Employer's Agent and such repairs and subsequent re-test shall be at the Contractor's expense. In the event of the additional tests also failing to reach the required standard, the Employer's Agent shall have the right to reject the entire batch of pipes from which the coupon plates were cut.

### **PSL 3.7 Other Types of Pipes**

#### **PSL 3.7.1 mPVC Pipes**

Delete the sub-clause and substitute the following:

mPVC pipes shall comply with SABS 966-2 and be of the types, classes and fitted with joint systems as scheduled.

#### **PSL 3.7.2 Polyethylene Pipes**

Add to this Sub-Clause:

HDPE pipes and fittings shall be manufactured in accordance with SANS ISO 4427. Pipes and fittings shall be manufactured from PE100 material with a design stress as scheduled. The HDPE piping shall be supplied in the maximum possible lengths in order to reduce the number of site welded joints or couplings. The handling of HDPE piping shall be in accordance with the manufacturer's standards and to the approval of the Employer's Agent.

##### **PSL 3.7.2.1 Welding of the HDPE Pipe**

The HDPE pipe shall be joined by means of heat fusion using approved butt-welding equipment and fully trained operators in accordance with the pipe manufacturer's code of practice. The Contractor shall advise the Employer's Agent of the welding parameters to be used and test welds shall be carried out, tested and approved before welding on site can commence.

Once welding of a joint has been completed, internal beads shall be removed by an approved method.

The Contractor shall ensure that the required gap spacing is constant over the total weld length and that the weld temperatures specified by the manufacturer are attained throughout the weld length.

### **PSL 3.8 Jointing Materials**

#### **PSL 3.8.2.1 Flexible Couplings**

Delete the Sub-Clause and substitute the following:

Flexible couplings shall conform generally to Clause 15 of BS 534 for slip-on type couplings and shall be of approved manufacture. They shall be provided without a central register, except where scheduled to the contrary in the Schedule of Quantities. They shall be capable of being tightened and released without damaging or improperly distorting the rubber seating rings and shall be designed to prevent the rubber rings being blown out under pressure or sucked in under vacuum.

The steel used shall conform to the appropriate British Standard Specification and each

coupling is to be capable of withstanding the test pressure applicable to the pipes with which they are to be used without exceeding a stress in the steel of 67% of the yield point.

Couplings shall be protected by an approved epoxy coating system such as “Cupon KSIR88” within 4 hours of abrasive blast cleaning the metal surfaces of the coupling in accordance with Swedish Standard SIS 05 5900 Grade SA 2,5. Nuts, bolts and washers shall be electro-galvanised. The plain end of the steel pipe shall be properly prepared before corrosion protection so as to accept the flexible coupling. Special anchoring flexible adaptor joints (“Viking Johnson” or similar) for connecting plain ended steel pipes to flanged joints are to be supplied complete with electro galvanised bolts and nuts for connecting flanged joint to anchoring flange situated approximately 300 mm from plain end of pipe.

### **PSL 3.8.3 Flanges**

Add to the Sub-Clause:

The dimensions and drilling of flanges shall be in accordance with the requirements of SANS 1123: Table 1600, 2500 or 4000 as scheduled. All flanges shall be truly at right angles to the axis of the pipe or fitting and shall be drilled with bolt holes off centre.

Puddle flanges shall be of the same diameter and thickness as the end flanges and shall be undrilled.

Flanges cut from steel plate shall be machined flat on the front face, i.e., without a raised joint. No machining needs to be carried out on the back face (except where insulating flanges are to be installed) provided that face is sufficiently flat to ensure square bedding of the bolt heads and nuts and provided that all weld reinforcement is removed.

Cast or forged flanges shall be machined flat on the front faces and either spot faced at the bolt holes, or fully machined, on the back faces. Spot facing shall be at least 3 mm greater in diameter than the washers to be used, shall be truly parallel to the front face and the distance between the two faces shall be not less than the specified flange thickness.

### **PSL 3.8.4 Loose Flanges for Welding**

Add to the Sub-Clause:

Flange jointing material, when installed in the complete pipeline, shall be capable of withstanding transient pressures of up to the specified field test pressure. Under this condition no damage shall be caused, or leakage occur through the joint. Bolts and nuts shall comply with SANS 135. All bolts, nuts and washers shall be electro-galvanised.

## **PSL 3.9 Corrosion Protection**

### **PSL 3.9.3 Protection Against Electrolytic Corrosion**

#### **PSL 3.9.3.2 Insulation of fittings in contact with soil**

All fittings shall be electrically insulated from contact with the bedding or backfill materials in accordance with the specifications set out elsewhere

**PSL 3.9.3.4 Measurement and Payment for Coatings (New Sub-Clause)**

The supply and application of coatings are not measured separately in the Schedule of Quantities and payment for the costs of meeting the requirements of this specification which includes for the provision of all labour, plant, materials and testing necessary to carry out the complete coating and making good etc shall be included in the rates tendered for the supplying, laying and bedding of the pipeline as per Sub-Clauses 8.2.1 and 8.2.2 of SABS 1200 L.

**PSL 3.9.4 Flexible Couplings**

Delete the sub-clause and substitute:

All flexible ("Viking Johnson" or "Klamflex" type) couplings shall be lined and coated with epoxy as specified in Sub-Clause 3.9.2.2(b)(1) and PSL 3.8.2.1.

**PSL 3.9.5 Jointing Material**

Bolts and nuts shall conform to SANS 135 All bolts, nuts and washers shall be electro-galvanised. Gaskets shall be full-faced gaskets made of rubber materials.

**PSL 3.9.6 Corrosion Protection to Couplings, Joints and Flanges (New Sub-Clause)**

Each steel or cast-iron coupling, joint or flange and valve, where scheduled, shall be protected by an approved "Denso" or equal approved anti-corrosion system. See PSL 8.2.15

**PSL 3.11 Manholes and Surface Boxes****PSL 3.11.1 Bricks**

Delete the first sentence and substitute:

Bricks for manholes and surface boxes shall be engineering bricks type FBSE 30 or better, with a water absorption not exceeding 10% and complying with the applicable requirements of SABS 227.

**PSL 3.11.5.1 Manhole Covers**

Delete the Sub-Clause and substitute:

Manhole covers shall comply with SANS 558 for the types shown on the drawings and/or in the Schedule of Quantities.

**PSL 3.11.7 Sand (New Sub-Clause)**

Sand used for mortar (general purpose and for plaster (external)) shall comply with the applicable requirements of SABS 1090.

**PSL 3.11.8 Cement (New Sub-Clause)**

The cement used on the Works shall be Ordinary Portland Cement complying with the requirements of SABS 471 (or the equivalent in accordance with SABS ENV 197-1).

**PSL 4 PLANT****PSL 4.4 Packing (New Sub-Clause)**

Goods should be suitably packed in such manner as will ensure safe and efficient transport by road or rail, and the Contractor shall include in his prices for whatever packing may be necessary in this respect. Small items particularly liable to damage or loss in transit should be crated. All crates and packing material shall, after use, become the property of the Employer, unless distinctly specified otherwise, or if returnable, shall be so at the Contractor's expense.

**PSL 4.5 Protection of Linings during Transportation (New Sub-Clause)**

The ends of every pipe, fitting and special shall be fitted with suitable end closures as a precautionary measure against damage being caused to the lining material. The end closures shall be capable of preventing the ingress of dirt and at the same time allowing air to ventilate through the pipework which they protect but without drying the linings out (in the case of cement mortar lined pipes) so as to cause them to crack. They shall be secured in such a manner that they cannot be dislodged or damaged by normal pipe handling operations.

**PSL 5 CONSTRUCTION****PSL 5.1 Laying****PSL 5.1.1 General**

Add to the Sub-Clause:

The Contractor will be responsible for clearing the areas required for pipe storage that shall include the removal of rock, stones and all combustible material. He shall also be responsible for maintaining the area in a clean and tidy condition for the duration of the Contract.

Upon delivery of the pipes, fittings, specials and valves, these will be inspected jointly by the Employer's Agent's Representative and the Contractor. Any pipes, etc, found to be damaged shall be returned to the factory for repair or replacement; in which case the costs of additional transport, repair or replacement shall be borne by the Contractor.

The Contractor will be held fully responsible for the care and safety of all pipes and fittings, etc, on site, and shall bear the cost of all renewals, which may be necessary to make good losses, damages or breakages. Furthermore, he shall be fully responsible for handling and re-loading material at the storage areas and for transporting and offloading of all such materials to the Site of the Works.

**PSL 5.1.1.1 Distribution of Material (New Sub-Clause)**

Before commencing pipe laying, the Contractor shall properly distribute pipes, fittings and specials, along the trenches. Valves and couplings shall not be distributed until they are actually required for laying in their designed position.

**PSL 5.1.1.2 Prevention of Fire Damage to Pipes (New Sub-Clause)**

The Contractor shall be responsible for protecting pipes etc from fires at all times. He shall keep grass cut short in the vicinity of all unlaidd pipework items.

#### **PSL 5.1.1.3 Pipe laying Personnel (New Sub-Clause)**

The laying of all pipework items shall be performed only by qualified and experienced persons or who are registered as artisans in the plumbing, pipefitting or drain laying trades or who are qualified by reason of having attended and passed the course on pipe laying of the Civil Engineering Industry Training Board.

