

## TENDER REFERENCE: HHS 01-2024/25

### TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING AND SEWER LINE CONNECTION TO CONNECT 1051 RETICULATED STANDS AT MAMELODI X6 PHOMOLONG.

#### VOLUME 1

**A Tender for category 7CE or higher CIDB registered contractors**

| <b>ISSUED BY:</b>                                                                                                                                                                   | <b>PREPARED BY:</b>                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The Chief Financial Officer<br>Financial Services Department<br>Supply Chain Management<br>320 Madiba Street, Pretoria<br>PO Box 440<br>Pretoria<br>0001<br><br>Tel: (012) 358 8100 | Group Head<br>Human Settlements Department<br>320 Madiba Street, Pretoria<br>PO Box 440<br>Pretoria<br>0001<br><br>Contact: Ms Esther Ledwaba<br>Tel: (012) 358 0925<br>Email: <a href="mailto:EstherMo@tshwane.gov.za">EstherMo@tshwane.gov.za</a> |

|                              |                 |
|------------------------------|-----------------|
| Registered Name of Tenderer: |                 |
| Trading Name of Tenderer:    |                 |
| Registration No. of Entity:  |                 |
| Postal address of Tenderer:  |                 |
| Contact Person:              | CoT Vendor No:  |
| Tel. No.:                    | E-mail Address: |
| Cell No.:                    | Fax No:         |
| CIDB CRS Number(s) :         |                 |

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# PORTION 1: TENDER

## PART T1: TENDER PROCEDURES

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## **T1.1 TENDER NOTICE AND INVITATION TO TENDER**

**HHS 01 - 2024/25**

**CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT**

### **TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED STANDS AT MAMELODI X6 PHOMOLONG.**

Tenders are hereby invited for the above services.

Tenderers should have a CIDB contractor grading designation of **7CE** or higher.

Tenders will be received until **10:00** on **08 October** **2024**. Tenders will be received on the closing dates and times shown, must be enclosed in sealed envelopes, bearing the applicable tender heading and reference number, as well as the closing time and due date, and must be addressed to: - **The Chief Financial Officer, Tshwane House, 320 Madiba Street, Pretoria, 0002**

Tenders are hereby invited for the above work.

Tenders will be evaluated on the basis of awarding points for B-BBEE Status of Contributor for the Construction Charter Scorecard and quality of the tenderer. The ***80/20 Preference*** Point System will be applied to this tender.

A **COMPULSORY CLARIFICATION MEETING** with a representative of the Employer will take place in **Erf 34042, Mamelodi Ext 6 at old Bus Terminal next to Mamelodi fire Station** on **18 September** **2024 at 10h00.**

The lowest or any tender will not necessarily be accepted, and the Municipality reserves the right to accept any tender as a whole or in part or no tender.

Tenders must remain valid for a period of **90 days** after the closing date for the submission of tenders, during which period a tender may not be amended or withdrawn and may be accepted at any time by the Municipality.

The closing time for receipt of tenders is **10h00 on the 08 October 2024.** Tenders will be received on the closing date and time shown, must be enclosed in sealed envelopes bearing the applicable tender heading and reference number, as well as the closing time and due date, and must be addressed to the Executive Director, SUPPLY CHAIN MANAGEMENT, PRETORIA, 0001 and must be submitted in the tender box situated at **Tshwane House, 320 Madiba Street, Pretoria, 0002**. Tenders will be opened at the latter address at the time indicated.

#### **ENQUIRIES:**

|                   |                         |
|-------------------|-------------------------|
| Ms Esther Ledwaba |                         |
| Tel (Office):     | 012 358 0925            |
| Fax:              | NA                      |
| E-Mail:           | EstherMo@tshwane.gov.za |

## T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in **Annexure C of Standard for Uniformity in Engineering and Construction Works Contracts (Board Act 38 of 2000 read with Regulation 24 of the Construction Industry Development Regulations, (as amended) issued in terms of section 33.**

The Standard Conditions of Tender makes several references to the Tender Data. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender to which it mainly applies.

| CLAUSE NUMBER                             | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C.1.1 Actions                             | The Employer is <b>City of Tshwane Metropolitan Municipality</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| C.1.2 Tender Documents                    | <p><u>Volume 1: Tender Document</u></p> <p><b>THE TENDER</b></p> <p><b>Part T1: Tendering Procedures</b></p> <p>T1.1 – Tender Notice and Invitation to Tender</p> <p>T1.2 – Tender data</p> <p>T1.2 – Standard Conditions of Tender</p> <p><b>Part T2: Returnable documents</b></p> <p>T2.1 – List of returnable documents</p> <p>T2.2 – Returnable schedules</p> <p><b>THE CONTRACT</b></p> <p><b>Part C1: Agreements and contract data</b></p> <p>C1.1 – Form of offer and acceptance</p> <p>C1.2 – Contract data</p> <p><b>Part C3: Scope of work</b></p> <p>C3 – Scope of work</p> <p><b>Part C4: Site information</b></p> <p><u>Volume 2: Tender Drawings</u></p> |
| C.1.3 Interpretation                      | <b>Add</b> the following new clause:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| C.1.3.4                                   | <i>The tender documents have been drafted in English. The contract arising from the invitation to tender shall be interpreted and construed in English</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| C.1.4 Communication (Employer's Agent(s)) | <p>Agent: <b>Nevhotalu Consulting Engineers (Ref No)</b></p> <p>Address: <b>521 Zuzette Street, Moreleta Park, Pretoria, 0044</b></p> <p>Tel: <b>012 993 0152</b></p> <p>Contact Person: <b>Mr. T Nebotalo</b></p> <p>E-Mail: <a href="mailto:admin@nevhotalu.co.za">admin@nevhotalu.co.za</a></p>                                                                                                                                                                                                                                                                                                                                                                     |
| C.2.1 Eligibility                         | <p>Only those Tenderers who satisfy the following eligibility criteria are eligible to submit tenders:</p> <p>Only those tenderers who are registered with the CIDB or are capable of being so prior to the evaluation of submissions, in a contract grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for an <b><u>7CE or higher class of construction work</u></b>, are eligible to submit tenders.</p>                                                                                                                                                                                    |

| CLAUSE NUMBER             | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                           | <p>Joint Ventures are eligible to submit tenders provided that:</p> <ol style="list-style-type: none"> <li>every member of a joint venture is registered with the CIDB within 10 days of the closing date of tenderers.</li> <li>the lead partner has a contractor grading designation in the <b><u>6CE or higher class of construction work</u></b>; and</li> </ol> <p>The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor designation in accordance with the sum tendered for an <b><u>7CE or higher class of construction work</u></b> or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations.</p> <p>C.2.1.1 Only tenderers who meet the mandatory requirements as follows:</p> <p><b>The company experience must indicate that at least one Pump Station And Bulk Sewer Reticulation project has been completed successfully.</b></p> <p><b>Project Contract Manager</b><br/> Qualification: BSc or B Eng or B-Tech in Civil Engineering<br/> Professional registration with Engineering Council of South Africa (ECSA) as Engineer or Technologist or Professional registration with the South African Council for the Project and Construction Management Professions (SACPCMP) as Construction Project Manager or Construction Manager<br/> (attach copy of Curriculum Vitae (CV) and certified qualifications and proof of Professional Registration)</p> <p><b>Project Site Agent/Construction Manager</b><br/> Qualifications: Minimum National Diploma in Civil Engineering or higher qualification in Civil Engineering<br/> (attach copy of Curriculum Vitae (CV) and certified qualifications)</p> <p><b>Foreman</b><br/> Artisan qualification/certification or higher qualification in Civil Engineering works<br/> (attach copy of Curriculum Vitae (CV) and certified qualifications)</p> <p><b>Safety Officer</b><br/> Qualification: Professional registration with the South African Council for the Project and Construction Management Professions (SACPCMP) as Safety Officer or Safety Manager<br/> (attach copy of Curriculum Vitae (CV) and certified qualifications and proof of professional registration)</p> |
| C.2.2 Cost of Tendering   | <p>Add the following to the sub-clause C2.2.1:</p> <p>“The employer will not compensate the tenderer for any costs incurred in attending interviews or making any submissions in the office of the employer.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| C.2.5 Reference Documents | <p><b>Add the following:</b></p> <p>Unless specified otherwise in this document, the following standards and conditions of contract will be applicable under this Contract:</p> <ul style="list-style-type: none"> <li>The document “<b><i>City of Tshwane: Guidelines for the Design and Construction of Water</i></b></li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| CLAUSE NUMBER                    | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                  | <p><b><i>and Sanitation Systems (Revised November 2016 or latest revision).</i></b></p> <p>This document is obtainable free of charge on the website <a href="http://www.tshwane.gov.za">www.tshwane.gov.za</a>.</p> <ul style="list-style-type: none"> <li>The latest print version as current at 30 days before close of tenders of the document <b><i>“General Conditions of Contract for Construction Works 3rd Edition, 2015”</i></b> including corrections thereto as current at 30 days before close of tenders, as published by the <i>South African Institution of Civil Engineering</i>.</li> </ul> <p>The document may be purchased in hard copy from the <i>South African Institution of Civil Engineering</i> or may be purchased online as an electronic reference document in PDF format by following the relevant links on <a href="http://www.saice.org.za">www.saice.org.za</a>. The corrections may be downloaded from the SAICE website <a href="http://www.saice.org.za">www.saice.org.za</a>.</p> |
| C.2.7 Clarification meeting      | <p>The arrangements for a <b><u>compulsory</u></b> clarification meeting are as stated in the tender notice and invitation to tender.</p> <p>Confirmation of attendance will be recorded on site in the attendance register to be signed by all tenderers. Addenda will be issued to and tenders received from those tendering entities appearing on the attendance register.</p> <p>Tender documents will not be made available at the clarification meeting</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| C.2.8 Seek clarification         | <p><b><u>Replace</u></b> the clause with the following:</p> <p><i>Request clarification of the tender documents, if necessary, by notifying the employer at least <u>7 (seven) working days</u> before the closing time stated in the tender data.</i></p> <p>The document is downloadable on the National Treasury website (<a href="http://www.etenders.gov.za">www.etenders.gov.za</a>) and City of Tshwane website (<a href="http://www.tshwane.gov.za">www.tshwane.gov.za</a>)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| C.2.9 Insurance                  | <p><b><u>Add</u></b> the following to the clause</p> <p>Be aware that the extent of insurance to be provided by the Employer (if any) might not be for the full cover required in terms of the conditions of contract identified in the contract data. The tenderer is advised to seek qualified advice regarding insurance.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C.2.10 Pricing the tender offer  | <p><b><u>Add the following sub-clause 2.10.5:</u></b></p> <p>“A digital copy of the Bill of Quantities can be obtained from the Employer’s Agent at the office of the Engineer upon sufficient notice.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| C.2.11 Alterations to documents  | <p><b><u>Add the following to the clause:</u></b></p> <p>“In the event of a mistake having been made, it shall be crossed out in black ink and the corrected entry made above in black ink and shall be accompanied by the full signatures of the authorised signatories next to every correction.</p> <p><b><u>No correction fluid may be used. If correction fluid has been used, the tender as a whole will not be considered.</u></b></p> <p>The Municipality will reject the bid if corrections are not made in accordance with the above.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| C.2.12 Alternative offers        | <p>No alternative tender offers will be considered.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| C.2.13 Submitting a tender offer | <ul style="list-style-type: none"> <li>The tender offer <b><u>shall be completed in non-erasable black ink</u></b></li> <li>Any entry made by the tenderer in the document which the tenderer desires to change, <b><u>shall not be erased or painted out.</u></b> A line shall be drawn through the incorrect entry and the correct</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

| CLAUSE NUMBER | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | entry shall be written above in <b>non-erasable black ink</b> and the <b>full signature</b> of the tenderer shall be placed next to the correction.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| C.2.13.2      | <p>Replace the contents of the clause with the following:</p> <p>“Return all volumes of the tender document to the Employer after completion of the relevant sections of each volume in their entirety, either electronically (if they were issued in electronic format) or by writing in black ink.<br/>All volumes are to be left intact in its original format and no pages shall be removed or re-arranged.</p> <p>Each Tenderer is required to return the complete set of returnable documents as listed in Part T2 with all the required information supplied and completed in all respects.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| C.2.13.3      | <p>Add the following to the clause:</p> <p>“Submission of copies of the tender document is NOT required. Tenderer will be required to submit the completed ORIGINAL tender documents as listed above in C1.2 PLUS any required supporting documentation.”</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C.2.13.4      | <p><b>Add</b> the following to the clause</p> <p><i>Only authorised signatories may sign the original and all copies of the tender offer where required.</i></p> <p><i>In the case of a <b>ONE-PERSON CONCERN</b> submitting a tender, this shall be clearly stated.</i></p> <p><i>In the case of a <b>COMPANY</b> submitting a tender, include a copy of a <b>resolution by its board of directors</b> authorising a director or other official of the company to sign the documents on behalf of the company.</i></p> <p><i>In the case of a <b>CLOSE CORPORATION</b> submitting a tender, include a copy of a <b>resolution by its members</b> authorising a member or other official of the corporation to sign the documents on each member’s behalf.</i></p> <p><i>In the case of a <b>PARTNERSHIP</b> submitting a tender, <b>all the partners</b> shall sign the documents, unless one partner or a group of partners has been authorised to sign on behalf of each partner, in which case <b>proof of such authorisation</b> shall be included in the Tender.</i></p> <p><i>In the case of a <b>JOINT VENTURE/CONSORTIUM</b> submitting a tender, include <b>a resolution of each company</b> of the joint venture together with a <b>resolution by its members</b> authorising a member of the joint venture to sign the documents on behalf of the joint venture.</i></p> <p><b><u>Accept that failure to submit proof of authorisation to sign the tender shall result in the tender offer being regarded as non-responsive.</u></b></p> |
| C.2.13.5      | <p>The identification details are:</p> <p><b>Tender Reference:</b> HHS 01-2024/25</p> <p><b>Tender Description:</b> The appointment of a contractor for the construction of a Pump Station, bulk sewer upgrading and sewer link connection to Connect 1051 reticulated stands at Mamelodi X6 Phomolong.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

| CLAUSE NUMBER | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               | <p>Each tender shall be enclosed in a sealed envelope, bearing the correct identification details and shall be submitted (HAND DELIVERED) at:</p> <p><b>Supply Chain Management<br/>Tshwane House<br/>320 Madiba Street<br/>Pretoria CBD<br/>0002</b></p> <p>Please note that the tender box is open 24 hours<br/>Please ensure that all required compliance documents are included upon submission as no additional documents will be requested from bidders after closing.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| C.2.13.6      | <p>Bidders are required to submit electronic copies of the bid either by memory stick/USB flash drive together with the hard copy of the Bid/Proposals</p> <p>A two-envelope procedure will not be followed.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| C.2.13.7      | Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| C.2.13.8      | Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| C.2.13.9      | <b>Telephonic, telegraphic, telex, facsimile or e-mailed offers will <u>not</u> be accepted.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| C.2.13.10     | <p><b>Add</b> the following sub- clause C.2.13.10:</p> <p><i>Accept that all conditions, which are printed or written upon any stationery used by the Tenderer for the purpose of or in connection with the submission of a tender offer for this Contract, which are in conflict with the conditions laid down in this document shall be waived, renounced and abandoned.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C.2.14        | <p>Information and data to be completed in all respects</p> <p><b>Add</b> the following to the clause:</p> <p><i>The Tenderer is required to enter information in the following sections of the document:</i></p> <p>Section T2.2 : Returnable Schedules<br/>Section T2.3 : Technical Schedules<br/>Section C1.1 : Form of Offer and Acceptance<br/>Section C1.2 : Contract Data (Part 2)<br/>Section C2.2 : Bill of Quantities</p> <p><i>The above sections shall be signed by the Tenderer (and witnesses where required). Individual pages should only be initialled by the successful Tenderer and by the witnesses after acceptance by the Employer of the Tender Offer.</i></p> <p><i>The Tenderer shall complete and sign the Form of Offer prior to the submission of a Tender Offer.</i></p> <p><i>The Schedule of Deviations (if applicable) shall be signed by the successful Tenderer after acceptance by the Employer of the Tender Offer.</i></p> <p><i>Accept that failure on the part of the Tenderer to submit any one of the Returnable Documents listed in Part T2 – Returnable Documents within the period stipulated, shall be just cause for the Employer to consider the tender offer as being regarded as non-responsive.</i></p> |

| CLAUSE NUMBER                 | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               | <p><i>Accept that the Employer shall in the evaluation of tender offers take due account of the Tenderer's past performance in the execution of similar engineering works of comparable magnitude, and the degree to which he possesses the necessary technical, financial and other resources to enable him to complete the Works successfully within the contract period. Satisfy the Employer and the Engineer as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, and furnish details in Part T2 – Returnable Documents.</i></p> <p><i>Accept that the Employer is restricted in accordance with clause 5 (1) of the Construction Regulations, 2014, to only appoint a contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely. Accept that submitting inferior and inadequate information relating to health and safety (as required in clause 2.23) shall be regarded as justifiable and compelling reasons not to accept the Tender Offer of the Tenderer scoring the highest number of tender evaluation points.</i></p> |
| C.2.15 Closing time           | The closing time for submission of tender offers is stated in the tender notice and invitation to tender.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| C.2.15.1                      | (Section T.1.1 of the document).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| C.2.16 Tender offer validity  | <p>The tender offer validity period is <b>90 days</b>.</p> <p><b>Add</b> the following new clause</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C.2.16.5                      | <i>If the tender validity period expires on a Saturday, Sunday or public holiday, the tender offer shall remain valid and open for acceptance until closure of business on the following working day.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| C.2.16.6                      | <p><b>Add</b> the following new clause:</p> <p><i>Accept that should the Tenderer unilaterally withdraw his tender during the tender validity period, the Employer shall, without prejudice to any other rights he may have, be entitled to accept any less favourable tender for the Works from those received, or to call for fresh tenders, or to otherwise arrange for execution of the Works, and the Tenderer shall pay on demand any additional expense incurred by the Employer on account of the adoption of the said courses, as well as either the difference in cost between the tender withdrawn (as corrected in terms of clause 3.9 of the Conditions of Tender) and any less favourable tender accepted by the Employer, or the difference between the tender withdrawn (as corrected) and the cost of execution of the Works by the Employer as well as any other amounts the Employer may have to pay to have the Works completed</i></p>                                                                                                                                                                         |
| C.2.18 Provide other material | The tenderer shall, when requested by the employer to do so, submit the names of all management and supervisory staff that will be employed to supervise the labour-intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| C2.18.1                       | <p>Add the following to the clause:</p> <p><i>“Accept that if requested, the Tenderer shall within 7 days of the date upon which he is requested to do so, submit a full report from his banker as to his financial standing. The Employer may, in its discretion, and subject to the provisions of Section 4(1)(d) of the State Tender Board Act 86 of 1968, condone any failure to comply with the foregoing condition.</i></p> <p><i>Accept that the Employer or his agent reserves the right to approach the Tenderer's banker or guarantor(s) as indicated in the tender document, or the bankers of each of the individual members of any joint venture that is constituted for purposes of this Contract, with a view to ascertaining whether the required guarantee will be furnished, and for purposes of ascertaining the financial strength of the Tenderer or of the individual member of such venture.”</i></p>                                                                                                                                                                                                        |

| CLAUSE NUMBER                                                                       | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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| C.2.19 Inspections, tests and analysis                                              | <b>Add</b> the following at the end of the clause:<br><br><i>....or upon written request.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| C.2.20 Submit securities, bonds, policies, etc.                                     | The tenderer is required to submit with his tender proof of his Professional Indemnity Insurance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C.2.22 Return of other tender documents                                             | Return all retained tender documents prior to the closing time for the submission of Tender Offers.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| C.2.23 Certificates                                                                 | Refer to <b>Part T2</b> of this procurement document for a list of the documents that are to be returned with the tender.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| C.2.24 <i>Canvassing and obtaining of additional information by tenderers</i>       | <i>The Tenderer shall not make any attempt either directly or indirectly to canvass any of the Employer's officials or the Project Coordinator or Deputy Directors (Regional Project Managers)/ Employer's Agent in respect of his tender, after the opening of the tenders but prior to the Employer arriving at a decision thereon.</i><br><br><i>The Tenderer shall not make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| C.2.25 <i>Prohibitions on awards to persons in service of the state</i>             | <b>Add</b> the following new clause<br><br><i>The Employer is prohibited to award a tender to a person -</i><br>a) <i>who is in the service of the state; or</i><br>b) <i>if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state; or</i><br>c) <i>a person who is an advisor or consultant contracted with the municipality or municipal entity.</i><br><br><b><i>In the service of the state means to be -</i></b><br>a) <i>a member of: -</i><br><ul style="list-style-type: none"> <li>• <i>any municipal council;</i></li> <li>• <i>any provincial legislature; or</i></li> <li>• <i>the National Assembly or the National Council of Provinces;</i></li> </ul> b) <i>a member of the board of directors of any municipal entity;</i><br>c) <i>an official of any municipality or municipal entity;</i><br>d) <i>an employee of any national or provincial department;</i><br>e) <i>provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);</i><br>f) <i>a member of the accounting authority of any national or provincial public entity; or</i><br>g) <i>an employee of Parliament or a provincial legislature.</i><br><br>In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 of this procurement document must be completed |
| C.2.26 <i>Awards to close family members of persons in the service of the state</i> | <b>Add</b> the following new clause<br><br><i>Accept that the notes to the Employer's annual financial statements must disclose particulars of any award of more than R2000 to a person who is a spouse, child or parent of a person in the service of the state (defined in clause C.2.25), or has been in the service of the state in the previous twelve months, including -</i><br>a) <i>the name of that person;</i><br>b) <i>the capacity in which that person is in the service of the state; and</i><br>c) <i>the amount of the award.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

| CLAUSE NUMBER                               | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                                             | In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 of this procurement document must be completed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| C.2.27 Vendor registration                  | <p><b>Add</b> the following new clause</p> <p><i>The contractor will be required to register as a supplier/ service provider on the City of Tshwane's vendor register before any payment can be done.</i></p> <p><i>If the tenderer is already registered as a vendor, it is required to record the vendor number in space provided on the cover page of this Tender document.</i></p> <p><i>Vendor registration documents are available from the Procurement Advice Centre or can be downloaded from:<br/> <a href="https://www.tshwane.gov.za/sites/business/RegistrationofSuppliers/pages/registration-of-suppliers.aspx">https://www.tshwane.gov.za/sites/business/RegistrationofSuppliers/pages/registration-of-suppliers.aspx</a></i></p> <p><i>All parties of a joint venture or consortium submitting a tender shall comply with the requirements of this clause.</i></p>                                                                                                                                                                                                                                                             |
| C.2.28 Tax                                  | <p><b>Add</b> the following new clause</p> <p><b>National Treasury SCM Instruction no. 7 of 2017/18 clause 4 application during SCM Processes state that:</b></p> <p><i>The designated official(s) must verify the tenderer's tax compliance status prior to the finalisation of the award of the tender or price quotation.</i></p> <p><i>Where the recommended tenderer is not tax compliant, the tenderer should be notified of their non-compliant status and the tenderer must be requested to submit to the municipality or municipal entity, within 7 working days, written proof from South African Revenue Services of their tax compliance status or proof from SARS that they have made an arrangement to meet their outstanding tax obligations. The proof of tax compliance status submitted by the tenderer to the municipality or municipal entity must be verified via the Central Supplier Database or eFiling</i></p> <p><i>Accept that the tenderer will be rejected if such tenderer fails to provide proof of tax compliance status in terms of clause 4.2 of National Treasury SCM Instruction no. 7 of 2017/18</i></p> |
| C.3.1 Respond to requests from the tenderer |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| C.3.1.1                                     | The employer will respond to requests for clarification up to 7 <b>(seven) working days</b> before the tender closing time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| C.3.4 Opening of tender submissions         | Tenders will be opened immediately after the closing time for tenders. Bidders are requested to refer to the City's website where the closing register will be published.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| C.3.8 Test for responsiveness<br>C.3.8.1    | <p><b>Add</b> the following to the sub-clause:</p> <p>Failure on the part of the Tenderer to submit a tender offer as stipulated in clause C2.13 prior to the closing time as stipulated in clause C2.15 shall be just cause for the Employer to consider the tender offer as being non-responsive</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| CLAUSE NUMBER                                                                                                                                                                                  | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                                                                                                                                                                                                | Failure on the part of the Tenderer to submit any one of the returnable documents or certificates listed in clause C2.23 within the period stipulated shall be just cause for the Employer to consider the tender offer as being non-responsive.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C.3.9     Arithmetical errors, omissions and discrepancies                                                                                                                                     | <p>Replace the contents of the clause with the following:<br/> Check responsive tender offers for arithmetical errors, correcting them in the following manner:</p> <ol style="list-style-type: none"> <li>If a bill of quantities (or schedule of quantities or schedule of rates) applies and there is an error in the line-item total resulting from the product of the unit rate and the quantity, the unit rate shall govern and the line item total shall be corrected.</li> <li>Where there is an error in the total of the prices, either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the corrected total of the prices shall govern.</li> <li>Where there is a discrepancy between the amount indicated in the Tenderer's tender offer and the corrected amount obtained after completing the above steps, the corrected amount shall govern.</li> </ol> <p>Notify a tenderer upon written request received after the closing date of tenders of all arithmetical errors made by that particular tenderer.</p> |
| C.3.11     Evaluation of tender offers                                                                                                                                                         | <p>Add the following to the sub-clause:</p> <p>Method 2 as described in Clause 3.11.3 will be used to evaluate all responsive tender offers.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| C.3.11.3     Functionality will be evaluated based on the tender's ability to prove with supporting documentation on experience and capacity to implement pump station and bulk sewer projects | <p>Method 2: Functionality<br/> In the case of functionality:</p> <ol style="list-style-type: none"> <li>Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data.</li> <li>No tender must be regarded as an acceptable tender if it fails to achieve the minimum qualifying score for functionality as indicated in the tender invitation.</li> </ol> <p>Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in clauses C3.11.4.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| C.3.11.4                                                                                                                                                                                       | <p><b>The preferential point system used will be the 80/20 points system in terms of the Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000) Regulations 2022</b></p> <ul style="list-style-type: none"> <li>80 points for price</li> <li>20 points for specific goals</li> </ul> <p>A maximum of 80 points is allocated for price on the following basis:</p> $P_s = 80 \left( 1 - \frac{P_t - P_{min}}{P_{min}} \right)$ <p>Where<br/> P<sub>s</sub> = Points scored for price of tender under consideration;<br/> P<sub>t</sub> = Price of tender under consideration; and</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

| CLAUSE NUMBER                                                                                                                                                                                                                                                          | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                 |  |                                                                          |                       |                                                               |                                                                                                                                                                                                                                                    |  |                                                                                                       |                                                                                                                             |  |                                                     |                                                                                                                                                                                                                                                                        |  |                                                                                                                                                 |
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|                                                                                                                                                                                                                                                                        | <p>Pmin = Price of lowest acceptable tender.</p> <ul style="list-style-type: none"><li>• A maximum of 20 points may be awarded to a tenderer for the specific goal specified for the tender.</li><li>• The points scored for the specific goal must be added to the points scored for price and the total must be rounded off to the nearest two decimal places.</li><li>• Subject to section 2(1)(f) of the Act, the contract must be awarded to the tenderer scoring the highest points.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                 |  |                                                                          |                       |                                                               |                                                                                                                                                                                                                                                    |  |                                                                                                       |                                                                                                                             |  |                                                     |                                                                                                                                                                                                                                                                        |  |                                                                                                                                                 |
| C 3.11.6 Scoring Functionality and Quality                                                                                                                                                                                                                             | <p>A minimum of 70 points out of 100 must be scored to move to the next evaluation level</p> <p>Points allocation<br/>Company experience – 60 points<br/>Key personnel experience – 40 points</p> <p><b>1. STAGES OF EVALUATION</b></p> <p>This bid will be evaluated in four evaluation stages namely:</p> <ul style="list-style-type: none"><li>• <b>Stage 1:</b> Administrative compliance</li><li>• <b>Stage 2:</b> Mandatory requirements</li><li>• <b>Stage 3:</b> Functionality Criteria</li><li>• <b>Stage 4:</b> Preference Points System</li></ul> <p><b>1.1 ADMINISTRATIVE COMPLIANCE</b></p> <p>All the bids will be evaluated against the administrative responsiveness requirements as set out in the list of returnable documents.</p> <p><b>A compulsory site meeting and briefing session to be held.</b></p> <table><tr><th>Compulsory Returnable Documentation (Submission of these are compulsory)</th><th>Submitted (YES or NO)</th><th>Checklist (Guide for Bidder and the Bid Evaluation Committee)</th></tr><tr><td>a) To enable The City to verify the bidder’s tax compliance status, the bidder must provide; <input type="checkbox"/> A copy of their Tax Clearance Certificate (TCS);<br/>or<br/><input type="checkbox"/> Indicate their tax compliance status PIN.</td><td></td><td>TCS must be in the same business name company?<br/>TCS must be valid?<br/>Tax status must be compliant?</td></tr><tr><td>b) a copy of their Central Supplier Database (CSD) registration; or indicate their Master Registration Number / CSD Number;</td><td></td><td>CSD must be valid?<br/>Tax status must be compliant?</td></tr><tr><td>c) Confirmation that the bidding company’s rates and taxes are up to date: • Original or copy of Municipal Account Statement of the Bidder (bidding company) not older than 3 months and account must not be in arrears for more than ninety (90) days; or • Letter or</td><td></td><td>Was a Municipal Account Statement or landlord letter provided for the bidding company?<br/>The name and / or addresses of the bidder’s statement</td></tr></table> |                                                                                                                                                 |  | Compulsory Returnable Documentation (Submission of these are compulsory) | Submitted (YES or NO) | Checklist (Guide for Bidder and the Bid Evaluation Committee) | a) To enable The City to verify the bidder’s tax compliance status, the bidder must provide; <input type="checkbox"/> A copy of their Tax Clearance Certificate (TCS);<br>or<br><input type="checkbox"/> Indicate their tax compliance status PIN. |  | TCS must be in the same business name company?<br>TCS must be valid?<br>Tax status must be compliant? | b) a copy of their Central Supplier Database (CSD) registration; or indicate their Master Registration Number / CSD Number; |  | CSD must be valid?<br>Tax status must be compliant? | c) Confirmation that the bidding company’s rates and taxes are up to date: • Original or copy of Municipal Account Statement of the Bidder (bidding company) not older than 3 months and account must not be in arrears for more than ninety (90) days; or • Letter or |  | Was a Municipal Account Statement or landlord letter provided for the bidding company?<br>The name and / or addresses of the bidder’s statement |
| Compulsory Returnable Documentation (Submission of these are compulsory)                                                                                                                                                                                               | Submitted (YES or NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Checklist (Guide for Bidder and the Bid Evaluation Committee)                                                                                   |  |                                                                          |                       |                                                               |                                                                                                                                                                                                                                                    |  |                                                                                                       |                                                                                                                             |  |                                                     |                                                                                                                                                                                                                                                                        |  |                                                                                                                                                 |
| a) To enable The City to verify the bidder’s tax compliance status, the bidder must provide; <input type="checkbox"/> A copy of their Tax Clearance Certificate (TCS);<br>or<br><input type="checkbox"/> Indicate their tax compliance status PIN.                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | TCS must be in the same business name company?<br>TCS must be valid?<br>Tax status must be compliant?                                           |  |                                                                          |                       |                                                               |                                                                                                                                                                                                                                                    |  |                                                                                                       |                                                                                                                             |  |                                                     |                                                                                                                                                                                                                                                                        |  |                                                                                                                                                 |
| b) a copy of their Central Supplier Database (CSD) registration; or indicate their Master Registration Number / CSD Number;                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | CSD must be valid?<br>Tax status must be compliant?                                                                                             |  |                                                                          |                       |                                                               |                                                                                                                                                                                                                                                    |  |                                                                                                       |                                                                                                                             |  |                                                     |                                                                                                                                                                                                                                                                        |  |                                                                                                                                                 |
| c) Confirmation that the bidding company’s rates and taxes are up to date: • Original or copy of Municipal Account Statement of the Bidder (bidding company) not older than 3 months and account must not be in arrears for more than ninety (90) days; or • Letter or |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Was a Municipal Account Statement or landlord letter provided for the bidding company?<br>The name and / or addresses of the bidder’s statement |  |                                                                          |                       |                                                               |                                                                                                                                                                                                                                                    |  |                                                                                                       |                                                                                                                             |  |                                                     |                                                                                                                                                                                                                                                                        |  |                                                                                                                                                 |

| CLAUSE NUMBER | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |                                                                                                                                                                                                                                                                                                                                                 |  |
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|               | Statement or Affidavit from landlord confirming that the Bidder (bidding company) has no disputed account(s) and the account is not in arrears for more than ninety (90) days. Where possible, the landlord letter, landlord statement or landlord affidavit should be accompanied with a signed lease agreement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  | correspond with CIPC document?<br>Are correspondence recent (not older than 3 months)?<br>Are all payment(s) up to date (i.e. not in arrears for more than 90 days)?                                                                                                                                                                            |  |
|               | d) In addition to the above, confirmation that all the bidding company's owners / members / directors / major shareholders rates and taxes are up to date: • Original or copy of Municipal Account Statement of all the South African based owners / members / directors / major shareholders not older than 3 months and the account/s may not be in arrears for more than ninety (90) days; or • Letter or Statement or Affidavit (correspondence should be dated and not older than 3 months) for all the South African based owners / members / directors / major shareholders from their respective landlord/s confirming that the owners / members / directors / major shareholders of the bidding company has no disputed account(s) and the account is not in arrears for more than ninety (90) days. Where possible, the landlord letter, landlord statement or landlord affidavit should be accompanied with a signed lease agreement. |  | Was a Municipal Account Statement (s) or landlord letter (s) provided for ALL the bidding company's (SA based) directors? The names and/or addresses of all directors on statement correspond with CIPC document? Are correspondence recent (not older than 3 months)? Are all payments up to date (i.e. not in arrears for more than 90 days)? |  |
|               | e) Duly Signed and completed MBD forms (MBD 1, 4, 5, 8 and 9) The person signing the bid documentation must be authorised to sign on behalf of the bidder. Where the signatory is not a Director / Member / Owner / Shareholder of the company, an official letter of authorization or delegation of authority should be submitted with the bid document.<br><br><b>NB: Bidders must ensure that the directors, trustees, managers,</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  | All documents fully completed (i.e. no blank spaces)? All documents fully signed? Signature authorised (any director / member / trustee as indicated on the CIPC document, alternatively a delegation of authority would be required? Documents                                                                                                 |  |

| CLAUSE NUMBER | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |                                                                                                                                                                                                            |  |
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|               | <p><b>principle shareholders, or stakeholders of this company</b></p> <p><b>declare any interest in any other related companies or business whether or not they are bidding for this contract. <u>See Question 3.14 of MBD 4. Failure to declare interest will result in a disqualification</u></b></p>                                                                                                                                                                                                                                                                                                         |  | <p>completed in black ink (i.e. no "Tippex" corrections, no pencil, no other colour ink, or <b>none submission of the above</b>, will be considered)?</p>                                                  |  |
|               | <p>Financial Statements for the most recent three (3) years or financial statements from date of existence for companies less than three years.</p> <p>NB: The bidder must submit signed audited annual financial statements for the most recent 3 years, or if established for a shorter period, submit audited annual financial statements from date of establishment.</p> <p>If the bidder is not required by law to prepare signed annual financial statements for auditing purposes, then the bidder must submit Proof that the bidder is not required by law to prepare Audited financial statements.</p> |  | <p>Applicable for tenders above R10m in conjunction with MBD 5)</p> <p>Are Audited financial statements provided (Audited financials must be signed by auditor)? Or</p>                                    |  |
|               | <p>f) Joint Ventures (JV) – (Only applicable when the bidder tender as a joint venture) • Where the bidder bid as a Joint Ventures (JV), the required or relevant documents as per (a) to I above must be provided for all JV parties.</p> <p>• In addition to the above the bidder must submit a Joint Venture (JV) agreement signed by the relevant parties.</p> <p>• Note: It is a condition of this bid that the successful bidder will continue with same Joint Venture (JV) for the duration of the contract, unless prior approval is obtained from The City.</p>                                        |  | <p>If applicable. JV Agreement provided? JV agreement complete and relevant? Agreement signed by all parties? All required documents as per (i.e. a to e) must be provided for all partners of the JV.</p> |  |
|               | <p>Bidder attended a compulsory briefing session where applicable</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | <p>A compulsory briefing register must be signed by</p>                                                                                                                                                    |  |

| CLAUSE NUMBER | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |  |                                                                                                                                                                                                                                                                                                                                                    |
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|               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | <p>the bidder.</p> <p><b>Bidders will be disqualified should they fail to attend compulsory briefing session</b></p>                                                                                                                                                                                                                               |
|               | <p>Pricing schedule (All items must be quoted for in pricing schedule and if not all items are quoted the bidder will be disqualified). Unless the tender is awarded per item or per section where the bidder only quoted the items or sections, they are interested in.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  | <p>Incomplete pricing schedule results in totals being incomparable. Bidder must be disqualified.</p> <p><b>Bidder will be disqualified should they make corrections on the price schedule without attaching a signature thereto.</b></p> <p><b>Bidder will be disqualified should they use tippex/ correction ink, on the price schedule.</b></p> |
|               | <p><b>1.2 MANDATORY REQUIREMENTS</b></p> <p>It is expected that the bidder will deploy experienced key personnel that have in the past tenant installation/fit-out works, and this team should possess the relevant skills adequate for performing the tasks set out in this specification document.</p> <p>The following information must be provided:</p> <ul style="list-style-type: none"> <li>• Active CIDB grading level of 7CE or Higher.</li> <li>• Valid Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)</li> <li>• Qualifications of key personnel <ul style="list-style-type: none"> <li>○ Project Contract Manager<br/>Qualification: BSc or BEng or B-Tech in civil engineering or Professional registration with Engineering Council Of South Africa (ECSA) as Engineer or Technologist or Professional registration with the South African Council for the Project and Construction Management Professions (SACPCMP) as Construction Project Manager or Construction Manager (attach copy of Curriculum Vitae (CV) and certified qualifications and proof of professional registration)</li> <li>○ Project Site Agent/Construction Manager<br/>Qualifications: Minimum National Diploma in civil engineering or higher qualification in civil engineering (attach copy of Curriculum Vitae (CV) and certified qualifications)</li> </ul> </li> </ul> |  |                                                                                                                                                                                                                                                                                                                                                    |

| CLAUSE NUMBER                                                                        | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             |           |                              |                         |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |
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|                                                                                      | <ul style="list-style-type: none"> <li>○ Foreman<br/>Artisan qualification/certification or higher qualification in civil engineering works (attach copy of Curriculum Vitae (CV) and certified qualifications)</li> <li>○ Safety Officer<br/>Qualification: Professional registration with the South African Council for the Project and Construction Management Professions (SACPCMP) as Safety Officer or Safety Manager<br/>(attach copy of Curriculum Vitae (CV) and certified qualifications and proof of professional registration)</li> </ul> <p><b>1.3 FUNCTIONALITY CRITERIA</b></p> <p>Only tenderers who obtain a minimum of 70 points in respect of the following criteria will be considered for the next stage of evaluation. Bidders that do not achieve a minimum 70 points out of 100 points will not be evaluated further.</p> <table border="1"> <thead> <tr> <th colspan="2">Functionality and Quality Criteria – Tender Rating Matrix</th><th>A</th><th>B</th><th>C</th><th>C</th></tr> <tr> <th colspan="2"></th><th>Tenderer rating (Score 0-5)</th><th>Weighting</th><th>Maximum score to be achieved</th><th>Tenderer Score =(A x B)</th></tr> </thead> <tbody> <tr> <td rowspan="6">Company work experience as per FORM RDD.3 Pump Station And A Bulk Sewer Reticulation</td><td>Tendering Firm's experience of successfully completed Pump Station and a bulk sewer reticulation project. <b>(attach appointment letters and completion certificates as proof).</b><br/>Failure to submit, will result in zero score allocated</td><td></td><td rowspan="6">12</td><td rowspan="6">60</td><td rowspan="6"></td></tr> <tr> <td>Successfully completed more than 5 similar projects</td><td>5</td></tr> <tr> <td>Successfully completed more than 4 similar projects</td><td>4</td></tr> <tr> <td>Successfully completed more than 3 similar projects</td><td>3</td></tr> <tr> <td>Successfully completed more than 2 similar projects</td><td>2</td></tr> <tr> <td>Successfully completed more than 1 similar projects</td><td>1</td></tr> <tr> <td></td><td><b>TOTAL SCORE FOR TENDERER EXPERIENCE</b></td><td></td><td></td><td><b>60</b></td><td></td></tr> </tbody> </table> |                             |           |                              |                         | Functionality and Quality Criteria – Tender Rating Matrix |  | A | B | C | C |  |  | Tenderer rating (Score 0-5) | Weighting | Maximum score to be achieved | Tenderer Score =(A x B) | Company work experience as per FORM RDD.3 Pump Station And A Bulk Sewer Reticulation | Tendering Firm's experience of successfully completed Pump Station and a bulk sewer reticulation project. <b>(attach appointment letters and completion certificates as proof).</b><br>Failure to submit, will result in zero score allocated |  | 12 | 60 |  | Successfully completed more than 5 similar projects | 5 | Successfully completed more than 4 similar projects | 4 | Successfully completed more than 3 similar projects | 3 | Successfully completed more than 2 similar projects | 2 | Successfully completed more than 1 similar projects | 1 |  | <b>TOTAL SCORE FOR TENDERER EXPERIENCE</b> |  |  | <b>60</b> |  |
| Functionality and Quality Criteria – Tender Rating Matrix                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | A                           | B         | C                            | C                       |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |
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| Company work experience as per FORM RDD.3 Pump Station And A Bulk Sewer Reticulation | Tendering Firm's experience of successfully completed Pump Station and a bulk sewer reticulation project. <b>(attach appointment letters and completion certificates as proof).</b><br>Failure to submit, will result in zero score allocated                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             | 12        | 60                           |                         |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |
|                                                                                      | Successfully completed more than 5 similar projects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 5                           |           |                              |                         |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |
|                                                                                      | Successfully completed more than 4 similar projects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4                           |           |                              |                         |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |
|                                                                                      | Successfully completed more than 3 similar projects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3                           |           |                              |                         |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |
|                                                                                      | Successfully completed more than 2 similar projects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2                           |           |                              |                         |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |
|                                                                                      | Successfully completed more than 1 similar projects                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1                           |           |                              |                         |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |
|                                                                                      | <b>TOTAL SCORE FOR TENDERER EXPERIENCE</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                             |           | <b>60</b>                    |                         |                                                           |  |   |   |   |   |  |  |                             |           |                              |                         |                                                                                      |                                                                                                                                                                                                                                               |  |    |    |  |                                                     |   |                                                     |   |                                                     |   |                                                     |   |                                                     |   |  |                                            |  |  |           |  |