#### **PSL 5.1.1.4 Inundation of Pipe Trenches and Floating of Pipes (New Sub-Clause)**

Should trenches be inundated by water, there is a risk of movement of the pipes by flotation. The Contractor shall ensure that trenches are not flooded by storm water and that pipes laid in the trench are backfilled as soon as possible after laying, except at joints made with couplings or flanges which must be kept visible until the pipeline has been satisfactorily tested.

Should movement of the pipes occur, the Contractor shall remove the pipes from the trench and thoroughly clean and relay the pipes. This work shall be carried out at the Contractor's expense.

### **PSL 5.2 Jointing Methods**

#### **PSL 5.2.2 Flanged Joints**

Add to the Sub-Clause:

Before being brought together, the ends of the pipes, fittings, couplings and all flanges are to be inspected and cleaned to ensure that all parts forming the joint are undamaged and clean.

When jointing flanges, the faces shall be cleaned thoroughly and approved jointing material (rubber or similar approved), cut properly to size, is to be inserted immediately before bringing the two flanges together. Before closing the joints, the flanges must be parallel to each other, with all bolts inserted in the bolt holes. After the fittings have thus been aligned and well supported, the joint shall be bolted up to a uniform tightness. Jointing material shall be flush with, or protrude beyond, the outer circumference of the flange. On completion of the joint, the flanges and bolts shall be protected as described in Clause PSL 3.9.6.

#### **PSL 5.2.3 Site Welded Joints**

Add to the Sub-Clause:

Plain ended butt-welded steel pipes and the plain ends of corresponding pipes or specials are to be joined together by welding in accordance with American Standard API 1104:1964. The pipe ends are to be prepared in accordance with that Standard. Welding shall generally commence at the top of the joint and proceed downwards. In addition to the root weld, at least two further passes shall be made; none of which is to exceed 3mm in depth.

The Employer's Agent shall have the right to specify that Qualification Tests to be carried out (at the Contractor's expense) for each welder employed on the works. No welder shall be employed who has not passed such tests and for whom a recent pass certificate issued by a

competent authority cannot be produced.

Site-welded butt joints are to be tested by radiographic examination and/or other approved method (e.g. dye penetration) as ordered by the Employer's Agent who will also make the necessary arrangements for such tests to be carried out.

Site welded fillet joints (for sleeved or "bell-end" pipes) are to be tested by dye penetration tests as ordered by the Employer's Agent who will make the necessary arrangements for such tests to be carried out.

In the event of any welded joint proving unsatisfactory when the pipeline is subjected to the radiographic, dye penetration or hydraulic tests, the Contractor shall be held responsible for all costs involved in repairing the joint or cutting it out and welding in a new section of pipe, as may be ordered by the Employer's Agent, thereafter, restoring the lining and wrapping, if these have become damaged, all to the satisfaction of the Employer's Agent.

After jointing and testing, the protective lining and wrappings are to be rendered continuous in the manner specified. Holiday detection tests shall be carried out in the field to ensure continuity of lining and wrapping.

#### **PSL 5.2.5 Flexible Coupling Joints (New Sub-Clause)**

Where ordered, steel flexible couplings are to be of the "Viking Johnson"/"Klamflex" or similar approved type without central registers, each comprising one centre collar, two special flanges, two rubber rings and electro-galvanised mild steel bolts.

Adaptor couplings shall be of a similar design, but one end shall be flanged to enable connection of plain ended pipes to flanged specials.

Steel couplings shall be assembled strictly in accordance with the manufacturer's instructions. On completion of testing and continuity bonding, the entire joint shall be protected as described in Clause PSL 3.9.6.

The tendered prices for laying and jointing are to include for the supply of all necessary materials, plant and labour to complete the joint.

#### **PSL 5.2.6 Cut Pipes (New Sub-Clause)**

Cut Pipes may be used where required as closure lengths. The cut ends shall be dressed square and to a smooth even finish which shall not be inferior to that of the ends of uncut pipes. The finished dimensions of ends cut at Site must be within the tolerances applicable to the ends of the particular types of pipe to be laid. The cost of cutting and trimming of pipes shall be included in the rates tendered for laying and jointing pipes.

#### **PSL 5.3 Setting Valves, Specials and Fittings**

Add to the Sub-Clause:

Valves are to be set correctly in the positions indicated and supported on concrete stools, except where not so required by the Employer's Agent. Valve spindle guide brackets and stays where provided shall be secured into position against concrete work and these must be set and

carefully adjusted in order to give true vertical alignment of the spindle.

#### **PSL 5.4 Concrete Casing**

In the first and second lines delete "a strength 15 MPa/37,5 mm or such other strength as scheduled" and substitute "concrete grade 20/19".

#### **PSL 5.5 Anchor/Thrust Blocks and Pedestals**

In the fourth line delete "15 MPa/37,5 mm" and substitute "20/19"

#### **PSL 5.6 Valves and Hydrant Chamber**

##### **PSL 5.6.2 Delete the references to drawings L1, L2 and L3 and substitute "EWS Standard Drawings"**

##### **PSL 5.7.1 Manholes**

Add to the Sub-Clauses:

Drawings showing details of the manholes are indicated on EWS standard drawings.

##### **PSL 5.8 Brickwork in Chambers and Manholes**

Delete the eleventh line and substitute the following:

Mortar for brickwork and plasterwork shall be composed of one part of cement to four part of sand.

Twelfth and thirteenth lines to be deleted.

Add to the Sub-Clause:

Plaster is to be applied in one coat not less than 12 mm in thickness.

#### **PSL 6 TOLERANCES**

##### **PSL 6.2 Control Points**

In the third line delete "+ 100 mm" and substitute:

± 50 mm provided that there shall be no reversal of gradients and provided that, in those areas where gradients shown on the drawings is less than 1%, the permissible deviation will be ± 25 mm.

##### **PSL 6.3 Alignment (Plan and Level)**

In the third line delete "+ 100 mm or + 20%" and substitute "+ 50 mm or + 10%".

In the fourth line delete "+ 20 mm" and substitute "+ 10 mm".

In the sixth line delete "+ 50 mm or + 10%" and substitute "+ 25 mm or + 5%"

#### **PSL 7 TESTING**

**PSL 7.2.1 Dye-Penetrant Test**

Add to the end of the third line of the Sub-Clause:

Every fillet weld in steel pipes and specials shall be subjected to a dye penetrant test as specified below whilst all butt welds shall be subjected to radiographic examination, all of which shall be carried out by an approved firm of inspectors and approved inspection personnel.

**PSL 7.2.2 Radiographic Examination**

Add to the end of the Sub-Clause the words "as amended".

**PSL 7.2.3 Radiographic Testing in the Field (New Sub-Clause)**

10% of all butt welds and 30% of all fillet welds (if applicable) made in the field shall be tested radiographically by an independent specialist firm. The welds to be tested shall be selected by the Employer's Agent or his representative. The standard of acceptance shall be in accordance with API Standard 1104.

Should the welds so tested prove to be unacceptable, they shall be repaired by the Contractor and retested. In addition, the two nearest untested welds, one on each side of the unacceptable weld, shall also be tested radiographically. Should these welds also prove to be unsatisfactory, two further welds shall be tested. Such testing will be repeated until all welds are found to be acceptable.

The cost of testing up to a maximum of 12% of all field welds will be borne by the Employer, but the costs of testing and retesting over and above that percentage shall be borne by the Contractor.

**PSL 7.3.1 Test Pressure and Time of Test**

Delete second line of Sub-Clause 7.3.1.1 and substitute the following:

attained the strength specified in terms of Sub-Clause 5.5.

**PSL 7.3.1.2 Delete this Sub-Clause****PSL 7.3.1.3 Delete the Sub-Clause and substitute the following:**

The field test pressure applied to any section of the pipeline under test, taking differences in elevation along the pipeline into account, shall be such that the pressure at any point along the section under test shall not exceed the appropriate of the values set out in Sub-clause 7.3.1.4 and that the minimum pressure shall be not less than the design (working) pressure.

**PSL 7.3.3 Permissible Leakage Rates (Sub-Clause 7.3.3)**

Delete the title of Sub-Clause and substitute the following:

Permissible Make-up Water

**PSL 8 MEASUREMENT AND PAYMENT****PSL 8.2.1 Supply, Lay and Bed Pipes Complete with Couplings**

Delete the sub-clause and substitute:

"Supply, lay and bed pipes complete Unit: m or No

Pipes, bends, specials, fittings, valves, etc will be measured per metre or by number as scheduled.

The rates shall cover the cost of the provision of the pipes or bends or fittings, or valves or specials as scheduled complete with couplings or sleeves if applicable, coating and lining, handling, inspecting, marking fittings and specials with item numbers, transporting, holiday detection testing for steel pipes, forming joint holes in all materials, bedding, laying, welding, jointing, cutting, all testing and disinfecting and where relevant all welding and the completion of the internal and external corrosion protection (make good) and jointing materials (e.g. nuts, bolts, washers, gaskets, welding rods etc)."

**PSL 8.2.11 Anchor/Thrust Blocks and Pedestals**

Delete the last line and substitute the following:

formwork, concrete, reinforcement (if any), and screeding to top surfaces.