| CLAUSE NUMBER | TENDER DATA                                                   |                                                                                                                                                                                                                              |                             |           |                                                          |
|---------------|---------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|-----------|----------------------------------------------------------|
|               | Functionality Criteria – Tender Rating Matrix                 |                                                                                                                                                                                                                              | A                           | B         | C                                                        |
|               |                                                               |                                                                                                                                                                                                                              | Tenderer rating (Score 0-5) | Weighting | Maximum score to be achieved<br>Tenderer Score = (A x B) |
|               | Key Project Personnel as per Form RD.D.8<br>Contracts Manager | <b>Contracts Manager</b><br>Minimum 5 years relevant experience<br><b>Specific Experience:</b><br>Attach a CV detailing experience in the position of Contracts Manager on Pump Station And Bulk Sewer reticulation projects |                             | 3         | 12                                                       |
|               |                                                               | More than 8 Years experience                                                                                                                                                                                                 | 4                           |           |                                                          |
|               |                                                               | 7 – 8 Years experience                                                                                                                                                                                                       | 3                           |           |                                                          |
|               |                                                               | 5 – 6 Years experience                                                                                                                                                                                                       | 2                           |           |                                                          |
|               |                                                               | 5 Years experience                                                                                                                                                                                                           | 1                           |           |                                                          |
|               |                                                               | Less than 5 Years experience                                                                                                                                                                                                 | 0                           |           |                                                          |
|               | Key Project Personnel as per Form RD.D.8<br>Site Agent        | <b>Site Agent</b><br>Minimum 5 years relevant experience<br><b>Specific Experience:</b><br>Attach a CV detailing experience in the position of Site Agent on Pump Station and bulk sewer projects                            |                             | 2         | 10                                                       |
|               |                                                               | More than 8 Years experience                                                                                                                                                                                                 | 5                           |           |                                                          |
|               |                                                               | 7 – 8 Years experience                                                                                                                                                                                                       | 4                           |           |                                                          |
|               |                                                               | 5 – 6 Years experience                                                                                                                                                                                                       | 3                           |           |                                                          |
|               |                                                               | 5 Years experience                                                                                                                                                                                                           | 2                           |           |                                                          |
|               |                                                               | Less than 5 Years experience                                                                                                                                                                                                 | 0                           |           |                                                          |
|               | Key Project Personnel as per Form RD.D.8<br>Foreman           | <b>Foreman</b><br>Minimum 5 years relevant experience<br><b>Specific Experience:</b><br>Attach a CV detailing experience in the position of Foreman on Pump Station and bulk sewer projects                                  |                             | 2         | 8                                                        |
|               |                                                               | More than 8 Years experience                                                                                                                                                                                                 | 4                           |           |                                                          |
|               |                                                               | 7 - 8 Years experience                                                                                                                                                                                                       | 3                           |           |                                                          |
|               |                                                               | 5 – 6 Years experience                                                                                                                                                                                                       | 2                           |           |                                                          |
|               |                                                               | 5 Years experience                                                                                                                                                                                                           | 1                           |           |                                                          |
|               |                                                               | Less than 5 Years experience                                                                                                                                                                                                 | 0                           |           |                                                          |

| CLAUSE NUMBER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | TENDER DATA                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                  |                                      |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Form<br><br>Key Project Personnel as per RD.D.8 Health and Safety Officer                                                                                                                         | <b>Construction Health &amp; Safety Officer (CHS)</b><br>Minimum 2 years relevant experience post registration as CHS Officer<br><b>Specific Experience:</b><br>Attach a CV detailing experience in the position of Construction Health & Safety Officer on Pump Station and Bulk Sewer Projects |                                      | 2 | 10 |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                   | More than 8 Years experience                                                                                                                                                                                                                                                                     | 5                                    |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                   | Above 7 - 8 Years experience                                                                                                                                                                                                                                                                     | 4                                    |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                   | Above 5 - 6 Years experience                                                                                                                                                                                                                                                                     | 3                                    |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                   | 5 Years experience                                                                                                                                                                                                                                                                               | 2                                    |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                   | Less than 5 Years experience                                                                                                                                                                                                                                                                     | 0                                    |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                  | <b>TOTAL SCORE FOR KEY PERSONNEL</b> |   |    | <b>40</b>      |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <b>1.4 PREFERENCE POINT SYSTEM</b>                                                                                                                                                                |                                                                                                                                                                                                                                                                                                  |                                      |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | The preferential point system used will be the 80/20 points system in terms of the Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000) Regulations 2022                           |                                                                                                                                                                                                                                                                                                  |                                      |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <ul style="list-style-type: none"><li>80 points for price</li><li>20 points for specific goals</li></ul>                                                                                          |                                                                                                                                                                                                                                                                                                  |                                      |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
| 10 points for Specific Goals (service provider to submit the certified copy of the specific goals). Refer to Table 1 below:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                  |                                      |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
| <table><tr><th>Specific goals</th><th>80/20 preference point system.</th><th>Proof of specific goals to be submitted</th></tr><tr><td>BB-BEE score of companies<ul style="list-style-type: none"><li>Level 1</li><li>Level 2</li><li>Level 3</li><li>Level 4</li><li>Level 5</li><li>Level 6</li><li>Level 7</li><li>Level 8</li><li>Non-compliant</li></ul></td><td><ul style="list-style-type: none"><li>8 Points</li><li>7 Points</li><li>6 Points</li><li>5.5 Points</li><li>4 Points</li><li>3 Points</li><li>2 Point</li><li>1 Points</li><li>0 Points</li></ul></td><td>Valid Certified copy of BBBEE certificate. Sworn Affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate.</td></tr><tr><td>EME and/ or QSE</td><td>2 Point</td><td>Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE Certificate</td></tr></table> |                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                  |                                      |   |    | Specific goals | 80/20 preference point system. | Proof of specific goals to be submitted | BB-BEE score of companies <ul style="list-style-type: none"><li>Level 1</li><li>Level 2</li><li>Level 3</li><li>Level 4</li><li>Level 5</li><li>Level 6</li><li>Level 7</li><li>Level 8</li><li>Non-compliant</li></ul> | <ul style="list-style-type: none"><li>8 Points</li><li>7 Points</li><li>6 Points</li><li>5.5 Points</li><li>4 Points</li><li>3 Points</li><li>2 Point</li><li>1 Points</li><li>0 Points</li></ul> | Valid Certified copy of BBBEE certificate. Sworn Affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate. | EME and/ or QSE | 2 Point | Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE Certificate |
| Specific goals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 80/20 preference point system.                                                                                                                                                                    | Proof of specific goals to be submitted                                                                                                                                                                                                                                                          |                                      |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
| BB-BEE score of companies <ul style="list-style-type: none"><li>Level 1</li><li>Level 2</li><li>Level 3</li><li>Level 4</li><li>Level 5</li><li>Level 6</li><li>Level 7</li><li>Level 8</li><li>Non-compliant</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | <ul style="list-style-type: none"><li>8 Points</li><li>7 Points</li><li>6 Points</li><li>5.5 Points</li><li>4 Points</li><li>3 Points</li><li>2 Point</li><li>1 Points</li><li>0 Points</li></ul> | Valid Certified copy of BBBEE certificate. Sworn Affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate.                                                                                                                                         |                                      |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |
| EME and/ or QSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 2 Point                                                                                                                                                                                           | Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE Certificate                                                                                                                                                                               |                                      |   |    |                |                                |                                         |                                                                                                                                                                                                                         |                                                                                                                                                                                                   |                                                                                                                                                          |                 |         |                                                                                                                    |

| CLAUSE NUMBER                     | TENDER DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |                                                                                                                                                                                                                                                                   |
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|                                   | At least 51% of Women-owned companies                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2 Point                        | Certified copy of Identity Document/s <u>and</u> proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)                                                       |
|                                   | At least 51% owned companies by People with disability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2 Point                        | Medical Certificate with doctor's details (Practice Number, Physical Address, and contact numbers) and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership) |
|                                   | At least 51% owned companies by Youth                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 2 Point                        | Certified copy of Identity Document/s <u>and</u> proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)                                                       |
|                                   | Local Economic Participation <ul style="list-style-type: none"> <li>• City of Tshwane</li> <li>• Gauteng</li> <li>• National</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4 Points<br>2 Point<br>2 Point | Municipal Account statement/Lease agreement.                                                                                                                                                                                                                      |
| C.3.13 Acceptance of Tender Offer | Tender offers will only be accepted if: <ol style="list-style-type: none"> <li>the tenderer has complied in full with all the eligibility criteria;</li> <li>the tenderer is able to provide proof of tax compliance status in terms of clause 4.2 of National Treasury SCM Instruction no. 7 of 2017/18;</li> <li>the tenderer is not in arrears for more than 3 months with municipal rates and taxes and municipal service charges;</li> <li>the tenderer or any of its directors 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;</li> <li>the tenderer has not:                             <ol style="list-style-type: none"> <li>abused the Employer's Supply Chain Management System; or</li> <li>failed to perform on any previous contract and has been given a written notice to this effect.</li> </ol> </li> <li>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 and persons in the employ of the state are permitted to submit tenders or participate in the contract;</li> <li>the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer.</li> <li>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.</li> </ol> |                                |                                                                                                                                                                                                                                                                   |

| CLAUSE NUMBER |                            | TENDER DATA                                                                                                                                                                                                               |
|---------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| C 3.16        | Registration of the award  | <b>Add</b> the following to the clause:<br><br>Notice of non-acceptance of the tender will not be sent to individual unsuccessful tenderers. Particulars of the accepted tender can be obtained from the Employer' Agent. |
| C 3.17        | Provide Copies of Contract | One signed copy of the contract shall be provided by the Employer to the successful Tenderer.                                                                                                                             |

## **T1.3 STANDARD CONDITIONS OF TENDER**

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- C.1 General
- C.1.1 Actions
- C.1.1.1 The employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.
- C.1.1.2 The employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.
- Note:
- 1) A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.
  - 2) Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.
- C1.1.3 The employer shall not seek and a tenderer shall not submit a tender without having a firm intention and the capacity to proceed with the contract.
- C1.2 Tender Documents
- The documents issued by the employer for the purpose of a tender offer are listed in the tender data.
- C.1.3 Interpretation
- C.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.
- C.1.3.2 These conditions of tender, the tender data and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

C.1.3.3 For the purposes of these conditions of tender, the following definitions apply:

- a) conflict of interest means any situation in which:
  - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfil his or her duties impartially;
  - ii) an individual or tenderer is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
  - iii) incompatibility or contradictory interests exist between an employee and the tenderer who employs that employee.
- b) comparative offer means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;
- c) corrupt practice means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d) fraudulent practice means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

C.1.4 Communication and employer's agent

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

C.1.5 Cancellation and Re-Invitation of Tenders

C.1.5.1 An employer may, prior to the award of the tender, cancel a tender if-

- a) due to changed circumstances, there is no longer a need for the engineering and construction works specified in the invitation;
- b) funds are no longer available to cover the total envisaged expenditure; or
- c) no acceptable tenders are received.
- d) there is a material irregularity in the tender process.

C.1.5.2 The decision to cancel a tender invitation must be published in the same manner in which the original tender invitation was advertised.

C.1.5.3 An employer may only with the prior approval of the relevant treasury cancel a tender invitation for the second time.

C.1.6 Procurement procedures

C.1.6.1 General

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

C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission.

The requirements of C.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

C.1.6.2.2 All responsive tenderers or at least a minimum of not less than three responsive tenderers that are highest ranked in terms of the evaluation criteria stated in the tender data shall be invited to enter into competitive negotiations based on the principle of equal treatment, keeping confidential the proposed solutions and associated information.

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

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

C.1.6.3 Proposal procedure using the two stage-system

C.1.6.3.1 Option 1

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

C.1.6.3.2 Option 2

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

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

C.2 Tenderer's obligations

C.2.1 Eligibility

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

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

C.2.2 Cost of tendering

C.2.2.1 Accept that, unless otherwise stated in the tender data, the employer will not compensate the tenderer for any costs incurred in the preparation and submission of a tender offer, including the costs of any testing necessary to demonstrate that aspects of the offer comply with requirements.

C.2.2.2 The cost of the tender documents charged by the employer shall be limited to the actual cost incurred by the employer for printing the documents. Employers must attempt to make available the tender documents on its website so as not to incur any costs pertaining to the printing of the tender documents.

C.2.3 Check documents

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

C.2.4 Confidentiality and copyright of documents

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

C.2.5 Reference documents

Obtain, as necessary for submitting a tender offer, copies of the latest versions of standards, specifications, conditions of contract and other publications, which are not attached but which are incorporated into the tender documents by reference.

C.2.6 Acknowledge addenda

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

C.2.7 Clarification meeting

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

C.2.8 Seek clarification

Request clarification of the tender documents, if necessary, by notifying the employer at least five (5) working days before the closing time stated in the tender data.

C.2.9 Insurance

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

C.2.10 Pricing the tender offer

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

C.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.

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

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

C.2.11 Alterations to documents

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer, or necessary to correct errors made by the tenderer. All signatories to the tender offer shall initial all such alterations.

C.2.12 Alternative tender offers

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

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

C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.

C.2.13 Submitting a tender offer

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

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

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

C.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data.

The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

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

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

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

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

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

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

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

C.2.15 Closing time

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

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

C.2.16 Tender offer validity

C.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.

C.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.

C.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

If the validity period stated in C.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).

C.2.16.4 Where a tender submission is to be substituted, a tenderer must submit a substitute tender in accordance with the requirements of C.2.13 with the packages clearly marked as "SUBSTITUTE".

C.2.17 Clarification of tender offer after submission

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

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

C.2.18 Provide other material

C.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment.

Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

C.2.18.2 Dispose of samples of materials provided for evaluation by the employer, where required.

C.2.19 Inspections, tests and analysis

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

C.2.20 Submit securities, bonds and policies

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

C.2.21 Check final draft

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

C.2.22 Return of other tender documents

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

C.2.23 Certificates

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

C.3 The employer's undertakings

C.3.1 Respond to requests from the tenderer

C.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.

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

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

C.3.2 Issue Addenda

If necessary, issue addenda that may amend or amplify the tender documents to each tenderer during the period from the date that tender documents are available until three (3) working days before the tender closing time stated in the Tender Data. If, as a result a tenderer applies for an extension to the closing time stated in the Tender Data, the Employer may grant such extension and, shall then notify all tenderers who collected tender documents.

C.3.3 Return late tender offers

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

C.3.4 Opening of tender submissions

- C.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.
- C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main tender offer only.
- C.3.4.3 Make available the record outlined in C.3.4.2 to all interested persons upon request.
- C.3.5 Two-envelope system
- C.3.5.1 Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.
- C.3.5.2 Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.
- C.3.6 Non-disclosure
- Not disclose to tenderers, or to any other person not officially concerned with such processes, information relating to the evaluation and comparison of tender offers, the final evaluation price and recommendations for the award of a contract, until after the award of the contract to the successful tenderer.
- C.3.7 Grounds for rejection and disqualification
- Determine whether there has been any effort by a tenderer to influence the processing of tender offers and instantly disqualify a tenderer (and his tender offer) if it is established that he engaged in corrupt or fraudulent practices.
- C.3.8 Test for responsiveness
- C.3.8.1 Determine, after opening and before detailed evaluation, whether each tender offer properly received:
- a) complies with the requirements of these Conditions of Tender,
  - b) has been properly and fully completed and signed, and
  - c) is responsive to the other requirements of the tender documents.
- C.3.8.2 A responsive tender is one that conforms to all the terms, conditions, and specifications of the tender documents without material deviation or qualification. A material deviation or qualification is one which, in the Employer's opinion, would:
- a) detrimentally affect the scope, quality, or performance of the works, services or supply identified in the Scope of Work,
  - b) significantly change the Employer's or the tenderer's risks and responsibilities under the contract, or
  - c) affect the competitive position of other tenderers presenting responsive tenders, if it were to be rectified.

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

C.3.9      Arithmetical errors, omissions and discrepancies

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

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

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

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

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

- a)      If bills of quantities or pricing schedules apply and there is an error in the line item total resulting from the product of the unit rate and the quantity, the line item total shall govern and the rate shall be corrected. Where there is an obviously gross misplacement of the decimal point in the unit rate, the line item total as quoted shall govern, and the unit rate shall be corrected.
- b)      Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the total of the prices shall govern and the tenderer will be asked to revise selected item prices (and their rates if bills of quantities apply) to achieve the tendered total of the prices.

C.3.10      Clarification of tender offer

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

C.3.11      Evaluation of tender offers

The Standard Conditions of Tender standardize the procurement processes, methods and procedures from the time that tenders are invited to the time that a contract is awarded. They are generic in nature and are made project specific through choices that are made in developing the Tender Data associated with a specific project.

Conditions of tender are by definition the document that establishes a tenderer's obligations in submitting a tender and the employer's undertakings in soliciting and evaluating tender offers.

Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:

Requirement    Qualitative interpretation of goal

|             |                                                                                                                                                                                                                                                                                                                                                                      |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fair        | The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.                                                                                                                                                                                                |
| Equitable   | Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.                                                                                                                                                                                                                                                                 |
| Transparent | The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.                                                                                                                                       |
| Competitive | The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.<br>Cost effective The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes. |

The activities associated with evaluating tender offers are as follows:

- a) Open and record tender offers received
- b) Determine whether or not tender offers are complete
- c) Determine whether or not tender offers are responsive
- d) Evaluate tender offers
- e) Determine if there are any grounds for disqualification
- f) Determine acceptability of preferred tenderer
- g) Prepare a tender evaluation report
- h) Confirm the recommendation contained in the tender evaluation report

#### C.3.11.1 General

The employer must appoint an evaluation panel of not less than three persons conversant with the proposed scope of works to evaluate each responsive tender offer using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

#### C.3.12 Insurance provided by the employer

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

#### C.3.13 Acceptance of tender offer

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

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement;
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract;
- c) has the legal capacity to enter into the contract;
- d) is not; insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act No. 2008, bankrupt or being wound up, has his/her affairs administered by a court or a judicial officer, has suspended his/her business activities or is subject to legal proceedings in respect of any of the foregoing;
- e) complies with the legal requirements, if any, stated in the tender data; and
- f) is able, in the opinion of the employer, to perform the contract free of conflicts of interest.

#### C.3.14 Prepare contract documents

C.3.14.1 If necessary, revise documents that shall form part of the contract and that were issued by the employer as part of the tender documents to take account of:

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

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

C.3.15 Complete adjudicator's contract

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

C.3.16 Registration of the award

An employer must, within twenty-one (21) working days from the date on which a contractor's offer to perform a construction works contract is accepted in writing by the employer, register and publish the award on the CIDB Register of Projects.

C.3.17 Provide copies of the contracts

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

C.3.18 Provide written reasons for actions taken

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

# PART T2: RETURNABLE DOCUMENTS

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## T2.1 LIST OF RETURNABLE DOCUMENTS

### RD. A MANDATORY RETURNABLE DOCUMENTS

**Note:** *Failure to submit, fully complete and sign the applicable documents and submit all required attachments will result in the tender offer being disqualified from further consideration*

| Document Name                                                                  | Reference   | Confirmation of Document Included<br>(Tenders may use this column to confirm documents have been completed and included in the tender) |
|--------------------------------------------------------------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Compulsory Enterprise Questionnaire                                            | Form RD.A.1 |                                                                                                                                        |
| <b>MBD 4:</b> Declaration of interest in tender of persons in service of state | Form RD.A.2 |                                                                                                                                        |
| <b>MBD 8:</b> Declaration of tenderer's past supply chain management practises | Form RD.A.3 |                                                                                                                                        |
| <b>MBD 9:</b> Certificate of independent tender determination                  | Form RD.A.4 |                                                                                                                                        |
| Certificate of authority of signatory                                          | Form RD.A.5 |                                                                                                                                        |
| Certificate of authority of signatory for joint ventures and consortia         | Form RD.A.6 |                                                                                                                                        |

### RD.B RETURNABLE DOCUMENTS REQUIRED FOR PREFERENTIAL PROCUREMENT EVALUATION PURPOSES

**Note:** *Failure to submit, fully complete and sign the applicable documents and submit all required attachments will result in the tender offer being awarded 0 (zero) preference points*

| Document Name                                                                                                                                                                                                                                                | Reference   | Confirmation of Document Included<br>(Tenders may use this column to confirm documents have been completed, signed and included in the tender) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| MBD 6.1: Preference Points Claim Form in terms of the Preferential Procurement Regulations 2022                                                                                                                                                              | Form RD.B.1 |                                                                                                                                                |
| Valid B-BBEE Status Level of Contributor Certificate                                                                                                                                                                                                         | Form RD.B.2 |                                                                                                                                                |
| B-BBEE Exempted Micro Enterprise – Sworn Affidavit                                                                                                                                                                                                           | Form RD.B.3 |                                                                                                                                                |
| Promotion of local enterprises (Local Economic Participation)                                                                                                                                                                                                | Form RD.B.4 |                                                                                                                                                |
| Certified copy of Identity Document/s proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)                                                             | Form RD.B.5 |                                                                                                                                                |
| Medical Certificate with doctor's details (Practice Number, Physical Address and contact numbers) proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership) | Form RD.B.6 |                                                                                                                                                |

## RD.C ADDITIONAL RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

**Note:** *Failure to submit, fully complete and sign the applicable documents and submit all required attachments will result in the Tenderer having to submit same upon request within 7 days and if not complied with, will result to the tender offer being disqualified from further consideration.*

| Document Name                                                                               | Reference | Confirmation of Document Included<br>(Tenders may use this column to confirm documents have been completed and included in the tender) |
|---------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------|
| Proof of registration on CSD with National Treasury                                         | RD.C.1    |                                                                                                                                        |
| <b>MBD 5:</b> Declaration for procurement above R10 million (all applicable taxes included) | RD.C.2    |                                                                                                                                        |
| Proof of Registration with CIDB                                                             | RD.C.3    |                                                                                                                                        |
| Compliance with OHSA (Act 85 of 1993)                                                       | RD.C.4    |                                                                                                                                        |
| Record of services provided to organs of state                                              | RD.C.5    |                                                                                                                                        |
| Schedule of plant and equipment                                                             | RD.C.6    |                                                                                                                                        |
| Status of concern submitting tender                                                         | RD.C.8    |                                                                                                                                        |
| Classification of business                                                                  | RD.C.9    |                                                                                                                                        |
| Letter of intent to provide a performance bond                                              | RD.C.10   |                                                                                                                                        |

## RD.D RETURNABLE DOCUMENTS REQUIRED FOR FUNCTIONALITY EVALUATION PURPOSES

**Note:** *Failure to submit the applicable documents will result in the Tenderer receiving a 0 (zero) score for the applicable evaluation schedule.*

| Document Name                          | Refer to Returnable Documents | Maximum Points | Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)<br>Yes / No |
|----------------------------------------|-------------------------------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Schedule of Tenderer's experience      | RD.D.3                        | 60             |                                                                                                                                                 |
| Key Personnel                          | RD.D.8                        | 40             |                                                                                                                                                 |
| Curriculum vitae of key personnel      | RD.D.9                        |                |                                                                                                                                                 |
| Summary Of Tenderer's Experience Score | RD.D.15                       |                |                                                                                                                                                 |

**RD.E     OTHER DOCUMENTS THAT WILL FORM PART OF THE CONTRACT**

**Note:**     *Failure to submit, fully complete and sign the applicable documents and submit all required attachments will result in the tender offer being disqualified from further consideration*

| Document Name                                   | Reference    | Confirmation of Document Included<br>(Tenders may use this column to confirm documents have been completed and included in the tender)<br><b>Yes / No</b> |
|-------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Record of addenda to tender documents           | RD.E.1       |                                                                                                                                                           |
| Form of Offer                                   | Section C1.1 |                                                                                                                                                           |
| Contract Data (Data provided by the contractor) | Section C1.2 |                                                                                                                                                           |
| Pricing schedule                                | Section C2.2 |                                                                                                                                                           |

## T2.2 RETURNABLE SCHEDULES

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## FORM RD.A.1 COMPULSORY ENTERPRISE QUESTIONNAIRE

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

**Section 1: Name of Enterprise:**

**Section 2: VAT registration number, if any:**

**Section 3: CIDB registration number, if any:**

**Section 4: CSD number:**

**Section 5: Particulars of sole proprietors and partners in partnerships:**

| Name* | Identity Number* | Personal Income Tax Number* |
|-------|------------------|-----------------------------|
|       |                  |                             |
|       |                  |                             |
|       |                  |                             |

*\* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners*

**Section 6: Particulars of companies and close corporations**

Company registration number:

Close corporation number:

Tax reference number:

**Section 7: MBD4 issued by National Treasury must be completed for each tender and be attached as a tender requirement.**

**Section 9: MBD8 issued by National Treasury must be completed for each tender and be attached as a tender requirement.**

**Section 10: MBD9 issued by National Treasury must be completed for each tender and be attached as a tender requirement.**

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; and
- 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.

|                         |  |                 |  |
|-------------------------|--|-----------------|--|
| <b>Signed:</b>          |  | <b>Date:</b>    |  |
| <b>Name:</b>            |  | <b>Position</b> |  |
| <i>Enterprise Name:</i> |  |                 |  |

## FORM RD.A.2 MBD 4: DECLARATION OF INTEREST

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/adjudicating authority.

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

3.1 Full name of bidder or his/her representative:

---

3.2 Identity Number:

---

3.3 Position occupied in Company:  
(Director, trustee, shareholder<sup>2</sup>)

---

3.4 Company Registration Number:

---

3.5 Tax Reference Number:

---

3.6 VAT Registration Number:

---

3.7 The names of all directors / trustees / shareholders members, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below.

3.8 Are you presently in the service of the state?

---

<sup>1</sup> MSCM Regulations: "in the service of the state" means to be –

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

<sup>2</sup> 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.

|     |    |
|-----|----|
| 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, principal 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. Full details of directors / trustees / members / shareholders:

| Full Name | Identity Number | State Employee Number |
|-----------|-----------------|-----------------------|
|           |                 |                       |
|           |                 |                       |
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|           |                 |                       |

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.

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

### FORM RD.A.3 MBD 8: DECLARATION OF TENDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTISES

1. This municipal tender document must form part of all tenders invited.
2. It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.
3. The tender of any tenderer may be rejected if that tenderer, or any of its directors have:
  - a. abused the municipality's/municipal entity's supply management system or committed any improper conduct in relation to such system;
  - b. been convicted for fraud or corruption during the past five years;
  - c. wilfully neglected, reneged on or failed to comply with any government, Municipal or other public sector contract during the past five years; or
  - d. been listed in the Register for Tender Defaulters in terms of Section 29 of the Prevention and Combating of Corrupt Activities Act, 2004 (Act 12 of 2004).
4. In order to give effect to the above, the following questionnaire must be completed and submitted with the tender:

| Item | Question                                                                                                                                                                                                                                                                                                                                                                                                               | Response |    |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|
| 4.1  | Is the tenderer, any of its directors listed on the National Treasurer's database as a company or persons prohibited from doing business with the public sector?<br><b>(Companies for persons who are listed on this database were informed in writing of this restriction by the National Treasury after the <i>audi alteram partem</i> rule was applied)</b>                                                         | YES      | NO |
|      | If so, furnish particulars:                                                                                                                                                                                                                                                                                                                                                                                            |          |    |
| 4.2  | Is the tenderer 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, 2004 (Act 12 of 2004)?<br><b>(The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.)</b> | YES      | NO |
|      | If so, furnish particulars:                                                                                                                                                                                                                                                                                                                                                                                            |          |    |
| 4.3  | Was the tenderer 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 |
|      | If so, furnish particulars:                                                                                                                                                                                                                                                                                                                                                                                            |          |    |

| Item | Question                                                                                                                                                                                                                             | Response |    |
|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----|
| 4.4  | Does the tenderer 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 |
|      | If so, furnish particulars:                                                                                                                                                                                                          |          |    |
| 4.5  | Was any contract between the tenderer 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 |
|      | If so, furnish particulars:                                                                                                                                                                                                          |          |    |

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

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

#### **FORM RD.A.4 MBD 9: CERTIFICATION OF INDEPENDENT TENDER DETERMINATION**

1. This Municipal Bidding Document (MBD) must form part of all bids <sup>3</sup>invited.
2. Section 4 (1) (b) (iii) of the Competition Act Nol. 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 tendering (or bid rigging<sup>4</sup>). Collusive tendering is a *per se* prohibition meaning that it cannot be justified under any grounds.
3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
  - a. Take all reasonable steps to prevent such abuse;
  - b. Reject the tender of any tenderer if that tenderer 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 tendering process or the execution of the contract.
4. This will serve as a certificate of declaration that would be used by institutions to ensure that, when tenders are considered, reasonable steps are taken to prevent any form of tender-rigging.
5. In order to give effect to the above, the attached Certificate of Tender Determination must be completed and submitted with the tender.

---

<sup>3</sup> Includes price quotations, advertised competitive bids, limited bids and proposals.

<sup>4</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.

### **CERTIFICATE OF INDEPENDENT TENDER DETERMINATION**

I, the undersigned, in submitting the accompanying tender:

**CONTRACT: HHS 01-2024/25 TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED STANDS AT MAMELODI X6 PHOMOLONG.**

in response to the invitation for the tender made by

#### **City of Tshwane Metropolitan Municipality**

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

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

1. I have read and understand the contents of this certificate;
2. I understand that the accompanying tender will be disqualified if this certificate is found not to be true and complete in every aspect;
3. I am authorised by the tenderer to sign this certificate, and to submit the accompanying tender, on behalf of the tenderer;
4. Each person whose signature appears on the accompanying tender has been authorised by the tenderer to determine the terms of, and to sign, the tender, on behalf of the tenderer;
5. For the purposes of this Certificate and the accompanying tender, I understand that the word "competitor" shall include any individual or organization, other than the tenderer, whether or not affiliated with the tenderer who:
  - a. Has been requested to submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and
  - b. Could potentially submit a tender in response to this tender invitation, based on their qualifications, abilities or experience; and provides the same goods and services as the tenderer and/or is in the same line of business as the tenderer.
6. The tenderer has arrived at the accompanying tender independently form, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>35</sup> will not be construed as collusive tendering.
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 services 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 tender;
  - e. The submission of a tender which does not meet the specifications and conditions of the tender; or
  - f. Tendering with the intention not to win the tender.

---

<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.

8. In addition, there have been no consultations, communications, agreements or arrangement with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this tender invitation relates.
9. The terms of the accompanying tender have not been, and will not be, disclosed by the tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening or to the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practises related to tenders and contracts, tenders 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 form conduction 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.

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.

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

## FORM RD.A.5 CERTIFICATE OF AUTHORITY OF SIGNATORY

**RESOLUTION** of the a meeting of the \*Board of Directors/Members/Partners of

(Legally correct full name and registration number, if applicable, of the enterprise)

Held at: \_\_\_\_\_ (place)

On: \_\_\_\_\_ (date)

**RESOLVED** that:

- The enterprise submits a tender to the Tshwane Metro Municipality in respect of the following project:

|                     |                                                                                                                                                                                                      |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Tender Number:      | <b>HHS 01-2024/25</b>                                                                                                                                                                                |
| Tender Description: | <b>Tender for the appointment of a Contractor for the construction of a Pump Station, Bulk Sewer Upgrading and Sewer Link Connection to connect 1051 reticulated stands at Mamelodi X6 Phomolong</b> |

- \*Mr/Ms:  
in \*his/her capacity  
as

|  |
|--|
|  |
|  |

and who will sign as follow:

|                 |                 |
|-----------------|-----------------|
|                 |                 |
| Proof signature | Proof signature |

be, and is hereby authorised to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender for the enterprise mentioned above

| Name | Capacity | Signature |
|------|----------|-----------|
|      |          |           |
|      |          |           |
|      |          |           |
|      |          |           |
|      |          |           |
|      |          |           |
|      |          |           |

|                                                                                                                                                                                                                                                                                                                                                                                               |                  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <p>Note:</p> <ol style="list-style-type: none"> <li>*Delete which is not applicable.</li> <li>IMPORTANT: This resolution <u>must</u> be signed by all the directors/members/ partners of the tendering enterprise.</li> <li>Should the number of directors/members/partners exceed the space available above, additional names and signatures must be supplied on a separate page.</li> </ol> | Enterprise stamp |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|

## FORM RD.A.6 CERTIFICATE OF AUTHORITY OF SIGNATORY FOR JOINT VENTURES AND CONSORTIA

\*Joint Venture/Consortium  
name: \_\_\_\_\_

We, the undersigned, are submitting this tender in a \*joint venture/consortium and hereby authorise \*Mr/Ms \_\_\_\_\_ authorised signatory of the enterprise acting in the capacity of lead partner to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender for the \*joint venture/consortium mentioned above.

| Registered name of enterprise | Registration number | % of contract value | Address | Duly authorised signatory | Mark with (x) for lead partner |
|-------------------------------|---------------------|---------------------|---------|---------------------------|--------------------------------|
|                               |                     |                     |         |                           |                                |
|                               |                     |                     |         |                           |                                |
|                               |                     |                     |         |                           |                                |
|                               |                     |                     |         |                           |                                |
|                               |                     |                     |         |                           |                                |
|                               |                     |                     |         |                           |                                |
|                               |                     |                     |         |                           |                                |

### Note:

- \*Delete which is not applicable.
- IMPORTANT: This resolution must be signed by all the parties of the joint venture/consortium and every duly authorised signatory for each party to the joint venture/consortium must complete a Form RD.C.15.
- Should the number of directors/members/partners exceed the space available above, additional names and signatures must be supplied on a separate page.

## **RDB.1 MBD 6.1 PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022**

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

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

### **1. GENERAL CONDITIONS**

- 1.1 The following preference point systems are applicable to invitations to tender:
- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
  - the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).
- 1.2 To be completed by the organ of state
- a) The applicable preference point system for this tender is the 80/20 preference point system.
- b) The 80/20 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.
- 1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:
- (a) Price; and
  - (b) Specific Goals.

The maximum points for this tender are allocated as follows:

|                                           | POINTS |
|-------------------------------------------|--------|
| PRICE                                     | 80     |
| SPECIFIC GOALS                            | 20     |
| Total points for Price and SPECIFIC GOALS | 100    |

- 1.4 Failure on the part of a tenderer to submit proof or documentation required in terms of this tender to claim points for specific goals with the tender, will be interpreted to mean that preference points for specific goals are not claimed.
- 1.5 The organ of state reserves the right to require of a tenderer, either before a tender is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.
- ### **2. DEFINITIONS**
- (a) "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;
  - (b) "price" means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
  - (c) "rand value" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
  - (d) "tender for income-generating contracts" means a written offer in the form determined by an organ of state 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 organ of state and a third party that produces revenue for the organ of state, 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; and
  - (e) "the Act" means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

### **3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES**

#### **3.1. POINTS AWARDED FOR PRICE**

##### **3.1.1 THE 80/20 PREFERENCE POINT SYSTEMS**

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

80/20

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

Where

|           |   |                                                       |
|-----------|---|-------------------------------------------------------|
| $P_s$     | = | Points scored for price of tender under consideration |
| $P_t$     | = | Price of tender under consideration                   |
| $P_{min}$ | = | Price of lowest acceptable tender                     |

#### 4. 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 goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this 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 points claimed are indicated per the table below.  
(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.  
Note to tenderers: The tenderer must indicate how they claim points for each preference point system.)

| The specific goals allocated points in terms of this tender   | Number of points allocated (80/20 system) (To be completed by the organ of state) | Number of points claimed (80/20 system) (To be completed by the tenderer) |
|---------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| <b>BB-BEE score of companies</b>                              |                                                                                   |                                                                           |
| Level 1                                                       | 8 Points                                                                          |                                                                           |
| Level 2                                                       | 7 Points                                                                          |                                                                           |
| Level 3                                                       | 6 Points                                                                          |                                                                           |
| Level 4                                                       | 5 Points                                                                          |                                                                           |
| Level 5                                                       | 4 Points                                                                          |                                                                           |
| Level 6                                                       | 3 Points                                                                          |                                                                           |
| Level 7                                                       | 2 Point                                                                           |                                                                           |
| Level 8                                                       | 1 Points                                                                          |                                                                           |
| Non-compliant                                                 | 0 Points                                                                          |                                                                           |
| <b>EME and/or QSE</b>                                         | 2                                                                                 |                                                                           |
| <b>At least 51% Women owned companies</b>                     | 2                                                                                 |                                                                           |
| <b>At least 51% owned companies by People with disability</b> | 2                                                                                 |                                                                           |
| <b>At least 51% owned companies by Youth</b>                  | 2                                                                                 |                                                                           |
| <b>Local Economic Participation</b>                           |                                                                                   |                                                                           |
| <b>City of Tshwane Participants</b>                           | 4                                                                                 |                                                                           |
| <b>Gauteng Participants</b>                                   | 2                                                                                 |                                                                           |
| <b>National participants</b>                                  | 2                                                                                 |                                                                           |

## DECLARATION WITH REGARD TO COMPANY/FIRM

- 4.3. Name of company/firm.....
- 4.4. Company registration number: .....
- 4.5. TYPE OF COMPANY/ FIRM
- ☐ Partnership/Joint Venture / Consortium
  - ☐ One-person business/sole propriety
  - ☐ Close corporation
  - ☐ Public Company
  - ☐ Personal Liability Company
  - ☐ (Pty) Limited
  - ☐ Non-Profit Company
  - ☐ State Owned Company

[Tick applicable box]

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

CAPACITY:  
(of authorized agent)

SIGNATURE:  
(of authorized agent)

SIGNED at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_

WITNESSES:  
(Full name in BLOCK letters and  
signature)

1.

2.

**FORM RD.B.2 VALID B-BBEE STATUS LEVEL OF CONTRIBUTOR CERTIFICATE**

**Submit B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA).**

**NOTE:**

- 1. Attach original copy of B-BBEE Verification Certificate to this page.**
- 2. In the case of a joint venture / consortium parties must each attach original copy of their B-BBEE Verification Certificates.**

### FORM RD.B.3 B-BBEE EXEMPTED MICRO ENTERPRISE – SWORN AFFIDAVIT

I, the undersigned

Full Name & Surname

Identity Number

-

-

-

Hereby declare under oath as follow:

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

Enterprise Name

Trading Name

Registration Number

Enterprise Address

3. I hereby declare under oath that:

- The enterprise is \_\_\_\_\_ % black owned;
- The enterprise is \_\_\_\_\_ % woman owned;
- The enterprise is \_\_\_\_\_ % owned companies by People with disability;
- The enterprise is \_\_\_\_\_ % owned companies by Youth;
- Based on the audited management accounts and other information available on the \_\_\_\_\_ financial year, the income did not exceed R 10,000,000 (ten million rands);
- Please confirm on the below the B-BBEE level contributor, by ticking the applicable.

100% Black owned                      Level One (135% B-BBEE procurement recognition)

More than 51% Blackowned        Level Two (125% B-BBEE procurement recognition)

Less than 51% Black owned        Level Four (100% B-BBEE procurement recognition)

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

Deponent Signature:

Date:

Commissioner of oaths  
(Signature and stamp)

#### FORM RD.B.4 PROMOTION OF LOCAL ENTERPRISES

The City of Tshwane has mandated the promotion of local enterprises. To comply with this the tenderer must provide proof of the type of business unit and whether the unit resides within the Tshwane and will be scored as follow:

**80/20 preference point system applies:**

|                                   | Promotion of local enterprises                                                                                                                                                                                                  |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>No Response<br/>(score 0)</b>  | The tenderer did not respond or comply with this evaluation schedule. A score of 0 will also be awarded for any misrepresentation made in this regard,                                                                          |
| <b>Satisfactory<br/>(score 1)</b> | The tenderer operates a head office or fully staffed office or his sole office outside the boundaries of Gauteng Province. (I.e. no business unit or office resides within the boundaries of Tshwane Metropolitan Municipality) |
| <b>Good<br/>(score 1)</b>         | The tenderer's office resides within the boundaries of Gauteng Province. (I.e. no business unit or office resides within the boundaries of Tshwane Metropolitan Municipality)                                                   |
| <b>Very good<br/>(score 2)</b>    | The tenderer's office resides within the boundaries of the Tshwane Metropolitan Municipality.                                                                                                                                   |

Municipal Rates & Taxes not older than three months from tender advertisement date or Valid Lease Agreement should be attached as evidence.

(If necessary, the tenderer will be requested to present the office / business unit to officials of the City)

The undersigned, who warrants that he / she is duly authorized 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.

**Person authorized to sign the tender:**

**Full name (in BLOCK letters):**

**Signature:**

**Date:**

The undersigned, who warrants that he / she is duly authorized 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.

**Person authorized to sign the tender:**

**Full name (in BLOCK letters):**

**Signature:**

**Date:**

## FORM RD.B.5 AT LEAST 51% WOMEN OWNED COMPANIES AND AT LEAST 51% OWNED COMPANIES BY YOUTH

The City of Tshwane has mandate for the promotion At least 51% Women owned companies and At least 51% owned companies by youth. To comply with this the tenderer must provide Certified copy of Identity Document/s that proof that company is 51% owned by Women or youth

|                                  | <b>Promotion of At least 51% Women owned companies and At least 51% owned companies by youth</b>                                                                                                                                                  |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>No Response<br/>(score 0)</b> | The tenderer did not respond or comply with this evaluation schedule. A score of 0 will also be awarded for any misrepresentation made in this regard,                                                                                            |
| <b>Good<br/>(score 1)</b>        | Certified copy of Identity Document/s that proof that company is 51% owned by Women and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership |
| <b>Good<br/>(score 1)</b>        | Certified copy of Identity Document/s that proof that company is 51% owned by youth and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership |

(If necessary the tenderer will be requested to present the office / business unit to officials of the City)

The undersigned, who warrants that he / she is duly authorized 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.

**Person authorized to sign the tender:**

**Full name (in BLOCK letters):** \_\_\_\_\_

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

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

## FORM RD.B.6 AT LEAST 51% OWNED COMPANIES BY PEOPLE WITH DISABILITY

The City of Tshwane has mandate for the promotion of At least 51% owned companies by People with disability. To comply with this the tenderer must provide Medical Certificate with doctor's details (Practice Number, Physical Address and contact numbers that proof that company is 51% owned by People with disability

|                                  | Promotion of At least 51% owned companies by People with disability                                                                                                                                                                                            |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>No Response<br/>(score 0)</b> | The tenderer did not respond or comply with this evaluation schedule.<br>A score of 0 will also be awarded for any misrepresentation made in this regard,                                                                                                      |
| <b>Good<br/>(score 1)</b>        | Medical Certificate with doctor's details (Practice Number, Physical Address and contact numbers and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership |

(If necessary the tenderer will be requested to present the office / business unit to officials of the City)

The undersigned, who warrants that he / she is duly authorized 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.

**Person authorized to sign the tender:**

**Full name (in BLOCK letters):**

**Signature:**

**Date:**

**FORM RD.C.1 PROOF OF REGISTRATION ON CSD WITH NATIONAL TREASURY**

1. Attach original or certified copy of CSD registration certificate to this page.
2. In the case of a joint venture / consortium (excluding consulting engineering partners) the joint venture / consortium must attach original or certified copy of their CSD registration certificate to this page.

**FORM RD.C.2 MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION**

1. The tenderer is required by law to prepare annual financial statements for auditing their audited annual financial statements:

- i) for the past three years; or  
ii) Since the establishment if established during the past three years.

Indicate whether these have been included in the tender:

|     |    |
|-----|----|
| YES | NO |
|-----|----|

2. Does the tenderer have any undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days?

|     |    |
|-----|----|
| YES | NO |
|-----|----|

If so, state particulars \_\_\_\_\_  
\_\_\_\_\_

3. Has any contracts been awarded to the tenderer by an organ of state during the past five years?

|     |    |
|-----|----|
| YES | NO |
|-----|----|

If so, state particulars \_\_\_\_\_  
\_\_\_\_\_

4. Has there been any material non-compliance or dispute concerning the execution of such contract?

|     |    |
|-----|----|
| YES | NO |
|-----|----|

If so, state particulars \_\_\_\_\_  
\_\_\_\_\_

5. Is any portion of the goods or services expected to be sourced from outside the Republic?

|     |    |
|-----|----|
| YES | NO |
|-----|----|

If, so state what portion and whether any portion of payment from the municipality is expected to be transferred outside of the Republic.  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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 accept that the state may act against me should this declaration prove to be false.

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

### FORM RD.C.3 PROOF OF REGISTRATION WITH THE CIDB

1. Attach original or certified copy of CIDB registration certificate to this page.
2. In the case of a joint venture / consortium (excluding consulting engineering partners) parties must each attach original or certified copy of their CIDB registration certificate.

| Firm                                                         | CRS Number | CIDB Grading | Lead Partner<br>(Indicate with X) |
|--------------------------------------------------------------|------------|--------------|-----------------------------------|
|                                                              |            |              |                                   |
|                                                              |            |              |                                   |
|                                                              |            |              |                                   |
|                                                              |            |              |                                   |
|                                                              |            |              |                                   |
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|                                                              |            |              |                                   |
|                                                              |            |              |                                   |
|                                                              |            |              |                                   |
|                                                              |            |              |                                   |
| <b>Combined CIDB Grading for Joint Venture / Consortium:</b> |            |              |                                   |

(Calculator is available at <https://registers.cidb.org.za/common/jvcalc.asp> )

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.