**PSL 8.2.15 Corrosion Protection**

Delete the Sub-Clause and substitute the following:

Payment for corrosion protection of joints shall cover the cost of the provision and fixing of the sheathing/wrapping in accordance with suppliers specification for buried fittings and the cost of any delay and inconvenience caused by the requirement to sheathe/wrap. Separate items will be scheduled for each type and size of joint to be protected Unit : No

Payment for corrosion protection of valves shall cover the cost of the provision and fixing of the sheathing/wrapping in accordance with suppliers specification for buried fittings and the cost of any delay and inconvenience caused by the requirement to sheathe/wrap. Separate items will be scheduled for each type and size of valve to be protected, and the rate shall include for protection of the whole of the valve body, all flanges integral to the valve, the connecting flanges to the valve (i.e., including the two flanges of the pipework connected to either side of the valve) and the packing of mastic (without tape or sheathing) over the gland adjusting bolts and nuts  
Unit: No

**PSL 8.2.16 Cut Pipes (New Sub-Clause)**

Extra over for cutting of pipe Unit: No

The rate shall cover the cost of the cutting of the pipe and all making good of lining and coating, welding, testing and forming joint holes in all materials.

**PSL 8.2.17 Connecting to Existing Pipeline (New Sub-Clause)**

"Connecting to existing pipeline Unit: No.

The rates for connecting to existing pipelines and proposed flanged connections shall cover the cost of exposing the existing pipeline (or blank flange), cleaning and preparing the pipe for cutting, cutting and preparing the pipe ends for jointing, jointing (or removing the existing blank flange and connecting the new pipework), testing and recommissioning the pipeline including all bedding and backfilling and making arrangements with the Employer's staff to temporarily shut off the existing pipeline whilst effecting the connection(s).

**PSL 8.2.18 Extra-over for laying pipes through uPVC pipes Class 34 Solid wall (heavy duty) pipe sleeves at road crossings**

Add new Sub-Clause:

The unit of measurement is per linear metre. The rate is an extra over rate to the supply and laying of pipes. The contractor shall lay all water pipes at road crossings inside a uPVC class 34 sleeve. The rate shall include the lay and all jointing of the pipes going into the sleeves.

**PSL 8.2.19 Temporary house and property water connections, including rider main design and connection to existing mains.**

Add new Sub-Clause:

The rate will be per temporary house connection and per size (diameter) of house connection, irrespective of the service duration per connection. The temporary house connections shall maintain the existing level of service prior to the temporary connection. The contractor will be responsible for the design, supply of pipes fittings and valves and any other material and equipment required for the temporary connection, and the connections itself. All pipework will be disinfected before connection. The contractor shall maintain the temporary connection until the permanent connections is restored. The rate will also include the temporary connection to mains and all the necessary arrangements with council for the temporary closing of valves and isolating of parts of the network.

Where no temporary house connections are applicable for a particular rider main and there no direct connections to be measured for payment purposes, the average number of house connections per meter of existing water main will be used to calculate the number of temporary connections for payment purposes.

**PSL 8.2.20 House Connection**

Add new Sub-Clause:

The rate will be per House connection number (No.) and per diameter. The house connection will include all the pipe work and fittings as per plan No 75 Rev A of the eThekweni Design branch. The rate will include the supply and installation of all pipework, fittings and valves as indicated on the drawings up and until the meter box and irrespective of the distance from the main line.

**PSL 8.2.21 Recovered fittings and /or Valves from clearing operation**

Add new Sub-Clause:

The rate is per number of fittings or valves (No.). The rate shall include the cleaning of fittings

prior to installation, the installations of the fittings for all diameters and types. The rate will also include new gaskets where required and new nuts and bolts.

#### **PSL 8.2.22 Pressure Testing and disinfection of existing pipe (in-situ)**

Add new Sub-Clause:

The rate is per meter of pipe (m). The rate will include the pressure testing and disinfection of existing pipes as per Clause 5.10 and 7.3. of SANS 1200 L.

#### **PSL 8.2.23 CCTV inspection of pipes**

Add new Sub-Clause:

The rate is per meter of pipe (m) for different diameters. The rate will include the supply and use of CCTV equipment and reporting on the condition and integrity of existing pipes.

### **PSL 9 DRAWINGS L-1, L-2 AND L-3**

#### **PSL 9.1 References to mortar mixes to read:**

1 to 4 mortar

#### **PSLB: BEDDING (PIPES) (Applicable to SABS 1200 LB - 1983)**

#### **PSLB 2.3 DEFINITIONS**

Main fill:

Delete "150mm" in second line and substitute "300mm".

#### **PSLB 3 MATERIALS**

##### **PSLB 3.1 Selected Granular Material**

In the second line delete "19mm" and substitute "10mm".

Add to the Sub-Clause:

The maximum compatibility factor shall be 0,4.

##### **PSLB 3.2 Selected Fill Material**

In the second line delete "30mm" and substitute " 20mm".

##### **PSLB 3.3 Bedding**

Add to the Sub-Clause:

All pipes under this Contract will be considered as being rigid pipes and the bedding shall be of

Class C (Drawing LB-1) except that joint holes (pockets) shall be provided in the bedding, as per Drawing LB-2, at each pipe joint or coupling. No sharp-edged stones shall be allowed to come into contact with either the pipes or the couplings (joints). No extra payment will be made for forming joint holes (pockets).

#### **PSLB 3.4 Selection**

##### **PSLB 3.4.1 Suitable Material available from Trench Excavation**

Delete the Sub-Clause and substitute the following:

The excavation of a pipe trench shall comply with the requirements of Sub-Clause 5.4 of SABS 1200 DB and the provisions of Sub-Clause 3.7 of SABS 1200 DB shall apply.

#### **PSLB 5 CONSTRUCTION**

##### **PSLB 5.1 General**

Add to the Sub-Clause:

All pipelines are to be bedded and protected in accordance with the details described in PSLB 3.3 except in certain sections where Class A bedding or stone bedding (as a drainage layer) or concrete encasing is to be provided where ordered by the Employer's Agent.

##### **PSLB 5.1.2 Details of Bedding**

Add to the Sub-Clause:

The pipelines are to be laid on the class of bedding indicated in the Bill of Quantities and/or on the drawings.

##### **PSLB 5.1.4 Compacting**

Delete the second line and substitute:

top of the pipeline) shall be 100% of Proctor maximum density.

##### **PSLB 5.1.5 Testing (New Sub-Clause)**

All joints shall be left exposed with a minimum of 100 mm clearance around the bottom of the pipe during hydraulic pressure testing of the pipe.

#### **PSLB 5.2 Placing and Compacting Rigid Pipes**

##### **PSLB 5.2.2 Class 'C' Bedding**

Delete the third, fourth and portion of the fifth lines and substitute the following:

The pipes shall be bedded on a layer of compacted granular bedding material on which a 25 mm thick layer of uncompacted granular bedding material has been placed and spread. Loose granular bedding material lying next to the pipe shall be placed into the haunch area and

compacted with suitable hand tools, and additional selected granular material shall be added and compacted in layers until levels for the bedding cradle as shown on Dwg LB - 1 (c) are reached. The remainder of the bedding i.e. the selected fill blanket, shall be placed in layers up the sides of the pipe, each layer being compacted until levels are reached as shown on Dwg LB-1 (c).

#### **PSLB 5.2.5 Stone Bedding (New Sub-Clause)**

In areas where waterlogged conditions exist or where ordered by the Employer's Agent, special drains consisting of a 150 mm thickness (See PSDB 5.5) of single sized stone with a geo-fabric filter surround ("Bidim" Grade A4 or similar approved) extending the full width of the trench shall be provided below the bedding to the pipes. The excavation for these drains will be measured in cubic metres at the contract rate applying to unsuitable excavation below the bottom of the trench. The stone filling will be paid for per cubic metre and the geo-fabric filter will be paid for per square metre. All measurements in this connection will be to a width equal to the base widths and depths ordered.

#### **PSLB 5.2.6 Rock fill (Pioneering layer) (New Sub-Clause)**

In areas where waterlogged conditions exist or where ordered by the Employer's Agent, a special fill layer shall be placed at the trench bottom consisting of rock with a maximum size of 100 mm, extending the full width of the trench shall be provided below the bedding to the pipes. The excavation for these drains will be measured in cubic metres at the contract rate applying to unsuitable excavation below the bottom of the trench. The rock fill layer will be paid for per cubic metre. All measurements in this connection will be to a width equal to the base widths and depths ordered.

#### **PSLB 5.3(b) Selected Fill Blanket**

Delete "200 mm" from title.

#### **PSLB 6 TOLERANCES**

##### **PSLB 6.1 Moisture Content and Density**

Add to the Sub-Clause:

The permissible deviations applicable are to be those for Degree of Accuracy II class of work.

#### **PSLB 8 MEASUREMENT AND PAYMENT**

##### **PSLB 8.1.3 Volume of Bedding Materials**

Add to the Sub-Clause:

(c) The volume of bedding material shall be measured net i.e. the volume of the pipe is to be deducted.

##### **PSLB 8.1.6 Free haul**

Delete the Sub-Clause and substitute the following:

---

All haul will be regarded as free haul. No overhaul will be paid for under this Contract.