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

#### FORM RD.C.4 COMPLIANCE WITH OHSA (ACT 85 OF 1993)

Tenderers are required to satisfy the employer and the engineer as to their ability and available resources to comply with the above by answering the following questions and providing the relevant information required below.

(Tick applicable box)

|                                                                                                                                                                                |     |    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|
| 1. Are your company familiar with the OHSA (ACT 85 of 1993) and its Regulations?                                                                                               | YES | NO |
| 2. Who will prepare your company's Health and Safety Plan?<br>Provide a copy of the person/s curriculum vitae/s or company profile.                                            |     |    |
| 3. Do your company have a health and safety policy?<br>If <b>YES</b> provide a copy.                                                                                           | YES | NO |
| 4. How is this policy communicated to your employees?<br>Provide supporting documentation.                                                                                     | YES | NO |
| 5. Do your company keep record of safety aspects of each site where work is performed?<br>If <b>YES</b> what records are kept?                                                 | YES | NO |
| 6. Do your company conduct monthly safety meetings?<br>If <b>YES</b> , who is the chairperson of the meeting, and attend these meetings?                                       | YES | NO |
| 7. Do your company have a safety officer in its employment, responsible for overall safety of your company?<br>If <b>YES</b> , explain his duties and provide a copy of his CV | YES | NO |
| 8. Do your company have trained first aid employees?<br>If <b>YES</b> , indicate who.                                                                                          | YES | NO |
| 9. Do your company have a safety induction training programme in place?<br>If <b>YES</b> , provide a copy.                                                                     | YES | NO |
| 10. Does your company conduct medical surveillance for its employees?                                                                                                          | YES | NO |

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.

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

## FORM RD.C.5 RECORD OF SERVICES PROVIDED TO ORGANS OF STATE

Tenderers are required to complete this record in terms of the Supply Chain Management Regulations issued in terms of the Municipal Finance Management Act of 2003.

Include only those contracts where the tenderer identified in the signature block below was directly contracted by the employer. Tenderers must not include services provided in terms of a sub-contract agreement.

Where contracts were awarded in the name of a joint venture and the tenderer formed part of that joint venture, indicate in the column entitled "Title of the contract for the service" that was in joint venture and provide the name of the joint venture that contracted with the employer. In the column for the value of the contract for the service, record the value of the portion of the contract performed (or to be performed) by the tender.

Complete the record or attach the required information in the prescribed tabulation

| ALL SERVICES COMMENCED OR COMPLETED TO AN ORGAN OF STATE IN THE LAST FIVE YEARS |                                                                                                          |                                   |                                                |                                                     |
|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-----------------------------------|------------------------------------------------|-----------------------------------------------------|
|                                                                                 | Organ of state, i.e. national or provincial department, public entity, municipality or municipal entity. | Title of contract for the service | Value of contract for service incl. VAT (Rand) | Date completed (State current if not yet completed) |
| 1.                                                                              |                                                                                                          |                                   |                                                |                                                     |
| 2.                                                                              |                                                                                                          |                                   |                                                |                                                     |
| 3.                                                                              |                                                                                                          |                                   |                                                |                                                     |
| 4.                                                                              |                                                                                                          |                                   |                                                |                                                     |
| 5.                                                                              |                                                                                                          |                                   |                                                |                                                     |
| 6.                                                                              |                                                                                                          |                                   |                                                |                                                     |
| 7.                                                                              |                                                                                                          |                                   |                                                |                                                     |
| 8.                                                                              |                                                                                                          |                                   |                                                |                                                     |

(Attach additional pages if more space is required.)

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.

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

## FORM RD.C.6 SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of the major items of relevant equipment that I/we presently own/lease and will have available for this contract or will hire/acquire for this contract as proof of the requirements for Clause C.3.13 b) of the Standard Conditions of Tender

| Major equipment owned/leased that is immediately available for the execution of the works |                                  |
|-------------------------------------------------------------------------------------------|----------------------------------|
| Quantity                                                                                  | Description, size, capacity etc. |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |
|                                                                                           |                                  |

(Attach additional pages if more space is required)

| Major equipment that will be hired or acquired for the execution of the works |                                  |
|-------------------------------------------------------------------------------|----------------------------------|
| Quantity                                                                      | Description, size, capacity etc. |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |
|                                                                               |                                  |

(Attach additional pages if more space is required)

The undersigned, who warrants that he / she is duly authorized 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.

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

## FORM RD.C.8 STATUS OF CONCERN SUBMITTING TENDER

### 1. General

State whether the tenderer is a company, a closed corporation, a partnership, a sole practitioner, a joint venture/consortium or a co-operative

Public Company

Private Company

Closed Corporation

Partnership

Sole Proprietary

Joint Venture / Consortium

Co-operative

(Mark the appropriate option)

|  |
|--|
|  |
|  |
|  |
|  |
|  |
|  |
|  |

### 2. Information to be provided

| If the Tendering Entity is a: |                                                                                                                                                                                                                              | Documentation to be submitted with the tender                                                                                                                                                                                                                                                                                                        |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                             | <u>Closed Corporation</u> , incorporated under the Close Corporation Act, 1984, Act 69 of 1984                                                                                                                               | CIPRO CK1 or CK2 (Certified copies of the founding statement) and list of members                                                                                                                                                                                                                                                                    |
| 2                             | <u>Private Company</u> incorporated with share capital, under the companies Act, 1973, Act 61 of 1973<br>(Including Companies incorporated under Art 53 (b))                                                                 | Certified copies of:<br>a) CIPRO CM 1 - Certificate of Incorporation<br>b) CIPRO CM 29 – Contents of Register of Directors, Auditors and Officers<br>c) Shareholders Certificates of all Members of the Company, plus a signed statement of the Company's Auditor, certifying each Member's ownership/shareholding percentage relative to the total. |
| 3                             | <u>Private Company</u> incorporated with share capital, under the companies Act, 1973, Act 61 of 1973 in which any, or all, <u>shares are held by another</u> Closed Corporation or company with, or without, share capital. | Certified copies of documents referred to in 1 and/or 2 above in respect of all such Closed Corporations and/or Companies                                                                                                                                                                                                                            |
| 4                             | <u>Public Company</u> incorporated with share capital, under the companies Act, 1973, Act 61 of 1973<br>(Including Companies incorporated under Art 21)                                                                      | A signed statement of the Company's Secretary confirming that the Company is a public Company.                                                                                                                                                                                                                                                       |
| 5                             | <u>Sole Proprietary</u> or a <u>Partnership</u>                                                                                                                                                                              | Certified copy of the Identity Document of:<br>a) Such Sole Proprietary, or<br>b) Each of the Partners in the Partnership<br>Certified copy of the Partnership agreement.                                                                                                                                                                            |
| 6                             | <u>Co-operative</u>                                                                                                                                                                                                          | CIPRO CR2 - Certified copies of Company registration document.                                                                                                                                                                                                                                                                                       |

| If the Tendering Entity is a: |                                   | Documentation to be submitted with the tender                                                                                                                                   |
|-------------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                               |                                   |                                                                                                                                                                                 |
| 7                             | <u>Joint Venture / Consortium</u> | All the documents (as described above) as applicable to each partner in the joint venture / consortium as well as a certified copy of the joint venture / consortium agreement. |

**Note:**

- If the shares are held in trust provide a copy of the Deed of Trust (only the front page and pages listing the trustees and beneficiaries are required) as well as the Letter of Authority as issued by the Master of the Supreme Court wherein trustees have been duly appointed and authorised
- Include a certified copy of the Certificate of Change of Name (CM9) if applicable.

3. Registered for VAT proposes in terms of the Value-Added Tax Act (89 of 1991)

Yes

No

(Make an X in the appropriate space)

REGISTRATION NO: \_\_\_\_\_

## FORM RD.C.9 CLASSIFICATION OF BUSINESS

1. The Small Businesses are defined in the National Small Business Act, 1996 (Act 102 of 1996).

2. Information furnished with regard to the classification of Small businesses

(b.) Indicate whether the company/entity is defined as a small, medium or micro enterprise by the National Small Business Act.

|     |    |
|-----|----|
| YES | NO |
|-----|----|

(Tick appropriate box)

(c.) If the response to 2.(a.) is **YES**, the following must be completed:

i. Sector/sub-sector in accordance with the Standard Industrial classification:

---

ii. Size or class:

---

iii. Total full-time equivalent of paid employees:

---

iv. Total annual turnover:

---

v. Total gross asset value (fixed property excluded):

---

(A schedule indicating the different sectors is attached to this form.)

(d.) The tenderer should substantiate the information provided by submitting the following documentation:

i. A letter from the tenderer's auditor or an affidavit from the South African Police Services confirming the correctness of the abovementioned information,

ii. Company profile indicating the tenderer's staff compliment, and

iii. 3 year financial statement or since their establishment if established during the past 3 years.

## SCHEDULE OF SECTORS

| SIZE OF CLASS                                                 | THE TOTAL FULL-TIME EQUIVALENT OF PAID EMPLOYEES | TOTAL TURNOVER | TOTAL GROSS ASSET VALUE (FIXED PROPERTY EXCLUDED) |
|---------------------------------------------------------------|--------------------------------------------------|----------------|---------------------------------------------------|
| <b>AGRICULTURE</b>                                            |                                                  |                |                                                   |
| Medium                                                        | 100                                              | R 5 mil        | R 5 mil                                           |
| Small                                                         | 50                                               | R 3 mil        | R 3 mil                                           |
| Very Small                                                    | 10                                               | R 500 000      | R 500 000                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>MINING AND QUARRYING</b>                                   |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 39 mil       | R 23 mil                                          |
| Small                                                         | 50                                               | R 10 mil       | R 6 mil                                           |
| Very Small                                                    | 20                                               | R 4 mil        | R 2 mil                                           |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>MANUFACTURING</b>                                          |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 51 mil       | R 19 mil                                          |
| Small                                                         | 50                                               | R 13 mil       | R 5 mil                                           |
| Very Small                                                    | 20                                               | R 5 mil        | R 2 mil                                           |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>ELECTRICITY, GAS &amp; WATER</b>                           |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 51 mil       | R 19 mil                                          |
| Small                                                         | 50                                               | R 13 mil       | R 5 mil                                           |
| Very Small                                                    | 20                                               | R 5.1 mil      | R 1.9 mil                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>CONSTRUCTION</b>                                           |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 26 mil       | R 5 mil                                           |
| Small                                                         | 50                                               | R 6 mil        | R 1 mil                                           |
| Very Small                                                    | 20                                               | R 3 mil        | R 500 000                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>RETAIL AND MOTOR TRADE &amp; REPAIR SERVICES</b>           |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 39 mil       | R 6 mil                                           |
| Small                                                         | 50                                               | R 19 mil       | R 3 mil                                           |
| Very Small                                                    | 20                                               | R 4 mil        | R 600 000                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>WHOLESALE TRADE, COMMERCIAL AGENTS AND ALLIED SERVICES</b> |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 64 mil       | R 10 mil                                          |
| Small                                                         | 50                                               | R 32 mil       | R 5 mil                                           |
| Very Small                                                    | 20                                               | R 6 mil        | R 600 000                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>CATERING, ACCOMMODATION AND OTHER TRADE</b>                |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 13 mil       | R 3 mil                                           |
| Small                                                         | 50                                               | R 6 mil        | R 1 mil                                           |
| Very Small                                                    | 20                                               | R 5.1 mil      | R 1.9 mil                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>TRANSPORT, STORAGE &amp; COMMUNICATIONS</b>                |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 26 mil       | R 6 mil                                           |
| Small                                                         | 50                                               | R 13 mil       | R 3 mil                                           |
| Very Small                                                    | 20                                               | R 3 mil        | R 600 000                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>FINANCE &amp; BUSINESS SERVICES</b>                        |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 26 mil       | R 5 mil                                           |
| Small                                                         | 50                                               | R 13 mil       | R 3 mil                                           |
| Very Small                                                    | 20                                               | R 3 mil        | R 500 000                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |
| <b>COMMUNITY, SOCIAL AND PERSONAL SERVICES</b>                |                                                  |                |                                                   |
| Medium                                                        | 200                                              | R 13 mil       | R 6 mil                                           |
| Small                                                         | 50                                               | R 6 mil        | R 3 mil                                           |
| Very Small                                                    | 20                                               | R 1mil         | R 600 000                                         |
| Micro                                                         | 5                                                | R 200 000      | R 100 000                                         |

**FORM RD.C.10**

**LETTER OF INTENT TO PROVIDE A PERFORMANCE BOND**

It is hereby agreed that a Performance Bond drafted **exactly** as set out in the attached examples (See Section C1.3: Form of Guarantee) will be provided by the Surety named below:

Name of Surety (Bank or Insurer)

Address:

Signed:

Name:

Capacity:

On behalf of Tenderer (name of tenderer)

Date:

**CONFIRMED BY** Surety's Authorised representative

Signature(s):

Name (print):

Capacity

On behalf of Surety (Bank or Insurer)

Date:

**Note:** Refer to the Annexure to **C1.3 Form of Guarantee** for the List of Institutions from who Contract/Deposit Guarantees will be accepted.

The undersigned, who warrants that he / she is duly authorized 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.

Person authorized to sign the tender:

Full name (in BLOCK letters):

Signature:

Date:

### FORM RD.D.3 SCHEDULE OF TENDERERS EXPERIENCE

The experience of the tenderer or joint venture partners in the case of an unincorporated joint venture consortium, in similar projects shall be evaluated. Proof of experience (Appointment letters and Completion certificates) will influence the scoring on listed projects.

**NOTE:** The General Conditions of Contract prohibit the sub-contracting of the whole of the Contract.

The scoring of the Tenderer's experience shall be for a similar project (Pump Station and a Bulk Sewer Reticulation Project) as follows:

#### Previous Project Description:

- A maximum of 60 points will be allocated for similar projects
- A similar project is Pump Station and a Bulk Sewer Reticulation Project
- Tenderer to have successfully completed at least one Pump Station and Bulk Sewer Reticulation Project.

The following is a statement of similar work successfully executed by myself / ourselves:

|   | Employer, contact person and telephone number<br>(Project will be rejected without current accurate contact data) | Description of contract – of similar nature for each project (points to be allocated for each project of similar nature and scope ref C3.11) | Date completed | Points/ contract<br><br>To be completed by Evaluator |
|---|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------|
| 1 | Employer:<br>_____<br>Contact Person:<br>_____<br>Tel:<br>_____                                                   |                                                                                                                                              |                |                                                      |
| 2 | Employer:<br>_____<br>Contact Person:<br>_____<br>Tel:<br>_____                                                   |                                                                                                                                              |                |                                                      |
| 3 | Employer:<br>_____<br>Contact Person:<br>_____<br>Tel:<br>_____                                                   |                                                                                                                                              |                |                                                      |
| 4 | Employer:<br>_____<br>Contact Person:<br>_____<br>Tel:<br>_____                                                   |                                                                                                                                              |                |                                                      |
| 5 | Employer:<br>_____<br>Contact Person:<br>_____<br>Tel:<br>_____                                                   |                                                                                                                                              |                |                                                      |

|                                      | Employer, contact person and telephone number<br>(Project will be rejected without current accurate contact data) | Description of contract – of similar nature for each project (points to be allocated for each project of similar nature and scope ref C3.11) | Date completed | Points/ contract<br><br>To be completed by Evaluator |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------------------------------------------------|
| MAXIMUM TOTAL POINTS TENDERERS TOTAL |                                                                                                                   |                                                                                                                                              | (60)           |                                                      |

#### FORM RD.D.8 KEY PERSONNEL

The Tenderer shall schedule the following Key Personnel who would be assigned to this Contract. The Contractor shall be contractually obliged to make these personnel available for the duration of the Contract, failing which alternative personnel of equal or higher qualification may be accepted by the employer.

| POSITION                             | NAME | YEARS OF EXPERIENCE | NUMBER OF PROJECTS COMPLETED OF SIMILAR NATURE |
|--------------------------------------|------|---------------------|------------------------------------------------|
| Contract Manager                     |      |                     |                                                |
| Site Agent                           |      |                     |                                                |
| Foreman                              |      |                     |                                                |
| Occupational Health & Safety Officer |      |                     |                                                |

The Tenderer shall complete a CV for each of the Key Personnel in Form RD.D.9 accompanied by the certified proof of Qualifications, Professional Registrations, and Proof of Identity for all personnel.

## FORM RD.D.9.1 CURRICULUM VITAE FOR PROFESSIONALLY REGISTERED PERSONNEL

Note: This form should be completed for the Contract Manager, as listed in Form RD.D.8.

|                                                                                                                                                                                                                                                              |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Name:                                                                                                                                                                                                                                                        | Date of birth:   |
| Profession:                                                                                                                                                                                                                                                  | Nationality:     |
| Qualifications:                                                                                                                                                                                                                                              |                  |
| Professional membership, registration or license:                                                                                                                                                                                                            |                  |
| Name of employer (firm):                                                                                                                                                                                                                                     |                  |
| Current position:                                                                                                                                                                                                                                            | Years with firm: |
| <p>Certification:</p> <p>I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.</p> <p>_____<br/>(Signature of person named in schedule)</p> <p>_____<br/>Date:</p> |                  |

### D.9.1.1 EMPLOYMENT RECORD (from most recent)

| EMPLOYER     | POSITION HELD / ROLES | DATES |    | YEARS EXPERIENCE | POINTS |
|--------------|-----------------------|-------|----|------------------|--------|
|              |                       | FROM  | TO |                  |        |
|              |                       |       |    |                  |        |
|              |                       |       |    |                  |        |
|              |                       |       |    |                  |        |
|              |                       |       |    |                  |        |
|              |                       |       |    |                  |        |
| TOTAL POINTS |                       |       |    |                  |        |

### D.9.1.2 PARTICULAR & APPROPRIATE EXPERIENCE

(A project will be rejected without current & accurate contact details)

| CLIENT & CONTACT                                 | PROJECT DESCRIPTION (ref C3.1) | DATES |    | VALUE | POINTS |
|--------------------------------------------------|--------------------------------|-------|----|-------|--------|
|                                                  |                                | FROM  | TO |       |        |
|                                                  |                                |       |    |       |        |
|                                                  |                                |       |    |       |        |
|                                                  |                                |       |    |       |        |
|                                                  |                                |       |    |       |        |
|                                                  |                                |       |    |       |        |
| TOTAL POINTS                                     |                                |       |    |       |        |
| GRAND TOTAL POINTS (CARRIED OVER TO FORM RD.D.8) |                                |       |    |       |        |

## FORM RD.D.9.2 CURRICULUM VITAE OF KEY PERSONNEL

Note: This form should be completed for other personnel as listed in Form RD.D.8.

|                                                                                                                                                                                                                                                                                                                                                                                                        |                  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| Name:                                                                                                                                                                                                                                                                                                                                                                                                  | Date of birth:   |
| Profession:                                                                                                                                                                                                                                                                                                                                                                                            | Nationality:     |
| Qualifications:                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| Professional membership:                                                                                                                                                                                                                                                                                                                                                                               |                  |
| Name of employer (firm):                                                                                                                                                                                                                                                                                                                                                                               |                  |
| Current position:                                                                                                                                                                                                                                                                                                                                                                                      | Years with firm: |
| Certification:<br><br>I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience.<br><br><div style="display: flex; justify-content: space-between;"> <div>           _____<br/>           (Signature of person named in schedule)         </div> <div>           _____<br/>           Date:         </div> </div> |                  |

### D.9.2.1 EMPLOYMENT RECORD (from most recent)

| EMPLOYER     | POSITION HELD / ROLES | DATES |    | YEARS EXPERIENCE | POINTS |
|--------------|-----------------------|-------|----|------------------|--------|
|              |                       | FROM  | TO |                  |        |
|              |                       |       |    |                  |        |
|              |                       |       |    |                  |        |
|              |                       |       |    |                  |        |
|              |                       |       |    |                  |        |
|              |                       |       |    |                  |        |
| TOTAL POINTS |                       |       |    |                  |        |

### D.9.2.2 PARTICULAR & APPROPRIATE EXPERIENCE

(A project will be rejected without current & accurate contact details)

| CLIENT & CONTACT                                 | PROJECT DESCRIPTION (ref C3.1) | DATES |    | VALUE | POINTS |
|--------------------------------------------------|--------------------------------|-------|----|-------|--------|
|                                                  |                                | FROM  | TO |       |        |
|                                                  |                                |       |    |       |        |
|                                                  |                                |       |    |       |        |
|                                                  |                                |       |    |       |        |
|                                                  |                                |       |    |       |        |
|                                                  |                                |       |    |       |        |
| TOTAL POINTS                                     |                                |       |    |       |        |
| GRAND TOTAL POINTS (CARRIED OVER TO FORM RD.D.8) |                                |       |    |       |        |

**FORM RD.D.15 SUMMARY OF TENDERER'S EXPERIENCE SCORE**

| CRITERIA                               | REFERENCE | MAX POINTS | TENDERER'S SCORE |
|----------------------------------------|-----------|------------|------------------|
| <b>Tenderers Experience</b>            |           |            |                  |
|                                        |           |            |                  |
| Schedule of Tenderer's Experience      | RD.D.3    | 60         |                  |
|                                        |           |            |                  |
| <b>Total</b>                           |           | 60         |                  |
| <b>Key Personnel</b>                   |           |            |                  |
| Contracts Manager                      | RD.D.8    | 12         |                  |
| Site Agent                             | RD.D.8    | 10         |                  |
| Foreman                                | RD.D.8    | 8          |                  |
| Occupational Health and Safety Officer | RD.D.8    | 10         |                  |
| <b>Total</b>                           |           | 40         |                  |
|                                        |           |            |                  |
|                                        |           |            |                  |
|                                        |           |            |                  |
| <b>GRAND TOTAL</b>                     |           | <b>100</b> |                  |
| <b>Min Points</b>                      |           | <b>70</b>  |                  |

A minimum of **70 points** will be required to remain in the tender process.