**PSLB 8.2.2.3 Provision of Bedding from commercial sources**

Including for screening and/or other treatment:

- |     |                            |          |
|-----|----------------------------|----------|
| (a) | Selected granular material | Unit: m3 |
| (b) | Selected fill material     | Unit: m3 |
| (c) | Stone bedding (PSLB 5.2.5) | Unit: m3 |
| (d) | Rock fill (PSLB 5.2.6)     | Unit: m3 |

The rates shall cover the cost of acquiring, loading, transporting, offloading, screening or otherwise treating excavated material in order to produce bedding that complies with the relevant specification, delivering it to points alongside the trench spaced to suit the Contractor's methods of working and of disposing of displaced material.

NOTE: The rate for the supply and laying of pipelines covers the cost of handling the bedding material from alongside the trench, placing it under the pipeline, forming joint holes and completing the bedding around and over the pipeline.

**PSLE: STORMWATER DRAINAGE**  
**(Applicable to SABS 1200 LE - 1982)**

**PSLE 8 MEASUREMENT AND PAYMENT**

**PSLB 8.2.14 Join subsoil drains to existing storm water manholes and repair (New sub-clause)**

The unit of measurement shall be number of connections to existing manholes (No.). The rate shall include the tie-in into existing manholes, and neatly repairing the manholes around the tie-in with bricks and grouting. Clause PSL 5.8 shall apply.

**PSMK: KERBING AND CHANNELING**  
**(Applicable to SABS 1200 MK - 1983)**

**PSMK 8 MEASUREMENT AND PAYMENT**

**PSMK 8.2.1 Concrete Kerbing**

Delete the following:

“a) Straight and curved kerbing will be measured separately”

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**C3.4: PARTICULAR SPECIFICATIONS**

In addition to the Standardized and Project Specifications the following Particular Specifications / Policies shall apply to this contract:

- C3.4.1 Part AH - OHS 1993 Safety Specification  
(26 Pages)
- C3.4.2 eThekweni Municipality – Project Specific Health and Safety Specification – WS7557  
(20 Pages)
- C3.4.3 eThekweni Municipality – Water Mains Replacement – WS7557 – Baseline Risk Assessment  
(11 Pages)
- C3.4.4 Standard Environmental Management Plan for Civil Engineering Construction Works  
(24 Pages)
- C3.4.5 eThekweni Municipality's (City of Durban) Standard Engineering Specifications Part S  
(Reinstatement) (8 Pages)
- C3.4.6 Trenchless construction works Part TT3: Horizontal directional drilling (33 Pages)
- C3.4.7 eThekweni Municipality Project Specifications – Excavation and Reinstatement of trenches  
and roads and sidewalks in the EMA Areas – Revision 23 October 2020 (11 Pages)
- C3.4.8 Government Gazette: Regulation Gazette No 7276: Asbestos Regulations, 2001 – Revision  
10 February 2002
- C3.4.9 Technical Specifications for Gate Valves 27-08-12

**C3.5: CONTRACT AND STANDARD DRAWINGS****C3.5.1 CONTRACT DRAWINGS / DETAILS**

Contract WS7723:

<b>Drawing Number</b>	<b>Drawing Name</b>
60416/001 – SHT1/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D-OVERALL LAYOUT PLAN
60416/002 – SHT2/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/003 – SHT3/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/004 – SHT4/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/005 – SHT5/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/006 – SHT6/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/007 – SHT7/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/008 – SHT8/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/009 – SHT9/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/010 – SHT10/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN
60416/011 – SHT11/11 – Rev 00	PHOENIX 1 RESERVIOR SUBZONE 37D- LAYOUT PLAN

### C3.5.2 STANDARD DRAWINGS

The Standard Drawings to which these Standard Engineering Specifications refer are listed below.

No	Description	Date of Issue	
#6	Precast Spacer Ring	July	2005
#9	Project Information Board – Rev 1	August	2002
#17	Connection Detail (no ball valve)	June	2007
#20C	Double Hydrant	January	2022
#23E	Standard Hydrant with mPVC Duck Foot Bend	January	2009
#25B	Standard Hydrant with Plasson Bend	January	2009
#26B	110 mm Ø Hydrant	January	2009
#27	Precast Concrete Valve Marker	November	2004
#28	No 5B Valve Cover	---	---
#39	mPVC Thrust Blocks	March	2005
#67	22.5-degree mPVC Bend	January	2006
#68	45-degree mPVC Bend	January	2006
#69	90-degree mPVC Bend	January	2006
#70	22.5 degree "AQUALOK" Socketed Bend	January	2006
#71	45 degrees "AQUALOK" Socketed Bend	January	2006
#72	90 degree "AQUALOK" Socketed Bend	January	2006
#73	Equal Tee	May	2006
#74	End Cap	January	2006
#75B	Saddle Revision B	January	2006
#76	Hydrant Tee – Various pipe sizes	January	2006
#77	Flange Adaptor	January	2006
#78	Universal Flange Adaptor	May	2006
#79	"AQUALOK" Step-fit Coupling	September	2006
#80	Taper Flanged	May	2006
#81	Universal Coupling	September	2006
#118	Typical Watermain Pipe Duct for Road Crossings	July	2019
38577	Kerbing Details	December	1995
043228	Details of Type 1 50mm BG PRV Chamber	September	2009
043717	Details of Type 1 75mm PRV Chamber – Rev 8	August	2011
043718	Details of Type 1 100mm PRV Chamber – Rev 6	August	2011
043719	Details of Type 1 150mm PRV Chamber – Rev 5	August	2011
045005	GRP Access Ladder	May	2002
04583	In-Line Dirt Trap	January	2014
052736	75mm Underground PRV Chamber – Sheet 1	January	2010
052736	100mm Underground PRV Chamber – Sheet 2	January	2010
052736	150mm Underground PRV Chamber – Sheet 3	January	2010
71885	Details of 200mm PRV Meter & Brick Kiosk	August	2011
72056	50 mm Consumer Meter Connection – REV-A	January	2008
72056	80 mm Consumer Meter Connection – REV-A	January	2008
72056	100 mm Consumer Meter Connection – REV-A	January	2008

No	Description	Date of Issue	
72056	150 mm Consumer Meter Connection – REV-A	January	2008
72056	200 mm Consumer Meter Connection – REV-A	January	2008
TD-D-RD-1001	Type E (V-drain details)	September	2014
TD-D-SD-1001	Subsurface Drainage	June	2015
TD-D-SD-1002	Type A (Outlet Structure Details)	June	2015
#200	HDPE Road Crossing Detail (HDPE sleeve & Pipe)	May	2022
#201	HDPE to PVC Connection	February	2022
#202	Hydrant Tee Thrust Block Detail	February	2022

**C3.6: ANNEXURES**

**C3.6.1 Locality Map (Download Link Provided)**

[C3.6.1 Locality Map](#)

**C3.6.2 Tender Drawings (Download Link Provided)**

[C3.6.2 Tender Drawings](#)

**C3.6.3 Particular Specifications (Download Link Provided)**

[C3.6.3 Particular Specifications](#)

## C3.7 ENGINEERING

### C3.7.1 Design Services and Activity Matrix

The following table indicates the design responsibility for the relevant components of the works:

<i>Item / Component of Works</i>	<i>Design Responsibility</i>
Concept, feasibility and overall process	Employer
Basic Engineering and detail layouts to Tender stage	Employer
Final design to approval for construction	Employer
Temporary works <ul style="list-style-type: none"> <li>• Rider main and temporary water connections</li> <li>• Access to properties over trenches</li> </ul>	Contractor Contractor
Compilation of as-built information (survey, GIS and marked up drawings)	Contractor
Preparation of as-built drawings	Employer

The Employer is responsible for the design of the permanent Works as reflected in the Contract Documents unless otherwise stated.

The Contractor is responsible for the design of the temporary Works and their compatibility with the construction sequencing and permanent Works; and The Contractor shall supply all details necessary to assist the Employer's Agent in the compilation of the as-built drawings including co-ordinates of position, invert and cover levels, dimensions, materials (especially valves and fittings) etc.

### C3.7.2 Employer's Design

The Employer has procured the services of Naidu Consulting (Pty) Ltd. to undertake design and preparation of construction documentation, and as-built drawings on their behalf. The construction drawings will be issued in accordance with the contract and relevant specifications.

The works are designed in accordance with the relevant eThekweni Water and Sanitation Design Guidelines and the relevant supporting Codes, National Standards and Bylaws.

### C3.7.3 Contractor's Design

The design of Temporary Works by the Contractor shall include working drawings supported by a Professional Engineer's design certificate. They shall also include a method statement describing the construction process and removal thereof where necessary, mitigation measures and safety.

The Contractor is required to sequence the construction activities. Earthworks must commence with the removal and stockpiling/spoil of topsoil. Trench excavations are to be carried out so as to make best use of the excavated materials. Suitable surplus material from trench excavation may be used as fill for other trench excavations with the prior approval of the Employer's Agent. The contractor will need to programme for lead time in supplies (e.g., valves from local suppliers). The contractor is further responsible to design rider mains for temporary water supply to customers during the installation of water mains. Rider mains are defined as temporary mains that are laid, generally parallel to existing mains earmarked for replacement, to allow the functionality of maintaining the supply from Point A to Point B while the existing water main is being replaced in position by a new line. The rider main will typically have multiple temporary customer connections connected to it which will be transferred back to the new line once constructed and commissioned. The rider main may in certain circumstances have no customer connections as well, where it is required to replace a watermain section that may not have any existing customer off-takes

### C3.7.4 Drawings

The Contractor shall use only the dimensions stated in figures on the Drawings in setting out the Works, and dimensions shall not be scaled from the Drawings, unless instructed by the Employer's Agent. The Employer's Agent will, on the request of the Contractor in accordance with the provisions of the Conditions of Contract, provide such dimensions as may have been omitted from the Drawings.

The Drawings prepared by the Employer for the permanent Works are listed under Section C3.5.1. The drawings are for tender purposes only and the Employer reserves the right to issue construction drawings and/or additional drawings which may be amended during the Contract.

The Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the Contract. The position of pipe bends, valves and fittings shall be given by co-ordinates. The information required in the material as-builts must be supplied to the Employer's Agent. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Employer's Agent's Representative on a regular basis.

All information in possession of the Contractor, required by the Employer's Agent and/or the Employer's Agent's Representative to complete the as-built drawings, must be submitted to the Employer's Agent's Representative as a hard copy drawing as well as electronic drawings and records of the relevant survey information, before a Certificate of Completion will be issued.

**C3.8 PROCUREMENT, PARTICIPATION & EMPOWERMENT****C3.8.1 Preferential Procurement / Targeted Enterprises / Participation & Empowerment****C3.8.1.1 Preferential Procurement**

The Contractor shall ensure, to the best of his ability, that: all Plant, Materials and Equipment purchased or hired in respect of this contract is purchased or hired from enterprises as local to the vicinity of the work (project) as practically possible.

The Contractor shall report details of all expenditure in respect of preferential procurement as required by the contract, specifications or instruction of the Employer's Agent, in the formats and at the intervals required by the Employer's Agent.

**C3.8.1.2 Participation and Empowerment / Targeted Enterprises**

The participation of targeted enterprises in this contract shall be in accordance with the requirements of the Employer and are detailed below.

<b>Targeting Data</b>	<b>Data</b>
<b>Essential Data</b>	
The employer's representative is	As set out in Part C1.2 Contract Data, item 1.1.1.16
Targeted enterprise	<p><b>For 30% of the total participation goal in 3.1:</b> A sole trader, partnership or legal entity which is a continuing and independent enterprise for profit, and which is:</p> <ul style="list-style-type: none"> <li>(i) an EME or QSE which is at least 51% owned by black people; or</li> <li>(ii) an EME or QSE which is at least 51% owned by black people who are youth; or</li> <li>(iii) an EME or QSE which is at least 51% owned by black people who are women; or</li> <li>(iv) an EME or QSE which is at least 51% owned by black people with disabilities; or</li> <li>(v) an EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships; or</li> <li>(vi) a cooperative which is at least 51% owned by black people; or</li> <li>(vii) an EME or QSE</li> </ul> <p><b>AND</b> which is based in the eThekweni Municipal Ward within which the contract is being performed (Ward 72); provided that: if this cannot be achieved due to insufficient entities being based in the Ward concerned then any such entity from the list that resides or is registered within the boundary of the eThekweni Metro.</p>
The targeting strategy is	Targeting Strategy, A Item (b) requires a contractor to achieve a minimum specified goal in the performance of a contract
The contract participation goal is	<b>30%</b>
A contractor may achieve the contract participation goal by	Method 3 By engaging one or more targeted enterprises to perform commercially useful functions in the performance of the contract.
The targeted enterprise declaration and letters of undertaking shall be submitted within	6 weeks of the commencement date of the contract or before the first submission for payment, whichever is earlier.

<b>Targeting Data</b>	<b>Data</b>
Supporting documentation shall be delivered to the employer's representative	On a monthly basis, as instructed by the employer's representative and in any case prior to each submission for payment
<b>Additional Clauses</b>	
Sanctions	The penalty for not achieving the target CPG will be 0.5% of the contract value (excluding PC Sum items and Fixed Cost allowances) for every 1% of CPG target not achieved.

A key strategic objective of this project is the **maximization of the project spend within the target areas, by utilizing people and business enterprises which reside in the target areas**. Accordingly, in addition to its normal function and duties, the Contractor is expected to undertake, inter alia, the following tasks:

- Recruitment of targeted enterprises and people, utilizing a structured, fair, transparent and equitable process.
- Verification of permanent residential addresses of local labour to be employed on the project.
- Verification of statutory compliance of targeted enterprises in respect of Company Registration, Fair Labour Practices, Compensation Commissioner, OHS Compliance, SARS, CSD Registration, B-BBEE Status, etc. including ongoing compliance monitoring.
- Setting up of steering committees incorporating the local councillors, municipal officials, CLO, etc. as may be required by the Employer or Employer's Agent or otherwise by this contract.
- Acting as the secretariat for the steering committees including the provision of the venue for steering committee meetings.
- Any other task deemed necessary to ensure success in respect of achieving the CPG Targets
- The Contractor will be awarded 2% CPG participation if he advertises for CPG partners in the local wards where the construction work under this project will be undertaken.

### **C3.8.2 Subcontracting & Subcontracting procedures**

All sub contacting shall be in accordance with the Conditions of Contract

The terms of sub-contract agreements shall be no more onerous than the terms set out in this Contract, except where this is naturally required by the Contract / Sub-contract arrangements (for example, the period for response in the sub-contract may be suitably shorter than the period for response required by this contract).

All matters pertaining to subcontractors and the work executed by them shall be dealt with directly between the Employer's Agent and the Contractor in the context of all subcontract work being an integral part of the Works for which the Contractor is responsible.

The Employer's Agent will not liaise directly with any subcontractors nor will he issue instructions concerning the subcontract works directly to any subcontractor. All matters arising from the subcontract agreements shall be dealt with directly between the Contractor and the subcontractors and the Employer's Agent will not become involved.

The procedure for selection of subcontractors per clause 4.4.4 of the General Conditions of Contract, shall be that the Employer shall select one or more appropriate sub-contractors for the work concerned and the Contractor shall select and appoint the subcontractor from the resulting list. The contractor will still be liable for all subcontractors as per clause 4.4.5 of the General Conditions of Contract. The Contractor can also add an appropriate sub-contractor to the list providing that the proposed sub-contractor fulfils the requirements as set out below.

The requirements for subcontractors to be selected per clause 4.4.4 shall be that the subcontractors shall be able to undertake the work concerned in accordance with the

standards and specifications applicable to that work. If the employer has reasonable cause that a sub-contractor proposed by the Contractor does not fulfil the requirements, he may exclude the sub-contractor from the list at his own discretion.

### **C3.8.3 Mentorship Requirements / Construction Mentor**

The Contractor shall appoint or have in his employ a Construction Mentor. The Contractor shall ensure that the Construction Mentor is available for a minimum of 2 days per week to assist the targeted enterprise(s) and undertake mentorship activities as required by the Contract.

The Contractor shall ensure that all targeted enterprises appointed as subcontractors are supported, mentored and developed in accordance with the following requirements:

- Contractual understanding and management, particularly the GCC 2015 and the sub-contract.
- Financial management and handling of contractual and construction financial affairs, including cash flow, procurement, claim, invoicing and payment processes and similar.
- Understanding of construction related costing and pricing, including rate makeup and determination of costs and rates in accordance with the requirements of the subcontract(s).
- Construction and site management of general construction activities, particularly with a view to efficiency improvements and cost-effective operations.
- Management and operations in respect of Health and Safety and Environmental requirements.
- Management and business operations in respect of staffing and the appointment of appropriate and relevant staff to meet the subcontract requirements.
- Understanding of the specific scope, procedures and specifications applicable to this project, the contract and sub-contract(s).

The Construction Mentor is additionally required to assist the targeted enterprises to:

- Register or re-register and/or update enterprise information with the CIDB in the appropriate gradings and categories.
- Register or re-register or ensure registration and/or enterprise information is up to date with SARS in all relevant aspects (e.g., VAT, PAYE)
- Register or re-register or ensure registration is up to date with the Department of Labour (e.g., COID etc.)
- Ensure that all relevant works insurances, bonds and guarantees are in place relating to the performance of the subcontract(s).

### **C3.8.4 Performance Monitoring**

The Contractor is required to monitor the performance of each appointed sub-contractor (targeted enterprise) and report the performance to the Employer's Agent in formats and details as will be indicated from time to time by the Employer's Agent.

### **C3.8.5 Record Keeping and Reporting**

The Contractor shall keep comprehensive records of all aspects relating to targeted enterprise sub-contracts. In addition to all requirements specified elsewhere in the Contract, Specifications and Scope, the Contractor shall keep records of:

- All mentoring activities undertaken
- Any financial arrangements made between the Contractor and sub-contractor, such as deductions made for provision of materials from the Contractor's stores or similar for assistance with Plant & Equipment, any advance payments, any amounts withheld for any reason etc.

The Contractor shall report this information to the Employer's Agent in formats and details as will be indicated from time to time by the Employers Agent.

### **C3.8.6 Attendance on subcontractors and targeted enterprises**

All obligations and requirements in respect of the sub-contracting and targeted enterprise requirements are deemed to have been taken into account in the pricing of the Bill of Quantities and no claim from the Contractor will be entertained in respect of any of the items above.