## FORM RD.E.1 RECORD OF ADDENDA TO TENDER DOCUMENTS

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

|    | DATE | REFERENCE | TITLE |
|----|------|-----------|-------|
| 1  |      |           |       |
| 2  |      |           |       |
| 3  |      |           |       |
| 4  |      |           |       |
| 5  |      |           |       |
| 6  |      |           |       |
| 7  |      |           |       |
| 8  |      |           |       |
| 9  |      |           |       |
| 10 |      |           |       |

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.

Person authorized to sign the tender:

Full name (in BLOCK letters): \_\_\_\_\_

Signature: \_\_\_\_\_

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

**PORTION 2: CONTRACT**

**PART C1:               AGREEMENTS AND CONTRACT DATA**

**CONTENTS**

C1.1    FORM OF OFFER AND ACCEPTANCE ..... 2

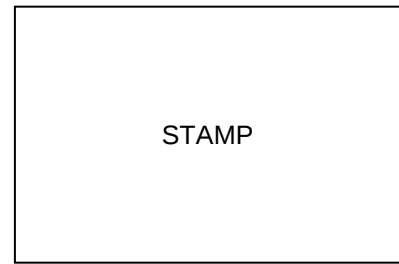
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## C1.1 FORM OF OFFER AND ACCEPTANCE



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

**CONTRACT HHS 01-2024/25 TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED STANDS AT MAMELODI X6 PHOMOLONG**

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 returnable schedules, and by submitting this Offer has accepted the Conditions of Tender.

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

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

R

(in figures)

(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.

NAME(s): (BLOCK LETTERS) .....

CAPACITY of authorized agents: .....

SIGNATURE(s) of authorized agents: .....

SIGNED at ..... on this ..... day of .....

WITNESSES: (Full name – BLOCK LETTERS – and signature)

1. ....

2. ....

## ACCEPTANCE

By signing this part of this Form of Offer and Acceptance, the Employer identified below accepts the Tenderer's Offer. In consideration thereof, the Employer shall pay the Contractor the amount due in accordance with the, Conditions of Contract identified in the Contract Data. Acceptance of the Tenderer's Offer shall form an agreement, between the Employer and the Tenderer upon the terms and conditions contained in this Agreement and in the, Contract that is the subject of this Agreement.

The terms of the contract, are contained in

|         |                                                               |
|---------|---------------------------------------------------------------|
| Part T1 | Tendering Procedures                                          |
| Part T2 | Returnable Documents                                          |
| Part C1 | Agreements and Contract Data, (which includes this Agreement) |
| Part C3 | Scope of Work                                                 |
| Part C4 | Site Information                                              |

and 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.

The Tenderer shall within two weeks after receiving a letter of acceptance, contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement.

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five 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<sup>1</sup>.

<sup>1</sup> As an alternative, the following wording may be used:

*Notwithstanding anything contained herein, this agreement comes into effect two days after the submission by the Employer of one fully completed original copy of this document including the schedule of deviations (if any), to a courier-to-counter delivery / counter-to-counter delivery / door-to-counter delivery / door-to-door delivery / courier service (delete that which is not applicable), provided that the Employer notifies the Tenderer of the tracking number within 24 hours of such submission. Unless the Tenderer (now Contractor) within seven 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.*

NAME(S): ( BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(S) of authorized agents:

SIGNED at on this day of

WITNESSE(S): (Full name – BLOCK LETTERS – and signature)

1. ....

2. ....

**SCHEDULE OF DEVIATIONS**

**Notes:**

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

|            |                |       |
|------------|----------------|-------|
| <b>4.1</b> | <b>Subject</b> | ..... |
|            | Details        | ..... |
| <b>4.2</b> | <b>Subject</b> | ..... |
|            | Details        | ..... |
| <b>4.3</b> | <b>Subject</b> | ..... |
|            | Details        | ..... |
| <b>4.4</b> | <b>Subject</b> | ..... |
|            | Details        | ..... |
| <b>4.5</b> | <b>Subject</b> | ..... |
|            | Details        | ..... |

By the duly authorised representatives signing this agreement, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from the 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, 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 AND ON BEHALF OF THE **TENDERER:**

NAME(s): (in block letters)

.....

CAPACITY of authorized agents:

.....

SIGNATURE(s) of authorized agents:

.....

SIGNED at

.....

on this

.....

day of

.....

WITNESSES: (Full name – in block letters – and signature)

1.

.....

.....

2.

.....

.....

FOR AND ON BEHALF OF THE **EMPLOYER:**

NAME(s): (in block letters)

.....

CAPACITY of authorized agents:

.....

SIGNATURE(s) of authorized agents:

.....

SIGNED at

.....

on this

.....

day of

.....

WITNESSES: (Full name – in block letters – and signature)

1.

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2.

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C1.2 CONTRACT DATA

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#### **C.1.2.1 GENERAL CONDITIONS OF CONTRACT**

The conditions of contract applicable to this contract shall be the **General Conditions of Contract for Construction Works, Third Edition (2015)** of the South African Institution of Civil Engineering (SAICE), read together with the Variations and Additions to the Conditions of Contract as well as the Data provided by Employer.

Should there be any contradicting conditions/statements between these Conditions of Contract and any other part of the tender documents/specifications, the Employer's Agent will give clarity on which version applies to this contract. For pricing purposes, the Contractor must take the least favourable meaning into consideration when tendering, no claims will be considered attributable to the contradicting conditions/statements.

Tenderers, contractors and subcontractors shall obtain their own copies of the document **General Conditions of Contract for Construction Works, Third Edition (2015)** for tendering purposes and for use for the duration of the contract from the Secretary of the South African Institution of Civil Engineering, Private Bag X200, Halfway House, Midrand, 1685 and shall bear all expenses in this regard.

## C1.2.2 VARIATIONS AND ADDITIONS TO THE CONDITIONS OF CONTRACT

The following variations and additions to the General Conditions of Contract for Construction Works, Third Edition (2015), shall apply to this contract:

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.1                 | <p><b>Add</b> the following definitions:</p> <p><i>1.1.1.13 The Defects Liability Period is <b>365 Days (12 months)</b> from the date of the Completion Certificate</i></p> <p><i>1.1.1.14.1 The starting/ commencement date is <b>the date which the contractor receives a signed copy of the contract document with a schedule of deviations, if any. The contractor is to submit documents listed under clause 5.3.1 herein prior to commencement.</b></i></p> <p><i>1.1.1.14.2 The time for achieving Practical Completion is <b>18 months from date of commencement.</b></i></p> <p><i>1.1.1.15 The name of the Employer is:</i></p> <p><i>City of Tshwane, represented by the Group Head, Human Settlements Department, and / or any other person or persons duly authorised thereto by the Employer in writing.</i></p> <p><i>1.1.1.16 The name of the Employer's Agent is:</i></p> <p><i>Nevhutalu Consulting Engineers, acting through a principal or an official authorised thereto in writing. The principal representing the Employer's Agent Nevhutalu Consulting Engineers is Mr. T Nebotalo.</i></p> <p><i>1.1.1.26 The pricing strategy of a re-measurement Contract shall apply</i></p> |
| 1.2.1               | <p><b>Add</b> the following to the clause:</p> <p><i>1.2.1.2 The address of the Employer is:</i></p> <p><i>Postal address:</i><br/> <i>P O Box 440</i><br/> <i>PRETORIA</i><br/> <i>0001</i></p> <p><i>Details of the Project Manager:</i></p> <p><i>Physical address:</i><br/> <i>Human Settlements Department</i><br/> <i>1st floor Tshwane House</i><br/> <i>320 Madiba Street</i><br/> <i>Pretoria</i><br/> <i>0002</i></p> <p><i>Contact numbers:</i><br/> <i>Telephone: 012 358 0925</i><br/> <i>Fax: NA</i><br/> <i>e-mail address: <a href="mailto:EstherMo@tshwane.gov.za">EstherMo@tshwane.gov.za</a></i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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| 1.2.2               | <ul style="list-style-type: none"> <li><i>The Employer has authorised the Group Head to act on his behalf in respect of this Contract, save for such duties or functions:</i></li> <li><i>which other holders of office ex officio execute on behalf of the Employer; or</i></li> <li><i>for which the Group Head has no authority and the Employer's approval is required before execution thereof.</i></li> <li><b>The Group Head is:</b><br/>Ms. Nonto Memela<br/>Human Settlements Department</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 3.2.3               | <i>The Employer's Agent is required in terms of his appointment by the Employer to obtain the specific approval of the Employer for any variations to the Scope of Work which may increase the contract sum.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 4.3                 | <p><b>Add</b> the following new sub-clause:</p> <p>1.3.3     <i>Wages and conditions of work:</i></p> <p>i.         <i>For conventional construction works the Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) shall apply and the minimum employment conditions which will apply shall be guided by the latest Sectoral Determination: Civil Engineering Sector published from time to time.</i></p> <p>ii.        <i>Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) as per Government Notice R63 of 25 January 2002, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.</i></p> <p><b>Add</b> the following new sub-clause:</p> <p>4.3.4     <i>Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37(2) of the Act. The Contractor shall sign the Occupational Health and Safety Agreement for Contract Work in the City of Tshwane Metropolitan Municipality included in section C1.5.</i></p> <p><b>Add</b> the following new sub-clause:</p> <p>4.3.5     <i>The Employer retains an interest in all inquiries conducted under this Contract in terms of Section 31 and/or 32 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and its Regulations following any incident involving the Contractor and/or Sub-Contractor and/or their employees. The Contractor shall notify the Employer in writing of all investigations, complaints or criminal charges which may arise pursuant to work performed under this Contract in</i></p> |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
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|                     | <i>terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Regulations.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 5.3.1               | <p><i>The documentation required before commencement with Works execution are:</i></p> <ul style="list-style-type: none"> <li><i>A signed copy of the Form of Offer and Agreement between the Employer and the Contractor for the Works to be completed by the Contractor in terms of the contract.</i></li> <li><i>A permit or notification of construction works in terms of Regulations 3(1) and (2) of the Construction Regulations 2014.</i></li> <li><i>Health and Safety Plan (Refer to Clause 4.3) approved by Safety Agent, Safety File approved by Safety Agent and/or CoT OHS Department.</i></li> <li><i>A signed Agreement between the Employer and the Contractor for the Works to be completed by the Contractor in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act (Act No.85 of 1993) and the Construction Regulations promulgated thereunder (Refer to Clause 4.3) use latest 2014.</i></li> <li><i>Proof of payment to the Employer, that the Contractor has paid all contributions required in terms of the Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993 (Refer to Clause 4.3).</i></li> <li><i>Initial programme (Refer to Clause 5.6)</i></li> <li><i>Security (Refer to Clause 6.2)</i></li> <li><i>Insurance (Refer to Clause 8.6)</i></li> <li><i>Initial Cashflow Projections for the approval by Engineer</i></li> </ul> <p><i>Additional documentation required before commencement with Works execution are:</i></p> <ul style="list-style-type: none"> <li><i>Quality Control Site Books, such as Site Diary, Compaction Control Tests, Levels, Concrete Tests, Site Instructions, Plant and Equipment, Labour for approval by Employer's Agent / Representative and acknowledgement to adhere to Engineer's QMS</i></li> <li><i>Construction Method Statements</i></li> <li><i>Staff CVs for approval by Employer and Employer's Agent as per contract specification (Part T1.2-Tender Data, Clause C2.1)</i></li> <li><i>SMME Management and Monitoring plan for CoT approval. The SMME Management Plan shall entail breakdown of the scope of works to be executed by local SMMEs, SMME selection approach, management and skills transfer approach, number of local SMMEs to be engaged on the project</i></li> </ul> |
| 5.3.2               | <i>The time to submit the documentation required before commencement with Works execution is 21 days.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 5.4.2.1             | <i>Section of the pipeline is in a private and business property therefore working areas needs to be barricaded and signs erected to limit access to the construction working areas.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5.5.1               | <i>The estimated construction period is 18 months from date of commencement based on the engineer's estimates.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 5.8.1               | <p><i>The non-working days are Saturdays and Sundays</i></p> <p><i>The special non-working Days are:</i></p> <p><i>Statutory public holidays; and</i></p> <p><i>All annual year-end shutdown periods as recommended by the South African Federation of Civil Engineering Contractors, and which commence before the Completion Date.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5.12                | <b>Add</b> the following new sub-clause                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                     | <p><b>5.12.5 Critical path provision</b></p> <p><i>A delay in so far as extension of time is concerned, will be regarded as a delay only if, on a claim by the Contractor in accordance with the General Conditions of Contract, the Engineer rules that all progress on an item or items of work on the critical path of the approved programme for the execution of the Works by the Contractor, has been brought to a halt. Delays on normal working days only, based on a working week, of five normal working days, will be taken in account for the extension of time.</i></p> <p><b>Add</b> the following new sub-clause</p> <p><b>5.12.6 Extension of time due to abnormal rainfall</b></p> <p><i>Extension of time due to abnormal rainfall shall be determined by means of Method 1, if rainfall records and/or values derived from rainfall records are supplied in the Scope of Work, otherwise Method 2 shall apply.</i></p> <p><u><b>Method 1: Rainfall formula method</b></u></p> <p><i>The rainfall records and/or values derived from rainfall records from a suitable rainfall station near the Site, which are supplied in the Project Specifications, shall be considered suitable for the determination of extension of time due to abnormal rainfall in accordance with this method.</i></p> <p><i>Extension of time arising from abnormal rainfall, shall be calculated separately for each calendar month or part thereof for the full period of completion of the Contract, including any extension thereof, in accordance with the rainfall formula given below:</i></p> $V = (N_w - N_n) + \frac{(R_w - R_n)}{X}$ <p><i>If V is negative and its absolute value exceeds N<sub>n</sub>, then V shall be equal to minus N<sub>n</sub>.</i></p> <p><i>If V is positive and greater than the number of calendar days in the calendar month under consideration, V shall be taken as equal to the number of calendar days in the relevant calendar month.</i></p> <p><i>The symbols shall have the following meaning:</i></p> <p><i>V = Extension of time in calendar days in respect of the calendar month under consideration</i></p> <p><i>N<sub>w</sub> = Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.</i></p> <p><i>R<sub>w</sub> = Actual rainfall in mm for the calendar month under consideration.</i></p> <p><i>N<sub>n</sub> = Average number of days as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month. Rainfall records and/or the derived values of N<sub>n</sub> will be provided in the Specifications.</i></p> <p><i>R<sub>n</sub> = Average rainfall in mm for the calendar month, as derived from existing rainfall records. Rainfall records and/or the derived values of R<sub>n</sub> will be provided in the Project Specifications.</i></p> <p><i>X = 20 unless otherwise provided in the Project Specifications</i></p> <p><i>Y = 10 unless otherwise provided in the Project Specifications</i></p> |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
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|                     | <p><i>The total extension of time shall be the algebraic sum of the monthly totals for the period under consideration. However, if the grand total is negative the time for completion shall not be reduced on account of abnormal rainfall. Extension of time for parts of a month shall be calculated by pro rata values of <math>N_n</math> and <math>R_n</math> being used.</i></p> <p><i>The factor <math>(N_w - N_n)</math> shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds <math>Y</math> mm and wet conditions prevented or disrupted work.</i></p> <p><i>The factor <math>\frac{(R_w - R_n)}{X}</math> shall be considered to represent a fair allowance for variations from the allowance for variations from the average number of days when wet conditions further to that allowed for the factor <math>(N_w - N_n)</math>, prevented or disrupted work during the calendar month.</i></p> <p><i>Accurate rain gauging shall be taken at a suitable point on Site and the Contractor shall, at his own expense, take all necessary precautions to ensure that the rain gauges cannot be interfered with.</i></p> <p><i>This formula does not take into account further on concurrent delays which could be caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i></p> <p><u><i>Method 2: Expected delay method</i></u></p> <p><i>The Contractor shall make provision in his programme for the execution of the Works, for an expected delay of "n" normal working days (based on a working week of five normal working days) due to normal rainfall, for which he will not receive any extension of time.</i></p> <p><i>Unless otherwise provided in the Project Specifications, the value of "n" shall be taken as equal to the tendered time for completion of the Works in months, rounded off to an integer.</i></p> <p><i>Extension of time during normal working days will be granted to the degree to which actual delays as determined in accordance with Sub-Clause (42.5 Critical Path Provision) hereof, exceed the number of "n" normal working days.</i></p> <p><i>The value of "n" does not take into account further or concurrent delays which are caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i></p> |
| 5.13.1              | <i>The penalty for failing to complete the Works is 1/30 of a 1% of the Contract Sum (excluding VAT) per calendar day.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 5.16.3              | <i>The latent defect period is 5 years, commencing on the day after the date of certification of Practical Completion.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 6.1                 | <p><b>Add</b> the following new sub-clause:</p> <p>6.1.2 <i>Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way of his obligations either in contract or in delict.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

| CLAUSE / SUB-CLAUSE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>Add</b> the following new sub-clause</p> <p>6.1.3     <i>The Contractor shall be paid at Pretoria in the currency of the Republic of South Africa only at the Office of the Chief Financial Officer of the CITY OF TSHWANE, unless otherwise stated in the Data provided by Employer.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6.2.1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><i>The form of Security for this Contract will be a Performance Guarantee.</i></p> <p><i>This Performance Guarantee is to be 10% of the Contract Value.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6.5.1.2.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <i>The percentage allowance to cover overhead charges is 10%.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6.8.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <p><i>The values of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:</i></p> <p><i>The values of the coefficients are:</i><br/> <i>a = 0.20</i><br/> <i>b = 0.40</i><br/> <i>c = 0.25</i><br/> <i>d = 0.15</i></p> <p><i>The site or largest part thereof shall be deemed to be located in the national province of Gauteng</i></p> <p><i>The applicable industry for the Producer Price index for materials is Building and Construction Civil Engineering.</i></p> <p><i>The area for the Producer Price Index for fuel is Witwatersrand.</i><br/> <i>The base month is the month before the month in which the tenders close.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6.10.1.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <i>The percentage advance on materials not yet built into the Permanent Works is 80%. Proof of ownership is required.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6.10.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <i>The percentage retention money is 10 % of the Certificate Value.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 6.10.3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <i>The limit of retention money is 5% of the Contract Sum.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <p><b>8.6.1 For contracts above R20 million, the contractor is to choose between the following options and submit proof of the documentation requested:</b></p> <table border="1"> <thead> <tr> <th>OPTION A</th><th>OPTION B</th></tr> </thead> <tbody> <tr> <td> <p><b><u>The Contractor's own Public Liability Insurance Policy and/or Contractors All Risk Policy only applicable for Service Contracts</u></b></p> <p><b>Contractor to insure the following:</b></p> <p>a) All Risk Insurance cover with regard to all Plant and Materials and Equipment, owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</p> <p>b) Motor Vehicle and Liability Insurance cover indicating the registration numbers of the</p> </td><td> <p><b><u>The City of Tshwane's Public Liability for Contractors Policy or Principal Controlled Contractors All Risk Policy for all contracts including Service Contracts</u></b></p> <p><b>The City of Tshwane to only insure the works by the Contractor.</b></p> <p>The Contractor/Sub-contractor must obtain for the duration of the contract until the issuing of the Defects Certificate or the end of the Maintenance Period, the following insurance policies in the name of the Contractor (including all Subcontractors whether nominated</p> </td></tr> </tbody> </table> | OPTION A | OPTION B | <p><b><u>The Contractor's own Public Liability Insurance Policy and/or Contractors All Risk Policy only applicable for Service Contracts</u></b></p> <p><b>Contractor to insure the following:</b></p> <p>a) All Risk Insurance cover with regard to all Plant and Materials and Equipment, owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</p> <p>b) Motor Vehicle and Liability Insurance cover indicating the registration numbers of the</p> | <p><b><u>The City of Tshwane's Public Liability for Contractors Policy or Principal Controlled Contractors All Risk Policy for all contracts including Service Contracts</u></b></p> <p><b>The City of Tshwane to only insure the works by the Contractor.</b></p> <p>The Contractor/Sub-contractor must obtain for the duration of the contract until the issuing of the Defects Certificate or the end of the Maintenance Period, the following insurance policies in the name of the Contractor (including all Subcontractors whether nominated</p> |
| OPTION A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | OPTION B                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <p><b><u>The Contractor's own Public Liability Insurance Policy and/or Contractors All Risk Policy only applicable for Service Contracts</u></b></p> <p><b>Contractor to insure the following:</b></p> <p>a) All Risk Insurance cover with regard to all Plant and Materials and Equipment, owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</p> <p>b) Motor Vehicle and Liability Insurance cover indicating the registration numbers of the</p> | <p><b><u>The City of Tshwane's Public Liability for Contractors Policy or Principal Controlled Contractors All Risk Policy for all contracts including Service Contracts</u></b></p> <p><b>The City of Tshwane to only insure the works by the Contractor.</b></p> <p>The Contractor/Sub-contractor must obtain for the duration of the contract until the issuing of the Defects Certificate or the end of the Maintenance Period, the following insurance policies in the name of the Contractor (including all Subcontractors whether nominated</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
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|                     | <p>vehicles owned, leased or hired by the Contractor that are used in the execution of the contract to the amount of at least R5-million per claim with the number of claims unlimited.</p> <p>c) SASRIA cover for motor vehicles and Plant and Materials and Equipment owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</p> <p>d) In respect of Plant and Materials and Equipment and Motor Vehicles brought onto the Site by or on behalf of Sub-contractors, the Contractor shall be deemed to have complied with the provisions of this Sub-Clause by ensuring that such Sub-contractors have similarly insured such Plant and Materials and Equipment and Motor Vehicles.</p> <p>e) Proof must also be submitted that the Contractor complies with the conditions of the following legislation:</p> <ol style="list-style-type: none"> <li>1. Compensation for Occupational Injuries and diseases, 1993.</li> <li>2. Unemployment Insurance Act, 1996.</li> <li>3. The Contractor shall in respect of the Site of the contract works appoint in writing a competent person to meet the requirements of the Health and Safety Act, No 85 of 1993 as amended.</li> </ol> <p>f) Public Liability insurance cover in the name of the contractor. The minimum limit of indemnity for any one event is R5- million and the number of claims will be unlimited.</p> <p>g) The insurance period must be specified in the Insurance Policy.</p> <p>h) The rights and interests of the City of Tshwane must be noted in the Insurance Policy in the form of an endorsement.</p> <p>or otherwise) at an insurance company within 21 (twenty-one) days of the notification of acceptance of the tender and must pay all premiums and supply proof thereof to the relevant Project Manager 30 (thirty) days before the inception of the contract, that the policies have been taken out and that all premiums have been paid:</p> <p><b>Contractor to insure the following:</b></p> <p>a) All Risk Insurance cover with regard to all Plant and Materials and Equipment owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</p> <p>b) Motor Vehicle and Passenger Liability Insurance cover indicating the registration numbers of the vehicles owned, leased or hired by the Contractor that are used in the execution of the contract to the amount of at least R10-million per claim with the number of claims unlimited.</p> <p>c) SASRIA cover for motor vehicles and Plant and Materials and Equipment owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</p> <p>d) In respect of Plant and Materials and Equipment and Motor Vehicles brought onto the Site by or on behalf of Subcontractors, the Contractor shall be deemed to have complied with the provisions of this Sub-Clause by ensuring that such Subcontractors have similarly insured such Plant and Materials and Equipment and Motor Vehicles.</p> <p>e) Without limiting the Contractor's obligation in terms of the Contract, the Contractor will effect and maintain for the duration of the contract period until the issuing of the Defects Certificate or the end of the Maintenance Period insurance against all accidents or misfortunes including accidental loss of or</p> |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
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|                     | <p>damage to tangible property (except the Works, Plant and Materials and Equipment) and liability for accidental death of or bodily injury to or illness or disease contracted by any person (not an employee of the Contractor) occurring during the Period of Insurance and arising out of or in connection with the performance of the Insured Contract at the Contract Site as defined in the Schedule at any insurance company or under the policy effected by the Employer within 30 (thirty) days before the inception of the contract. The minimum limit of indemnity for any one event is R5-million and the number of claims will be unlimited.</p> <p>f) Proof must also be submitted that the Contractor complies with the conditions of the following legislation:</p> <ol style="list-style-type: none"> <li>1. Compensation for Occupational Injuries and diseases, 1993.</li> <li>2. Unemployment Insurance Act, 1996.</li> <li>3. The Contractor shall in respect of the Site of the contract works appoint in writing a competent person to meet the requirements of the Health and Safety Act, No 85 of 1993 as amended.</li> </ol> <p>8.6.1.2 <i>The Employer's insurer will indemnify the Contractor against all sums for which the Contractor shall become legally liable towards third party claimants to pay for and in consequence of:</i></p> <ol style="list-style-type: none"> <li>a) <i>Accidental death of or bodily injury to or illness or disease contracted by any person (excluding employees of the Contractor/Sub-contractor);</i></li> <li>b) <i>Accidental physical loss or damage to tangible property occurring during the Period of Insurance and arising out of or in connection with the performance of the Insured Contract at the Contract Site as defined in the Schedule. The minimum limit of indemnity for any one event is R10-million in respect of contracts with a contract value of up to R50-million (excluding VAT).</i></li> </ol> <p>8.6.2 <i>Insurance Premium payable</i><br/> <i>The Employer will pay the insurance premium for the works damage and public liability insurance cover. The insurance premium will be calculated based on the approved Capital Budget per financial year and the insurance premium will be charged out to the relevant departments by the Section: Insurance and Risk Management.</i></p> <p>8.6.3 <i>Additional insurance by the Employer</i><br/> <i>The Employer shall be free to effect at his own cost any additional insurance, which he deems necessary in own interest to cover loss or damage not insured in terms of the insurance policies of Sub-Clause 1 of this Clause.</i></p> <p>8.6.4 <i>Additional insurance by Contractor/Sub-contractor</i></p> |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
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|                     | <p><i>The Contractor and Sub-contractor shall be free to effect and maintain at their own cost any additional insurance which the Contractor/Sub-contractor deem necessary to cover damage, loss or injury not insured in terms of the insurance effected by the Employer's insurer. The cost of the additional insurance will be for the account of the Contractor/Sub-contractor.</i></p> <p>8.6.5 <i>Contractor satisfied with insurance</i><br/> <i>The submission of a tender shall be construed as acknowledgement by the Contractor that he is satisfied with the insurance cover effected by the Employer.</i></p> <p>8.6.6 <i>Contractor to observe conditions</i><br/> <i>The Contractor shall give all notices and observe all conditions and requirements imposed by the relevant insurance policies, which shall be binding on the Contractor.</i></p> <p>8.6.7 <i>Contractor to Insure</i><br/> <i>The Contractor must obtain for the duration of the contract until the issuing of the Defects Certificate or the end of the Maintenance Period, the following insurance policies at an insurance company within 21 (twenty-one) days of the notification of acceptance of the tender and must pay all premiums and supply proof thereof to the relevant Project Manager, 30 (thirty) days before the inception of the contract, that the policies have been taken out and that all premiums have been paid:</i></p> <ul style="list-style-type: none"> <li>a) <i>All Risk Insurance cover with regard to all Plant and Materials and Equipment, owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</i></li> <li>b) <i>Motor Vehicle and Liability Insurance cover indicating the registration numbers of the vehicles owned, leased or hired by the Contractor that are used in the execution of the contract to the amount of at least R10-million per claim with the number of claims unlimited.</i></li> <li>c) <i>SASRIA cover for motor vehicles and Plant and Materials and Equipment owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</i></li> <li>d) <i>In respect of Plant and Materials and Equipment and Motor Vehicles brought onto the Site by or on behalf of Subcontractors, the Contractor shall be deemed to have complied with the provisions of this Sub-Clause by ensuring that such Subcontractors have similarly insured such Plant and Materials and Equipment and Motor Vehicles.</i></li> <li>e) <i>Proof must also be submitted that the Contractor complies with the conditions of the following legislation:</i> <ul style="list-style-type: none"> <li>i. <i>Compensation for Occupational Injuries and diseases, 1993.</i></li> <li>ii. <i>Unemployment Insurance Act, 1996.</i></li> <li>iii. <i>The Contractor shall in respect of the Site of the contract works appoint in writing a Section 16 appointee to meet the requirements of the Health and Safety Act, No. 85 of 1993 as amended.</i></li> </ul> </li> <li>f) <i>The Project Manager involved must furnish the required insurance documentation 30 (thirty) days before the inception of the contract to the Section: Insurance and Risk Management.</i></li> <li>g) <i>In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Project Manager of every occurrence within 48 (forty-eight) hours giving the circumstances, nature and an estimate of the loss or damage.</i></li> <li>h) <i>The Project Manager will be responsible too complete and submit the relevant claim documentation for each incident within 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Project Manager more than 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management, the claim will only be considered if the claim documentation is accompanied by a letter from the</i></li> </ul> |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                     | <p><i>relevant Strategic Executive Officer motivating the reason(s) for the late reporting of the incident, but the Project Manager must take note the Insurer might repudiate the loss if it is found that the insurers rights have been compromised as a result of the late reporting.</i></p> <p><i>i) The following documentation must be included with the claim documentation:</i></p> <p><i>a. Photos of damages caused or suffered as proof or substantiation of the claims.</i></p> <p><i>j) In the event of Insured Property being damaged during the Contract Works beyond economical repair, the property must be safeguarded and be handed over to the Employer's insurer for salvage.</i></p> <p><i>k) The Section: Insurance and Risk Management will inform the Employer's insurer of the incident. The Contractor/Subcontractor shall afford all reasonable access to the Site to the Employer, the Project Manager, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i></p> <p><b>8.6.8 Reporting of catastrophic incidents</b></p> <p><i>In the event of an occurrence, which is likely to give rise to a claim, under the insurance policy effected by the Employer, with an estimated loss or damage of more than R250 000,00, the Contractor and the Project Manager will adhere to the following procedures:</i></p> <p><i>a) In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Project Manager of every occurrence within 24 (twenty-four) hours giving the circumstances, nature and an estimate of the loss or damage.</i></p> <p><i>b) The Project Manager must notify the Section: Insurance and Risk Management on the same day that the Contractor has notified the Project Manager of the incident.</i></p> <p><i>c) The Section: Insurance and Risk Management will notify the Employer's insurer of the incident. The Contractor shall afford all reasonable access to the Site to the Employer, the Project Manager, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage</i></p> <p><i>d) The Project Manager will be responsible to complete and submit the relevant claim documentation for each incident within 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Project Manager more than 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management, the claim will only be considered if the claim documentation is accompanied by a letter from the relevant Group Head motivating the reason(s) for the late reporting of the incident. Should the relevant claim documentation not be submitted within 30 (thirty) days, the claim will be repudiated.</i></p> <p><b>8.6.9 Reporting of crime related incidents</b></p> <p><i>All crime related incidents, losses or shortages irrespective of the value, must be reported within 24 (twenty-four) hours by the person who was involved or who has discovered the incident to the nearest South African Police Services (SAPS) station. The name of the Police Station, Investigation Officer and the Case number must be obtained and stated on the Contractor Claim Form. Should the incident not be reported to the SAPS, the claim will be repudiated.</i></p> |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
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|                     | <p><b>8.6.10 Claim documentation</b></p> <p><i>The Project Manager must obtain all relevant information from the Contractor and complete the Contractor Claim Form, included in this report as Annexure B that is available on the Intranet. The project number must be stated on the Contractor Claim Form.</i></p> <p><i>The Project Manager must submit with the Contractor Claim Form a detailed cost sheet indicating the estimate of the loss or damage.</i></p> <p><i>Any misrepresentation, mis-description or non-disclosure of material facts, at the option of the insurers, can result in claims submitted being declared null and void.</i></p> <p><b>8.6.11 Authorization of claim forms</b></p> <p><i>It is imperative that a formally delegated official or his nominee of the Employer should authorize the Contractor Claim forms as proof of the appropriate authorization, verification and approval of claims submitted. The Group Head must provide an authorization letter to the Section: Insurance and Risk Management stating the names and the specimen signatures of the delegated official or his nominee within 30 (thirty) days from approval of this report by Council. Should the delegated official or his nominee not sign the relevant claim form, the claim will be repudiated as this may lead to inappropriate independent verification of the validity of claims, thereby increasing the risk of insurance fraud and consequent reputation damage to the Employer.</i></p> <p><b>8.6.12 Contractor to pay deductibles</b></p> <p><i>Any claim in terms of the insurance affected by the Employer shall be subject to the Contractor being responsible for the payment of the amount stated in the Annexure to the Policies as being the deductible (first amount payable or Excess) as defined in the Certificate of Insurance issued by the Employer's insurer in terms of the Policy.</i></p> <p><b>8.6.13 Settlement of claims</b></p> <p><i>All incidents reported to the Section: Insurance and Risk Management in respect of an occurrence, which is likely to give rise to a claim will be forwarded to the Employer's insurer who will take the necessary actions for the settlement of any such claims.</i></p> <p><i>The Contractor shall negotiate for the settlement of claims with the Employer or the Employer's insurer through the Section: Insurance and Risk Management. The Employer's Chief Financial Officer will authorize all settlements of claims. Should action for the settlement of any such claim to the satisfaction of the Project Manager not be taken by the Contractor within 30 (thirty) days after receipt of such claim by the Contractor, the Employer or the Employer's insurer may settle any such claim, after giving the Contractor notice of its intention to do so; provided that no such claim shall be settled by the Employer or the Employer's insurer without first consulting the Contractor.</i></p> <p><i>The foregoing provisions of this Sub-Clause shall apply mutatis mutandis to any such claim received by the Contractor directly</i></p> |

| CLAUSE / SUB-CLAUSE | VARIATION / ADDITION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
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|                     | <p><i>Add the following Clause:</i></p> <p><i>Pricing of Standing Time</i></p> <p><i>The Contractor shall price the standing time items included in the Pricing Data and set out all labour and equipment he proposes to use in the execution of the Contract and their respective daily rates in a Schedule attached to the Bill of Quantity of this tender.</i></p> <p><i>These rates shall only be subject to escalation if the Contract is subject to escalation, failing which they will be fixed for the duration of the Contract including any extension of time that may be granted in accordance with the provisions of the Contract.</i></p> <p><i>Contractor's Plant:</i></p> <p><i>The standing time rates shall be the total cost to the Employer in respect of any standing time incurred by the Contractor and shall include for all Contractor's profits, overheads, transport to site, establishment on site, removal from site, supervision, hire rates, fuel, oil, maintenance and servicing, associated items such as slings, jackets, etc. test certificates, operator costs (including overtime and Sunday time), accommodation, travelling, subsistence and other costs relative to the employment by the Contractor of the personnel.</i></p> <p><i>Contractor's Labour:</i></p> <p><i>The standing time rates shall be the total cost to the Employer in respect of standing time of labour and shall include for all Contractor's profits, overheads, establishments, supervision, wages, accommodation, travelling, subsistence and other costs relative to the employment by the Contractor of the categories of labour detailed, and for hand and small tools such as cutting and welding torches, angles grinders, drilling machines, etc. and consumables normal to the trade or labour category.</i></p> |
| 11.2                | <p><i>Where the Contractor has not inserted rates for specific labour or plant, that could have reasonably have been foreseen at tender stage, the Employer's Agent – in agreement with the employer shall have the sole discretion, in the event of such foreseeable labour and plant becoming necessary, to set a rate that is in his opinion the most appropriate for such labour or tradesmen.</i></p> <p><i>No additional Preliminary and General costs shall be paid for standing time as these costs shall be deemed to be covered for in the rates and prices for Preliminary and General items. If the contract duration is extended, then the Preliminary and General charges shall be adjusted accordingly as stated in the General Condition of Contract only if the motivation is recommended by the engineer and approved by the client.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 11.3                | <p><i>The payment of any standing time by the Employer shall be subject to the Contractor demonstrating that it has a valid claim in terms of Clause 10.1 of the GCC.</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

### C1.2.3 DATA PROVIDED BY THE EMPLOYER

| CLAUSE/OPTION  |                                                                       | DATA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
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| 1.1.1.13       | The Defects Liability period is:                                      | 12 (twelve) months from the date of the Certificate of Completion.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 1.1.1.14<br>.1 | Start/ commencement date                                              | The starting/commencement date is the date which the contractor receives a signed copy of the contract document with a schedule of deviations, if any. The contractor is to submit documents listed under Clause 5.3.1 herein prior to commencement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 1.1.1.14<br>.2 | The time for achieving Practical Completion is:                       | 18 months from date of commencement as allocated by the Employer's Agent                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 1.1.1.15       | The name of the Employer is:                                          | City of Tshwane Metropolitan Municipality.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 1.1.1.26       | The Pricing Strategy is:                                              | Re-measurement Contract                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 1.2.1.2        | The address of the Employer is:                                       | Physical Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Human Settlements Division<br>1st floor Tshwane House<br>320 Madiba Street<br>Pretoria<br>0002 |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
|                |                                                                       | Postal Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | P O Box 440<br>PRETORIA<br>0001                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
|                |                                                                       | E-Mail Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | EstherMo@tshwane.gov.za                                                                        |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 1.1.1.16       | The name of the Employer's Agent is:                                  | Nevhutalu Consulting Engineers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 1.2.1.2        | The address of the Employer's Agent is:                               | Physical Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 521 Zuzette Street<br>Moreleta Park<br>Pretoria<br>0044                                        |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
|                |                                                                       | Postal Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 521 Zuzette Street<br>Moreleta Park<br>Pretoria<br>0044                                        |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
|                |                                                                       | E-Mail Address:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | admin@nevhutalu.co.za                                                                          |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 3.1.3          |                                                                       | <ul style="list-style-type: none"><li>The Employer's Agent is required to obtain approval of the Employer:<ul style="list-style-type: none"><li>for expenditure on the Contract to exceed the Contract Price;</li><li>prior to the execution of any of the following duties of functions:</li></ul></li></ul> <table><tr><th>CLAUSE</th><th>DUTY/FUNCTION</th></tr><tr><td>3.2.4</td><td>Authorization to Employer's Agent Representative or any other person</td></tr><tr><td>3.3.1</td><td>Nomination of person as Employer's Agent Representative</td></tr><tr><td>4.10.1</td><td>Approval to use the Site for any other purpose such as housing</td></tr><tr><td>5.3.1</td><td>Delivery of the written notice to commence the execution of the works</td></tr><tr><td>5.6.3</td><td>Approval of programme of construction</td></tr></table> |                                                                                                | CLAUSE | DUTY/FUNCTION | 3.2.4 | Authorization to Employer's Agent Representative or any other person | 3.3.1 | Nomination of person as Employer's Agent Representative | 4.10.1 | Approval to use the Site for any other purpose such as housing | 5.3.1 | Delivery of the written notice to commence the execution of the works | 5.6.3 | Approval of programme of construction |
| CLAUSE         | DUTY/FUNCTION                                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 3.2.4          | Authorization to Employer's Agent Representative or any other person  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 3.3.1          | Nomination of person as Employer's Agent Representative               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 4.10.1         | Approval to use the Site for any other purpose such as housing        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 5.3.1          | Delivery of the written notice to commence the execution of the works |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |
| 5.6.3          | Approval of programme of construction                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                |        |               |       |                                                                      |       |                                                         |        |                                                                |       |                                                                       |       |                                       |

|             |                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
|-------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------|---------|-----------------------------------------------------------------------------|-----------------------------------|----------------------------------|------|-------------------------------------|--------|--------------------------------|--------|----------------------------------------------------|--------|------------------------------------------|--------|-------------------------------------------|-------|---------------------------------------------------------------|-----|----------------------------------------------------------|------|--------------------------------------------------|-------|---------------------------------------------------------------------------|-------|---------------------------------------|---------|---------------------------------------------------------------------|
|             |                                                                             | <table><tr><td>5.7.2</td><td>Permission to carry out work by day and by night</td></tr><tr><td>5.8.1.1</td><td>Approval to work on special non-working days and between sunset and sunrise</td></tr><tr><td>5.9.7</td><td>Approval of Contractor’s designs</td></tr><tr><td>5.11</td><td>Suspension of progress of the Works</td></tr><tr><td>5.13.2</td><td>Reduction of penalty for delay</td></tr><tr><td>5.14.2</td><td>The issue of a Certificate of Practical Completion</td></tr><tr><td>5.14.4</td><td>The issue of a Certificate of Completion</td></tr><tr><td>5.16.1</td><td>The issue of a Final Approval Certificate</td></tr><tr><td>6.3.1</td><td>Variation Orders in respect of variations which are not small</td></tr><tr><td>6.6</td><td>Instruction to expend on Provisional and Prime Cost Sums</td></tr><tr><td>6.11</td><td>Adjustment of Preliminary and General allowances</td></tr><tr><td>7.8.1</td><td>Order to execute work of repair, etc, during the Defects Liability Period</td></tr><tr><td>7.8.2</td><td>Determination of value of repair work</td></tr><tr><td>8.2.2.2</td><td>Order to repair and make good damage arising from any excepted risk</td></tr></table> | 5.7.2       | Permission to carry out work by day and by night | 5.8.1.1 | Approval to work on special non-working days and between sunset and sunrise | 5.9.7                             | Approval of Contractor’s designs | 5.11 | Suspension of progress of the Works | 5.13.2 | Reduction of penalty for delay | 5.14.2 | The issue of a Certificate of Practical Completion | 5.14.4 | The issue of a Certificate of Completion | 5.16.1 | The issue of a Final Approval Certificate | 6.3.1 | Variation Orders in respect of variations which are not small | 6.6 | Instruction to expend on Provisional and Prime Cost Sums | 6.11 | Adjustment of Preliminary and General allowances | 7.8.1 | Order to execute work of repair, etc, during the Defects Liability Period | 7.8.2 | Determination of value of repair work | 8.2.2.2 | Order to repair and make good damage arising from any excepted risk |
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| 5.8.1.1     | Approval to work on special non-working days and between sunset and sunrise |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 5.9.7       | Approval of Contractor’s designs                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 5.11        | Suspension of progress of the Works                                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 5.13.2      | Reduction of penalty for delay                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 5.14.2      | The issue of a Certificate of Practical Completion                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 5.14.4      | The issue of a Certificate of Completion                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 5.16.1      | The issue of a Final Approval Certificate                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 6.3.1       | Variation Orders in respect of variations which are not small               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 6.6         | Instruction to expend on Provisional and Prime Cost Sums                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 6.11        | Adjustment of Preliminary and General allowances                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 7.8.1       | Order to execute work of repair, etc, during the Defects Liability Period   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 7.8.2       | Determination of value of repair work                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 8.2.2.2     | Order to repair and make good damage arising from any excepted risk         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 5.16.3      | The latent defect period is:                                                | 5 years, commencing on the day after the date of certification of Practical Completion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 6.2.1       | Type of security for due performance:                                       | <ul style="list-style-type: none"><li>Guarantee from approved financial institution or cash deposit.</li><li>The Form of Guarantee is to contain the wording of the pro forma document included as C1.3 contained herein.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
|             | Liability of performance guarantee                                          | The liability of the guarantee shall be 10% of the contract value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 6.2.2       | Retention money guarantee                                                   | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| 6.8.2       | Adjustment in rates and/or prices                                           | <ul style="list-style-type: none"><li>The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:<br/>“L” is the “Labour Index” and shall be Gauteng, under CPI as published by Statistics South Africa.<br/><br/>“P” is the “Plant Index” and shall be Plant and equipment, under Mining and construction plant and equipment price index as published by Statistics South Africa.<br/><br/>“M” is the “Material Index” and shall be Civil Engineering – total, under Civil engineering material price indices as published by Statistics South Africa.<br/><br/>“F” is the “Fuel Index” and shall be Diesel, under PPI as published by Statistics South Africa.</li></ul> <table><tr><td>Coefficient</td><td>Description</td><td>Value</td></tr><tr><td>X</td><td>Portion not subject to adjustment</td><td><b>0.10</b></td></tr></table>                                                                                                                                                                                                                                                                              | Coefficient | Description                                      | Value   | X                                                                           | Portion not subject to adjustment | <b>0.10</b>                      |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| Coefficient | Description                                                                 | Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |
| X           | Portion not subject to adjustment                                           | <b>0.10</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |             |                                                  |         |                                                                             |                                   |                                  |      |                                     |        |                                |        |                                                    |        |                                          |        |                                           |       |                                                               |     |                                                          |      |                                                  |       |                                                                           |       |                                       |         |                                                                     |