**C3.9 CONSTRUCTION****C3.4.1 Site Establishment****C3.9.1.1 Services and facilities provided by the Employer****C3.9.1.1.1 Services**

The Employer will provide the Contractor with no services. The Contractor is to obtain the services from the relevant service authorities, and all necessary costs shall be included in the Preliminary and General items listed in the Bill of Quantities, as well as in the rates tendered by the Contractor for the various items in the Bill of Quantities which require the use of any of the services.

**C3.9.1.1.2 Area for Contractor's Site Establishment**

The contractor shall identify and arrange an area for establishment of site which is in close proximity of the works. The Contractor shall use this area only for the purposes of erecting his site offices, workshops, stores and other facilities required for the execution of the Contract. The Contractor shall not use the area nor allow it to be used for any purposes not directly associated with the execution of the Contract. The Contractor shall be responsible for arranging, at his own cost, for the provision of all services he may require in the area, as well as elsewhere on the Site.

**C3.9.1.2 Facilities provided by the Contractor****C3.9.1.2.1 Water**

The Contractor shall, at his own expense, be responsible for obtaining and distributing all water as may be required for the purposes of executing the Contract, including water for both construction purposes and domestic use, as well as for making all arrangements in connection therewith. The Contractor shall further, at his own expense, be responsible for providing all necessaries for procuring, storing, transporting and applying water required for the execution of the Contract, including but not limited to all piping, valves, tanks, pumps, meters and other plant and equipment, as well as for all work and superintendence associated therewith.

The sources of all water utilised for the purposes of the Contract shall be subject to the prior approval of the Employer's Agent, which approval shall not be unreasonably withheld.

The Contractor shall comply with all prevailing legislation in respect of drawing water from natural and other sources and shall, when required by the Employer's Agent, produce proof of such compliance. The distribution of water shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

All water provided by the Contractor for construction purposes shall be clean, free from undesirable concentrations of deleterious salts and other materials and shall comply with any further relevant specifications of the Contract. The Contractor shall, whenever reasonably required by the Employer's Agent, produce test results demonstrating such compliance. Water provided by the Contractor for human consumption shall be healthy and potable to the satisfaction of the health authorities in the area of the Site.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of water, the costs of which will be deemed to be included in the Contractor's tendered rates.

**C3.9.1.2.2 Electricity**

The Contractor shall, at his own expense, be responsible for obtaining and distributing all electricity as he may require for the purposes of executing the Contract, including electricity for both construction purposes and domestic use, as well as for making all arrangements in connection therewith.

The distribution of electricity shall be carried out by the Contractor strictly in accordance with the applicable laws and regulations.

No separate payment will be made to the Contractor for the obtainment, distribution and consumption of electricity, the costs of which will be deemed to be in the Contractor's tendered rates and prices.

#### **C3.9.1.2.3 Excrement disposal**

The Contractor shall, at his own expense, be responsible for safely and hygienically dealing with and disposing of all human excrement and similar matter generated on the Site during the course of the Contract, to the satisfaction of the Employer's Agent and the responsible health authorities in the area of the Site. Septic tanks are permitted provided they are outside of the wetland and flood line buffer strips.

The Contractor shall further comply with any other requirements in this regard as may be stated in the Contract.

No separate payment will be made to the Contractor in respect of discharging his obligations in terms of this sub clause and the costs thereof shall be deemed to be included within the Contractor's tendered Preliminary and General Items.

#### **C3.9.1.3 Site usage**

The contractor will not have exclusive use and access of the site and it will remain open to the general public. Provisions have been made in the Bill of Quantities for the accommodation of traffic and maintaining access to properties, as well as providing for all relevant Health and Safety obligations.

It is noted that the site may at times also be occupied by other contractors. For example (but not limited to), telecommunication providers may have contractors in the same area undertaking fibre network installation or the Employer may have his own contractors working on road infrastructure. The Contractor shall practically and reasonably work together with these contractors in order to ensure that any conflicts are speedily resolved and appropriately managed.

#### **C3.9.1.4 Features requiring special attention**

##### **C3.9.1.4.1 Site maintenance**

During progress of the work and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store materials and equipment for which he is responsible in an orderly manner and shall keep the Site free from debris and obstructions.

##### **C3.9.1.4.2 Testing and quality control**

###### **(i) Contractor to engage services of an independent laboratory**

Notwithstanding the requirements of the Specifications pertaining to testing and quality control, the Contractor shall engage the services of an approved independent laboratory to undertake all acceptance testing of materials, the results of which are specified in, or may reasonably be inferred from, the Contract. These results will be taken into consideration by the Employer's Agent in deciding whether the quality of materials utilised and workmanship achieved by the Contractor comply with the requirements of the Specifications. The foregoing shall apply irrespective of whether the specifications indicate that the said testing is to be carried out by the Employer's Agent or by the Contractor.

The Contractor shall be responsible for arranging with the independent testing laboratory for the timeous carrying out of all such testing specified in the Contract, at not less than the frequencies and in the manner specified. The Contractor shall promptly provide the Employer's Agent with copies of the results of all such testing carried out by the independent laboratory.

For the purposes of this clause, an "independent laboratory" shall mean an "approved laboratory" which is not under the management or control of the Contractor and in which the Contractor has no financial interest, nor which has any control or financial interest in the Contractor.

#### Additional testing required by the Employer's Agent

In addition to the provisions of sub clause C3.9.1.4.2 (i): Contractor to engage services of an independent laboratory, the Employer's Agent shall be entitled at times during the Contract to require that the Contractor arrange with the independent laboratory or independent laboratory specified by the Employer or the Employer's Agent to carry out any such tests, additional to those described in sub clause C3.9.1.4.2 (i), at such times and at such locations in the Works as the Employer's Agent shall prescribe. The Contractor shall promptly and without delay arrange with the independent laboratory for carrying out all such additional testing as required by the Employer's Agent, and copies of the test results shall be promptly submitted to the Employer's Agent.

#### (ii) Costs of testing

##### (a) Tests in terms of sub clause C3.9.1.4.2 (i)

The costs of all testing carried out by the independent laboratory in accordance with the requirements of sub clause C3.9.1.4.2 (i), above shall be borne by the Contractor and shall be deemed to be included in the tendered rates and prices for the respective items of work as listed in the Bill of Quantities and which require testing in terms of the Specifications. No separate payments will be made by the Employer to the Contractor in respect of any testing carried out in terms of sub clause C3.9.1.4.2 (i).

Where, as a result of the consistency of the materials varying or as a result of failure to meet the required specifications for the work, it becomes necessary to carry out additional tests (e.g., re-tests on rectified work and/or replacement materials), the costs of such additional testing shall be for the Contractor's account.

##### (b) Additional tests required by the Employer's Agent

The costs of any additional tests required by the Employer's Agent in terms of sub clause C3.9.1.4.2 (i): Additional testing required by the Employer's Agent, shall be reimbursed to the Contractor against substitution of the Provisional Sum allowed therefore in the Bill of Quantities; provided always that the costs of any such additional tests ordered by the Employer's Agent, the results of which indicate that the quality of the materials utilised and/or the standard of workmanship achieved are/is not in accordance with the specifications, shall not be reimbursable to the Contractor.

#### C3.9.1.4.3 Access to properties

The Contractor shall organise the work to cause the least possible inconvenience to the public and to the property owners adjacent to or affected by the work, and except as hereunder provided, shall at all times provide and allow pedestrian and vehicular access to properties within or adjoining or affected by the area in which he is working. In this respect the Contractor's attention is drawn to Clause 8.1.2 (GCC 2015) of the Conditions of Contract

If, as a result of restricted road reserve widths and the nature of the work, the construction of bypasses is not feasible, construction shall be carried out under traffic conditions to provide access to erven and properties. Provision has been made in the Bill of Quantities for temporary accesses over trench excavations.

Notwithstanding the foregoing, the Contractor may, with the prior approval of the Employer's Agent (which approval shall not be unreasonably withheld), make arrangements with and obtain the acceptance of the occupiers of erven and properties to close off part of a street, road, footpath or entrance temporarily, provided that the Contractor duly notifies the occupiers of the intended closure and its probable duration, and reopens the route as punctually as possible. Where possible, such streets, roads, footpaths and entrances shall be made safe and reopened to traffic overnight. Such closure shall not absolve the Contractor from his obligations under the Contract to provide access at all times. Barricades, traffic signs, drums and other safety measures appropriate to the circumstances shall be provided by the Contractor to suit the specific conditions.

#### C3.9.1.4.4 Existing residential areas

Water supply interruptions in existing residential areas shall be kept to a minimum. The Employer's Agent's approval shall be obtained prior to such interruptions and residents shall be notified in writing at least 24 hours but not more than 48 hours in advance. Supplies shall be normalised by 16:00 on the same day.

#### **C3.9.1.4.5 Monthly statements and payment certificates**

The statement to be submitted by the Contractor in terms of Clause 6.10 (GCC 2015) of the Conditions of Contract shall be prepared by the Contractor at his own cost, strictly in accordance with the standard payment certificate prescribed by the Employer's Agent, in digital electronic computer format. The Contractor shall, together with a copy of the digital electronic computer file of the statement, submit two (2) A4 size paper copies of the statement.

#### **C3.9.1.4.6 Construction in restricted areas**

Working space is sometimes restricted where a large number of existing services (mostly underground) is present in the vicinity of the water main to be replaced or replacement pipe to be laid. The construction method used in these restricted areas largely depends on the number of existing services where the Contractor may have to use alternative methods of construction. Notwithstanding, measurement and payment will be strictly according to the specified cross-sections and dimensions irrespective of the method used. Provision has been made in the Bill of Quantities for excavation in restricted areas.

#### **C3.9.1.4.7 Notices, signs, barricades and advertisements**

All notices, signs and barricades, as well as advertisements, may be used only if approved by the Employer's Agent. The Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Employer's Agent shall have the right to instruct the Contractor to move any sign, notice or advertisement to another position, or to remove it from the Site of the Works if in his opinion it is unsatisfactory, inconvenient or dangerous.

#### **C3.9.1.4.8 Workmanship and quality control**

The onus to produce work that conforms in quality and accuracy of detail to the requirements of the Specifications and Drawings rests with the Contractor, and the Contractor shall, at his own expense, institute a quality control system and provide suitably qualified and experienced engineers, foremen, surveyors, materials technicians, other technicians and technical staff, together with all transport, instruments and equipment to ensure adequate supervision and positive control of the Works at all times.

The cost of supervision and process control, including testing carried out by the Contractor, will be deemed to be included in the rates tendered for the related items of work.

The Contractor's attention is drawn to the provisions of the various Standardized Specifications regarding the minimum frequency of testing required. The Contractor shall, at his own discretion, increase this frequency where necessary to ensure adequate control.

Where required by the Employer's Agent the contractor shall prepare detailed method statement detailing construction materials, plant, equipment labour, sequence of events and mitigation measures. Reference shall be made to the OHS and EMP conditions applicable to the site works.

On completion and submission of every part of the work to the Employer's Agent for examination and measurement, the Contractor shall furnish the Employer's Agent with the results of the relevant tests, measurements and levels to demonstrate the achievement of compliance with the Specifications.

### **C3.9.2 Plant and Materials**

#### **C3.9.2.1 Plant and materials supplied by the employer**

The Employer shall not supply any plant or materials.

#### **C3.9.2.2 Plant and materials supplied by the contractor**

The Contractor shall ensure that the Works are constructed in accordance with and comply with the quality requirements of the technical specifications and drawings

The Contractor provides Plant and Materials for inclusion in the works in accordance with SANS1200, unless otherwise stated elsewhere in the Works Information provided by the Employer. All Plant and Materials are new, unless the use of old or refurbished goods and/or materials are expressly permitted as stated elsewhere in this Works Information or as may be subsequently instructed by the Employer's Agent or Employer's Agent Representative.

Where Plant and Materials for inclusion in the works originate from outside the Republic of South Africa, all such Plant and Materials are new and of merchantable quality, to a recognised national standard, with all proprietary products installed to manufacturers' instructions.

The Contractor replaces any Plant and Materials subject to breakages (whether in the Working Areas or not) or any Plant and Materials not conforming to standards or specifications stated and notifies the Employer's Agent and the Employer's Agent Representative on each occasion where replacement is required.

The Contractor's procurement of Plant and Materials shall be in accordance with the technical specifications.

The Employer reserves the right to instruct the Contractor to provide a certificate as proof of compliance to SABS or other stated standard, for all Plant and Materials used and to be incorporated into the Works.

The Contractor shall request in writing from the Employer's Agent the exact details as to how Plant and Materials should be marked if the Contractor proposes working outside of the Working Areas.

#### **C3.9.2.3 Materials and samples**

Materials or work which do not conform to the approved samples submitted in terms of Clause 7.4.1 (GCC 2015) of the Conditions of Contract, will be rejected. The Employer's Agent reserves the right to submit samples to tests to ensure that the material represented by the sample meets the specification requirements.

The costs of any such tests conducted by or on behalf of the Employer's Agent, the results of which indicate that the samples provided by the Contractor do not conform to the requirements of the Contract, shall, in accordance with the provisions of Clause 7.4.4 (GCC 2015) of the Conditions of Contract, be for the Contractor's account.

#### **C3.9.2.4 Requirements for equipment**

The equipment used by the Contractor and any Sub-Contractors must conform to the relevant SANS standards and where relevant have the calibration certificates and be operated by trained staff (proof of training required).

#### **C3.9.2.5 Equipment provided by the employer**

The Employer shall not supply any construction equipment.

**C3.10 MANAGEMENT OF THE WORKS****C3.10.1 PLANNING AND PROGRAMME****C3.10.1.1 GENERAL**

The Contractor's Programme to be submitted in terms of Clause 5.6 of the Conditions of Contract (GCC 2015) shall take into account all matters that may impact the Contractor's sequence of executing the various components of the Works and the requisite rate of progress of the Works, as may be specified in or reasonably inferred from the Contract.

**C3.10.1.2 FORMAT**

The Construction Programme to be submitted by the Contractor shall.

- (a) Be in the form of a GANTT chart
- (b) Clearly indicate the start and end dates and duration of all construction activities and identify the critical path
- (c) Include all requirements specified in Clause 31.2 of the conditions of contract
- (d) In addition to (c) above, include the following:
  - All activities with abnormal shift requirements, such as two shifts per day, six-day workweek, specified overtime, or work at times other than the normal working days or hours, clearly identified
- (e) Take full cognizance of all the Contractor's risks and obligations in terms of the Contract
- (f) Include a covering report containing the following information:
  - A summary of actual progress versus planned progress
  - A summary of deviations and the reasons for the same
  - A key milestone summary
  - An updated cash flow forecast
  - A critical actions items list

The Programme and all revisions thereto shall also be provided to the Employer and Employer's Agent in electronic digital format using the MS PROJECT software (version 2010 or later).

The Contractor shall use the Critical Path Method for time analysis, planning and scheduling of all activities required to complete the work, showing all necessary logic diagrams and clearly demonstrating the sequence of operations. All tasks and activities shown on any programme shall have properly linked and scheduled predecessors and successors, except for the starting and completion milestones, which shall only have successors and predecessors respectively. Scheduling details (such as relationships, duration and resources etc.) shall only be allocated to individual tasks – summary tasks may be summary tasks only and may not be utilized for programming/scheduling purposes.

The Employer's Agent will not accept any programme that uses float suppression techniques such as preferential sequences, special lead/lag logic restraints, extended activity times, or imposed dates, other than as required by the Contract.

The data provided in the Contractor Daily Reports/Dairies is the sole basis for updating the programme. For every in progress or completed activity the Actual Start and Finish dates and Remaining Durations on the Schedule must match the dates in the Contractor's Daily Reports/Dairy.

**C3.10.1.3 FAILURE TO MAINTAIN CONSTRUCTION PROGRAMME**

If the Construction Programme has to be revised in terms of the Conditions of Contract, because the Contractor is falling behind in its programme, the Contractor shall submit to the Employer's Agent Representative and Employer's Agent details of how it intends to regain lost time to ensure completion of the Works before the Due Completion Date. The contractor shall indicate what resources and programme changes he intends to implement in order to remedy any activity that has fallen behind.

The approved Construction programme will be reviewed at the monthly site meetings where the contractor shall provide sufficient detail that will allow the comparison of completed work per activity against the current programme. The Employer's Agent may demand from the contractor a major revision of the programme. Such a revision shall be submitted for comment within 14 days of the demand.

#### **C3.10.1.4 SPECIFIC PROGRAMME REQUIREMENTS**

The Contractor's programme shall also take full account of the matters described in the sub-clauses hereunder. No additional payments will be made to the Contractor in respect of any additional costs as it may incur in consequence of arranging or adjusting its programme to accommodate the said matters and the Contractor's various tendered rates and prices shall be deemed to fully inclusive of such costs.

No construction activities will be permitted which require the complete shut-down of existing works and operations.

##### Facilities to Other Contractors

Pursuant to the requirements of the Conditions of Contract, the Contractor's programme shall make allowances for the presence of such other contractors on the Site as are described below. This may involve adapting the Contractor's programme to accommodate the work of such other contractors and ensuring access to their sites along prescribed routes over the Site of this Contract.

##### Additional Programme Requirements

In addition to the requirements above and elsewhere in the Contract Data, the programme of work shall include the following details:

- (i) A work breakdown structure that identifies all major activities.
- (ii) Monthly cash flow projections.
- (iii) Key dates in respect of information required or due delivery.
- (iv) The contractor's payment weekends; and
- (v) A risk assessment schedule with mitigating plans of issues that could prevent the due completion date being met.

#### **C3.10.2 CLAIMS AND CERTIFICATES**

##### **C3.10.2.1 GENERAL**

The Contractor may undertake multiple packages (reservoir sub-zones) simultaneously.

##### **C3.10.2.2 PROCEDURE FOR CLAIMING AND CERTIFICATION**

The Contractor shall, on a chosen date suitably prior to each assessment date prepare at his own cost a detailed schedule of all work undertaken up to the chosen date and submit this to the Employer's Agent Representative. This schedule will usually comprise an updated bill of quantities reflecting the scheduled quantity, total quantity completed to date, quantity completed this period, all extended to values using the rates in the bill of quantities, along with appropriate summary tables. The format of this schedule will be as prescribed by the Employer's Agent or his Representative and may vary from time to time.

The Employer's Agent Representative shall be responsible for certifying the accuracy and correctness of this schedule and shall return it so certified to the Contractor within a period agreed between the Contractor and Employer's Agent Representative and before the assessment date. Any communications and/or corrections to the claim schedule that may be required between the Employer's Agent Representative and Contractor shall be dealt with promptly by both the Contractor and Employer's Agent Representative, ensuring that the certified schedule is completed prior to the assessment date.

The Contractor shall submit to the Employer's Agent the Employer's Agent Representative certified schedules for each section of work, along with any supporting or back-up documentation as may be requested by the Employer's Agent from time to time. These

submissions must be made in the formats and using both the hardcopy and electronic digital systems prescribed by the Employer's Agent, which may vary from time to time.

Any failure to submit the required, Employer's Agent Representative certified claim information by the agreed date will result in the assessment by the Employer's Agent being held over until the assessment interval following the correct submission of the required information. These assessments and certificates shall not be regarded as late, and interest shall not be applicable.

Only following receipt of the complete and properly certified claim, per Section of Work, will the Employer's Agent make his assessments and issue payment certificates in accordance with the conditions of contract.

### **C3.10.2.3 INVOICING**

When the Employer's Agent certifies payment following an assessment date, the Contractor complies with the Employer's procedure and format for invoice submission, as may be indicated to the Contractor by the Employer's Agent from time to time.

Invoices may only be submitted to the Employer through the Employer's Agent

The invoice must correspond to the Employer's Agent's assessment of the amount due to the Contractor as stated in the payment certificate

### **C3.10.3 REPORTING**

#### **C3.10.3.1 GENERAL**

The Contractor submits summary progress reports to the Employer's Agent Representative and Employer's Agent at weekly intervals in addition to the intervals for submission of revised programmes stated in the Contract Data.

The Contractor completes an assessment of all activities in progress and to completion to determine percentage complete, forecast completion dates, deviations from the Accepted Programme and proposes remedial actions to rectify deviations.

The reports shall indicate "progress this period" and "progress to date", along with any other requirements indicated in the Works Information, as well as key information that will be indicated by the Employer's Agent and/or the Employer's Agent Representative from time to time.

The Contractor's monthly programme narrative report is submitted a week before the last Friday of each month, or as required by the Employer's Agent. The report shall indicate "progress this period" and "progress to date" and shall include, but is not limited to, the following (for each Section of the works):

- Progress achieved during the reporting period
- Latest Accepted Programme
- Deviations from the current Accepted Programme and action plans to rectify
- Project Milestones table – planned verses actual and forecast
- Status and performance of operations on the Site and Working Areas
- Status and performance of operations outside the Working Areas
- Cash Flow Forecast Report
- Digital photographic record of the progress of the works
- Critical action items list (top 10).

### **C3.10.4 MANAGEMENT MEETINGS**

#### **C3.10.4.1 GENERAL**

It is the Employer's specific intention that the parties and their agents use the techniques of partnering to manage the contract by holding meetings designed to pro-actively and jointly manage the administration of the contract with the objective of minimising the adverse effects of risks and surprises for both parties.

Regular meetings of a general nature may be convened and chaired by the Employer's Agent or Employer's Agent Representative and the Contractor's attendance will be required.

At these meetings the Contractor presents all relevant data including safety, health and environmental issues, progress, quality plans, subcontractor management, as may be required.

Meetings of a specialist nature may be convened by persons at times and locations to suit the Parties, the nature and the progress of the works. Records of these meetings shall be submitted to the Employer's Agent and/or Employer's Agent Representative as may be relevant by the person convening the meeting, within five days of the meeting.

All meetings shall be recorded in a register, using minutes prepared and circulated by the person who convened the meeting. Such minutes or register shall not be used for the purpose of confirming actions or instructions under the contract as these shall be done separately by the person identified in the conditions of contract to carry out such actions or instructions.

### **C3.10.5 DOCUMENTATION CONTROL**

#### **C3.10.5.1 GENERAL**

The Contractor submits all documentation in accordance with the Employer's Agent's document control procedure, as may be instructed from time to time.

### **C3.10.6 PRACTICAL COMPLETION**

#### **C3.10.6.1 GENERAL**

The contractor is allowed to achieve Practical Completion as per Clause 5.14.1 of the GCC 2015.

On or before the Practical Completion Date, the Contractor shall have done everything required to provide the works which is to be done before the Completion Date for the whole of the works. The Employer's Agent cannot certify Practical Completion until all the work has been done and is also free of Defects, which would have, in his opinion, prevented the Employer from using the works and others from doing their work.

#### **C3.10.6.2 WORK AFTER PRACTICAL COMPLETION**

After the Completion, the Contractor shall carry out the rectification of minor defects (as per further written list) identified prior to the Completion Date.

### **C3.10.7 ENVIRONMENTAL MANAGEMENT**

#### **C3.10.7.1 GENERAL**

The Contractor will be responsible for managing his activities so that damage to the environment is minimised, as per the Environmental Management Specification contained in C3.7.2

The Contractor performs the works and all construction activities within the Site and Working Areas in accordance with the provisions of the Environmental Specification and Construction Environmental Management Plan.

### **C3.10.8 QUALITY ASSURANCE**

#### **C3.10.8.1 GENERAL**

The Contractor shall have, maintain and demonstrate its use to the Employer's Agent and/or the Employer's Agent Representative, a documented Quality Management System to be used in the performance of the works.

### **C3.10.8.2 SPECIFIC REQUIREMENTS**

The Contractor's Quality Management System shall conform to International Standard ISO 9001 or a standard acceptable to the Employer's Agent

The Contractor submits his Quality Management System documents to the Employer's Agent Representative and Employer's Agent as part of his programme to include details of:

- Project Quality Plan (PQP) for the Contract.
- Quality Policy
- Index of Procedures to be used.
- A schedule of internal and external audits, and
- Inspections and Testing during the Contract

The Contractor's PQP includes or reference the quality plans of his Subcontractor(s).

The Contractor develops and maintains a comprehensive register of documents that will be generated throughout the Contract including all quality related documents as part of its PQP.

The Employer's Agent and/or Employer's Agent Representative indicates those documents required to be submitted for either information, review or acceptance and the Contractor indicates such requirements within his register of documents. The register shall indicate the dates of issue of the documents with the Employer's Agent and/or Employer's Agent Representative responding to documents submitted by the Contractor for review or acceptance within the period for reply prior to such documents being used by the Contractor.

The Project Quality Plan means the Contractor's statements, which outlines strategy, methodology, resources allocation, Quality Assurance and Quality Control co-ordination activities to ensure that the works meet the standards stated in the Works Information

Inspection and testing mean:

- Quality Control Plans
- Inspection Points
- Schedule of Inspections
- Field Inspection Checklists
- Inspection notification
- Inspection and testing
- Inspection release
- Special processes
- Welding Procedures
- Material traceability and certification

### **C3.10.9 Contractor Key Performance Indicators**

The contractor is to be assessed based on the performance indicator ILI or litres/connection/day as indicated in Table 1 below. Incentives for performance based on this performance indicator are summarized in Table 2 below. Should the contractor achieve a system performance falling within the Target Level 1 range, they shall receive the full portion of the second half of the retention after the defects liability period for the particular DMA has lapsed.

Should the contractor achieve a system performance falling within the Target Level 2 range, he shall receive a portion of the second half of the retention that is proportional to his achieved performance indicator based on a linear sliding scale after the defects liability period for the particular DMA has lapsed.

Should the contractor achieve a system performance falling within the Target Level 3 range, they shall receive 0% of the second half of his retention.

KPI's will be calculated based on actual pressure and flow logging data using calibrated equipment as approved by eThekwi. Logging will be undertaken over a period of 6 months during the defects liability period and will comprise a single or multiple logging periods of 7 days as directed and approved by EWS.

**Table 1**

DMA / Work Package	Real Losses (kL/day)	Number of Connections	Current Losses (L/connection/day)	Target Level 1 (L / Connection / day) Incentive: Full release of second half of retention	Target Level 2 (L / Connection / day) Incentive: Release of 100% to 0% of second half of retention	Target Level 3 (L / Connection / day) Release of 0% of second half of retention
SUBZONE 50 A&C	690.8	1425	484.8	$\leq 125$	>125 up to 250	>250

**Table 2**

DMA / Work Package	Current ILI	Real Losses (kL/day)	Length of mains (km)	Number of Connections	Average Zone Pressure (m)	Target Level 1 (L/Connection/day) Incentive: Full release of second half of retention	Target Level 2 (L/Connection/day) Incentive: Release of 100% to 0% of second half of retention	Target Level 3 (L/Connection/day) Release of 0% of second half of retention
SUBZONE 50 A&C	6.3	690.8	21	1425	66.6	$\leq 2$	>2 up to 4	>4

**PART C4: SITE INFORMATION**

**C4.1 LOCALITY PLAN**

Refer to Annexure C3.6.1 – Locality

**C4.2 CONDITIONS ON SITE**

There is no specific geotechnical information or other site information.

**C4.3 TEST RESULTS**

There are no specific test results.