|          |                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |        |      |   |                         |      |   |           |      |   |      |      |
|----------|-------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|--------|------|---|-------------------------|------|---|-----------|------|---|------|------|
|          |                                                                                                                   | <table border="1"> <tr> <td>A</td><td>Labour</td><td>0.20</td></tr> <tr> <td>B</td><td>Civil Engineering Plant</td><td>0.25</td></tr> <tr> <td>C</td><td>Materials</td><td>0.40</td></tr> <tr> <td>D</td><td>Fuel</td><td>0.15</td></tr> </table> <p>(Coefficients a, b, c and d must sum to one)</p> <ul style="list-style-type: none"> <li>The urban area nearest the Site is <b>Tshwane</b>.</li> <li>The base month is <b>the month prior to the closing of the procurement process required for a financial offer</b>.</li> </ul>                                  | A | Labour | 0.20 | B | Civil Engineering Plant | 0.25 | C | Materials | 0.40 | D | Fuel | 0.15 |
| A        | Labour                                                                                                            | 0.20                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |        |      |   |                         |      |   |           |      |   |      |      |
| B        | Civil Engineering Plant                                                                                           | 0.25                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |        |      |   |                         |      |   |           |      |   |      |      |
| C        | Materials                                                                                                         | 0.40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |        |      |   |                         |      |   |           |      |   |      |      |
| D        | Fuel                                                                                                              | 0.15                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |        |      |   |                         |      |   |           |      |   |      |      |
| 6.8.3    | Price adjustment for variations in the cost of special materials                                                  | <b>Not allowed</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |   |        |      |   |                         |      |   |           |      |   |      |      |
| 6.10.1.5 | The percentage advance on materials not yet built into the Permanent Works is:                                    | <b>80% (Eighty percent)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |   |        |      |   |                         |      |   |           |      |   |      |      |
| 6.10.3   | Percentage retention is:                                                                                          | <b>10% (ten percent) exclusive of VAT</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |   |        |      |   |                         |      |   |           |      |   |      |      |
|          | The limit of retention money is:                                                                                  | <b>5% of the contract sum</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |   |        |      |   |                         |      |   |           |      |   |      |      |
| 8.6      | Insurance of the Works and Public Liability Insurance                                                             | <p>The Employer shall arrange this insurance.</p> <p>A copy of the policy and the list of excesses may be obtained from</p> <p><b>Contractors All Risk and Liability Insurance</b><br/> Ms. Morongwa Mokoena (Tel: 012 358 1126)<br/> (<a href="mailto:morongwam@tshwane.gov.za">morongwam@tshwane.gov.za</a>)<br/> Mrs Ronett Marlow-Reid (Tel: 012 358 1131)<br/> (<a href="mailto:ronettm@tshwane.gov.za">ronettm@tshwane.gov.za</a>)<br/> Mr Lawrence Matjila (Tel: 012 358 1374)<br/> (<a href="mailto:lawrencem@tshwane.gov.za">lawrencem@tshwane.gov.za</a>)</p> |   |        |      |   |                         |      |   |           |      |   |      |      |
|          | The value of plant and materials supplied by the Employer to be included in the insurance sum is:                 | <b>R 0 (zero)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |        |      |   |                         |      |   |           |      |   |      |      |
|          | Responsibility for payment of deductibles in respect of Insurance of Works as well as Public Liability Insurance: | Deductibles are the responsibility of the Contractor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |        |      |   |                         |      |   |           |      |   |      |      |
|          | Construction Plant:                                                                                               | Contractor to insure. Policy to be approved by Employer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |   |        |      |   |                         |      |   |           |      |   |      |      |
| 10.5     | Determination of disputes                                                                                         | <b>Ad-hoc</b> Adjudicator                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |   |        |      |   |                         |      |   |           |      |   |      |      |
| 10.5.3   | Number of Adjudication Board members to be appointed:                                                             | <b>One</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |   |        |      |   |                         |      |   |           |      |   |      |      |
| 10.6     | Disagreement with Adjudication Board's decision, refer matters to:                                                | Court proceedings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |   |        |      |   |                         |      |   |           |      |   |      |      |

#### C1.2.4 DATA PROVIDED BY THE CONTRACTOR

| CLAUSE/OPTION |                                                                                   | DATA                                               |      |                    |
|---------------|-----------------------------------------------------------------------------------|----------------------------------------------------|------|--------------------|
| 1.1.1.9       | The name of the Contractor is:                                                    |                                                    |      |                    |
| 1.2.1.2       | The address of the Contract is:                                                   | • Physical Address:                                |      |                    |
|               |                                                                                   | • Postal Address:                                  |      |                    |
|               |                                                                                   | • Facsimile:                                       |      |                    |
|               |                                                                                   | • E-Mail Address:                                  |      |                    |
| 6.2.1         | The security to be provided by the Contractor shall be                            | Performance guarantee<br>10% of the contract value |      |                    |
| 6.8.3         | Price adjustments for variations in the cost of special materials (if applicable) | The variation in cost of special materials is:     |      |                    |
|               |                                                                                   | Type of material                                   | Unit | Base Rate or Price |
|               |                                                                                   |                                                    |      |                    |
|               |                                                                                   |                                                    |      |                    |
|               |                                                                                   |                                                    |      |                    |
|               |                                                                                   |                                                    |      |                    |
|               |                                                                                   |                                                    |      |                    |

### C1.3 FORM OF GUARANTEE

WHEREAS

**The City of Tshwane Metropolitan Municipality**  
(hereinafter referred to as the "Council"),

enters into a Contract (No \_\_\_\_\_) with

\_\_\_\_\_  
(hereinafter referred to as the "Contractor")

for \_\_\_\_\_

AND WHEREAS in terms of the General Conditions of the Contract the Contractor is required to furnish an acceptable independent guarantee for the due and proper fulfilment by him of all his duties and obligations in terms of the said contract.

NOW THEREFORE we the undersigned \_\_\_\_\_

\_\_\_\_\_ (full names of authorized agent(s))

and acting in my/our capacity as \_\_\_\_\_

and \_\_\_\_\_

and as such duly authorized thereto, do hereby bind the said \_\_\_\_\_

(hereinafter referred to as the "Guarantor") as surety and co-principal Debtor *in solidum* for the sum of

R \_\_\_\_\_ (\_\_\_\_\_)

for the due and proper fulfilment by the Contractor of all or any of his duties and obligations in terms of the said Contract. The guarantee shall not be interpreted as accessory to the contract between Council and the Contractor.

The Guarantor further undertakes, in the event of the Contractor failing duly and properly to fulfil any of his duties and obligations in terms of the said Contract, or if the Contractor is placed under provisional liquidation or in the event of termination of the Contract by the Council in terms of the General Conditions of Contract, to pay to the Council the said sum of

R \_\_\_\_\_ (\_\_\_\_\_)

or such portion thereof as may be required by the Council, immediately upon receiving written demand from the Council which written demand shall be addressed to the Guarantor at (*domicilium* address)

The Guarantor further hereby renounces the benefits of the legal exceptions:

*Exceptio non numerate pecuniae*

*Exception non causa debiti*

*Beneficium de duobus vel pluribus reis debendi*

*Beneficium ordinis deu excussionis*

*Beneficium divisionis*

and all other defence which could be pleaded against the validity of this guarantee, with the meaning and effect of which it declares itself to be fully acquainted.

This undertaking shall remain in full force and effect up to and including the date of issue of the Certificate of Completion, as provided for in the General Conditions of Contract, unless the Guarantor is advised in writing by the Council of his intention to institute claims, and the particulars thereof, in which event this guarantee shall remain in full force and effect until all such claims have been paid or liquidated. Notwithstanding the aforesaid, the Council may at its' sole discretion elect to have the amount provided for under this guarantee, paid out directly to it in the case of breach of contract by the Contractor by giving the Guarantor written notice to that effect, notwithstanding the fact that the Council may decide not to institute any further legal action against the Contractor.

This document is not negotiable or transferable.

**FOR AND ON BEHALF OF THE BANKER/INSURER:**

BANKER/INSURER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_

WITNESSES:

(Full name in BLOCK letters and signature)

1. \_\_\_\_\_

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

## **ANNEXURE**

List of some institutions from which contract /deposit guarantees can be accepted. The contractor can utilize other institutions as long as they are registered with the NCR.

ABSA Bank  
Credit Agricole Indosuez (South Africa Branch)  
Development Bank of South Africa  
FirstRand Bank  
ING Bank N.V. (South Africa Branch)  
Investec Bank  
Landbank  
National Housing Finance Co.  
Nedcor Bank  
South African Reserve Bank  
Standard Bank  
AIG South Africa  
Credit Guarantee Insurance Co  
Emerald Insurance Company  
Federated Employers Mutual Assurance Co  
Global Insurance Company  
Guardrisk Insurance Company  
Hannover Re:  
Home Loan Guarantee Company  
Lion of Africa Insurance Company  
Metropolitan Life  
Metropolitan Odyssey Ltd  
MUA Insurance  
Mutual & Federal Insurance Company  
Rand Mutual Assurance Company  
Regent Insurance Company  
SA Eagle Insurance Company  
Lombard Insurance.

#### **C1.4 HEALTH AND SAFETY AGREEMENT**

##### **Article of Agreement in terms of Section 37(2) of the Occupational Safety Act, 1993 between**

##### **CITY OF TSHWANE**

(Hereinafter referred to as the “EMPLOYER”)

AND

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Herein represented by \_\_\_\_\_ in his/her capacity as \_\_\_\_\_ duly authorised by virtue of a resolution dated \_\_\_\_\_, attached hereto Annexure A, of the said \_\_\_\_\_ (herein after referred to as the “CONTRACTOR”)

WHEREAS the CONTRACTOR is the mandatory of the EMPLOYER as contemplated in an agreement in respect of

**CONTRACT NO.: HHS 01 – 2024/25: TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED STANDS AT MAMELODI X6 PHOMOLONG.**

AND WHEREAS section 37 of the Occupational Health and Safety act, 1993 (Act 85 of 1993, hereinafter referred to as the “ACT”), imposes certain powers and duties upon the EMPLOYER.

AND WHEREAS the parties have agreed to enter into an agreement in terms of section 37(2) of the ACT.

NOW THEREFORE the parties agree as follows:

- (a) The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
- (b) The CONTRACTOR undertakes that all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations will be fully complied with. Provided that should the EMPLOYER prescribe certain arrangements and procedures, that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
- (c) The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedure, if any, imposed by the ACT and Regulations and the EMPLOYER expressly absolves the EMPLOYER from itself being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedure as the case may be.
- (d) The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with the undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to inspect any appropriate records held by the CONTRACTOR or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

- (e) The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigations, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such an investigation, complaint or criminal charge as the case may be

**FOR AND ON BEHALF OF THE CONTRACTOR:**

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_

WITNESSES:

(Full name in BLOCK letters and signature)

1. \_\_\_\_\_

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

**FOR AND ON BEHALF OF THE EMPLOYER:**

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_

WITNESSES:

(Full name in BLOCK letters and signature)

1. \_\_\_\_\_

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

### C1.5 ADJUDICATOR'S AGREEMENT

This agreement is made on the \_\_\_\_\_ day of \_\_\_\_\_ between:

\_\_\_\_\_  
(name of company / organisation)

of \_\_\_\_\_

\_\_\_\_\_  
(address) and

\_\_\_\_\_  
(name of company / organisation)

of \_\_\_\_\_

\_\_\_\_\_  
(address)

(the Parties) and

\_\_\_\_\_  
(name of Adjudicator)

of \_\_\_\_\_

\_\_\_\_\_  
(address)

(the Adjudicator).

Disputes or differences may arise/have arisen<sup>1</sup> between the Parties under a Contract dated \_\_\_\_\_ and known as \_\_\_\_\_

and these disputes or differences shall be/have been<sup>2</sup> referred to adjudication in accordance with the CIDB Adjudication Procedure, (hereinafter called "the Procedure") and the Adjudicator may be or has been requested to act.

**IT IS NOW AGREED** as follows:

- 1 The rights and obligations of the Adjudicator and the Parties shall be as set out in the Procedure.
- 2 The Adjudicator hereby accepts the appointment and agrees to conduct the adjudication in accordance with the Procedure.
- 3 The Parties bind themselves jointly and severally to pay the Adjudicator's fees and expenses in accordance with the Procedure as set out in the Contract Data.
- 4 The Parties and the Adjudicator shall at all times maintain the confidentiality of the adjudication and shall endeavour to ensure that anyone acting on their behalf or through them will do likewise, save with the consent of the other Parties which consent shall not be unreasonably refused.
- 5 The Adjudicator shall inform the Parties if he intends to destroy the documents which have been sent to him in relation to the adjudication and he shall retain documents for a further period at the request of either Party.

---

<sup>1</sup> Delete as necessary

<sup>2</sup> Delete as necessary

SIGNED by:

Name:

who warrants that he / she is duly authorised to sign for and on behalf of the first Party in the presence of

Witness

Name:

Address:

Date:

SIGNED by:

Name:

who warrants that he / she is duly authorised to sign for and on behalf of the second Party in the presence of

Witness:

Name

Address:

Date:

SIGNED by:

Name:

the Adjudicator in the presence of

Witness:

Name:

Address:

Date:

#### Contract Data

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | The Adjudicator shall be paid at the hourly rate of R _____ in respect of all time spent upon, or in connection with, the adjudication including time spent travelling.                                                                                                                                                                                                                                                                                                                                 |
| 2 | The Adjudicator shall be reimbursed in respect of all disbursements properly made including, but not restricted to:<br>(a) Printing, reproduction and purchase of documents, drawings, maps, records and photographs.<br>(b) Telegrams, telex, faxes, and telephone calls.<br>(c) Postage and similar delivery charges.<br>(d) Travelling, hotel expenses and other similar disbursements.<br>(e) Room charges.<br>(f) Charges for legal or technical advice obtained in accordance with the Procedure. |
| 3 | The Adjudicator shall be paid an appointment fee of R _____. This fee shall become payable in equal amounts by each Party within 14 days of the appointment of the Adjudicator, subject to an Invoice being provided. This fee will be deducted from the final statement of any sums which shall become payable under item 1 and/or item 2 of the Contract Data. If the final statement is less than the appointment fee the balance shall be refunded to the Parties.                                  |
| 4 | The Adjudicator is/is not <sup>3</sup> currently registered for VAT.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 5 | Where the Adjudicator is registered for VAT it shall be charged additionally in accordance with the rates current at the date of invoice.                                                                                                                                                                                                                                                                                                                                                               |
| 6 | All payments, other than the appointment fee (item 3) shall become due 7 days after receipt of invoice, thereafter interest shall be payable at 5% per annum above the Reserve Bank base rate for every day the amount remains outstanding.                                                                                                                                                                                                                                                             |

<sup>3</sup> Delete as necessary

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UPGRADING AND SEWER LINK CONNECTION TO CONNECT  
1051 RETICULATED STANDS AT MAMELODI X6  
PHOMOLONG**

**PART C2: PRICING DATA**

PRICING DATA

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| Section | Description                | Page No |
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| C2.1    | PRICING INSTRUCTIONS ..... | C2.1    |
| C2.2    | BILL OF QUANTITIES .....   | C2.2    |

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CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE  
BULK SEWER UPGRADING AND SEWER LINK CONNECTION TO  
CONNECT 1051 RETICULATED STANDS AT MAMELODI X6  
PHOMOLONG**

**C2.1 PRICING INSTRUCTIONS**

## C2.1 PRICING INSTRUCTIONS

### 1. General

- 1.1 This section provides the tenderer with guidelines and requirements with regard to the completion of the Bill of Quantities. The Schedule **shall be completed in non-erasable black ink** and the tenderer is referred to the Tender Specifications in regard to the correction of errors.
- 1.2 The Bill of Quantities shall be read with all the documents which form part of this Contract.
- 1.3 The following words shall have the meanings hereby assigned to them:
- |           |                                                                                                                                                                                                                |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Unit:     | The unit of measurement for each item of work in terms of the Specifications and the Project Specifications.                                                                                                   |
| Quantity: | The number of units of work for each item.                                                                                                                                                                     |
| Rate:     | The payment per unit of work at which the tenderer tenders to do the work.                                                                                                                                     |
| Amount:   | The product of the quantity and the rate tendered for an item.                                                                                                                                                 |
| Lump sum: | An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications and the Project Specifications, but the quantity of work of which is not measured in any units. |
- 1.4 Reference shall be made to the General and Special Conditions of Contract regarding Provisional and Prime Costs Sums.

### 2. Pay Items

- 2.1 The method of measurement published by the City of Tshwane in section 001 clause 04 and the clauses titled "Measurement and Payment" in the various sections of the Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005, is applicable, subject to the variations and amendments contained in section C3.5.
- 2.2 Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Standard Specifications. The measurement and payment clause of each Standard Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standard Specification, or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Standard Specification or Scope of Work, as applicable, shall prevail.
- 2.3 The item numbers appearing in the Bill of Quantities refer to the corresponding item number in the standard specifications or as amended in the Scope of Work. In the latter case, the item number is prefixed with the letter "B". The same applies to new clauses added to the standard specifications.

- 2.4 Those parts of the contract to be constructed using labour-intensive methods have been marked in the bill of quantities with the letter LI in a separate column filled in against every item so designated. The works, or parts of the works so designated are to be constructed using labour-intensive methods only. The use of plant to provide such works, other than plant specifically provided for in the scope of work, is a variation to the contract. The items marked with the letters LI are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour intensive specification in the Scope of Works.
- 2.5 Payment for items which are designated to be constructed labour-intensive (either in this schedule or in the Scope of Works) will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.
- 2.6 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- 2.7 The quantities set out in the Bill of Quantities are the estimated quantities of the Works, but the Contractor will be required to undertake whatever quantities may be directed by the Engineer from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
- 2.8 The units of measurement described in the Bill of Quantities are metric units. Abbreviations used in the Bill of Quantities are as follows:

|                      |   |                       |        |   |                  |
|----------------------|---|-----------------------|--------|---|------------------|
| mm                   | = | millimetre            | h      | = | hour             |
| m                    | = | metre                 | kg     | = | kilogram         |
| km                   | = | kilometre             | t      | = | ton (1000kg)     |
| m <sup>2</sup>       | = | square metre          | no.    | = | number           |
| m <sup>2</sup> .pass | = | square meter pass     | sum    | = | lump sum         |
| ha                   | = | hectare               | MN     | = | meganewton       |
| m <sup>3</sup>       | = | cubic metre           | MN.m   | = | meganewton-metre |
| m <sup>3</sup> .km   | = | cubic metre-kilometre | PC sum | = | Prime Cost sum   |
| l                    | = | litre                 | P/sum  | = | Provisional sum  |
|                      |   |                       | L/Sum  | = | Lump Sum         |
| kl                   | = | kilolitre             | %      | = | Per cent         |
| MPa                  | = | megaspascal           | kW     | = | kilowatt         |
| PS                   | = | Pipe Special number   | V      | = | Valve number     |

### 3. Rates

- 3.1 The prices and rates to be inserted in the Bill of Quantities are to be full inclusive prices for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
- 3.2 A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered or where a word or phrase such as "included" or "provided elsewhere" will be accepted as a rate of nil (R0,00) having been entered against such items and covered by the other prices or rates in the Schedule.
- Any work executed to which such a pay item applies, shall be measured under the appropriate items in the Bill of Quantities and valued at a rate of nil (R0,00). The rate of nil shall be valid irrespective of any change in the quantities during the execution of the Contract.
- 3.3 The Tenderer shall fill in a rate against all items.
- 3.4 The Tenderer shall not group together a number of items and tender one rate for such group of items.
- 3.5 All rates and sums of money quoted in the Bill of Quantities shall be in rands and whole cents. Fractions of a cent shall be discarded.
- 3.6 All prices and rates entered in the Bill of Quantities must be excluding VAT. VAT will be added last on the summary page of the Bill of Quantities.
- 3.7 Should excessively high unit prices be tendered, such prices may be of sufficient importance to warrant rejection of a tender by the Employer.

#### **CORRECTION OF ENTRIES MADE BY TENDERER**

Any entry made by the Tenderer in the Bill of Quantities, forms, etc, which the tenderer desires to change, shall not be erased or painted out. A line shall be drawn through the incorrect entry and the correct entry shall be written above in black ink and the full signature of the Tenderer shall be placed next to the correction.

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1051 RETICULATED STANDS AT MAMELODI X6 PHOMOLONG**

**C2.2 BILL OF QUANTITIES**

SIGNATURE OF PERSON AUTHORISED TO SIGN TENDER: .....

DATE : .....

PARTICULARS OF PERSON AUTHORISED TO SIGN THE TENDER:

Name: \_\_\_\_\_

Tel no: \_\_\_\_\_

ID no: \_\_\_\_\_

| Item                                     | LI/SC | Description                                                                                                         | Unit            | Quantity   | Rate | Amount       |
|------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------|-----------------|------------|------|--------------|
| <b>001</b>                               |       | <b>SERIES 0: GENERAL</b>                                                                                            |                 |            |      |              |
|                                          |       | <b>SECTION 001: GENERAL REQUIREMENTS AND CHARGES</b>                                                                |                 |            |      |              |
| <b>B001.01</b>                           |       | <b>Preliminary and General</b>                                                                                      |                 |            |      |              |
| 001.01.01                                |       | Fixed charges                                                                                                       | Lump Sum        | 1          |      |              |
| B001.01.02                               |       | Time-related charges                                                                                                | Month           | 18         |      |              |
| <b>001.02</b>                            |       | <b>Locating existing services</b>                                                                                   | Lump Sum        | 1          |      |              |
| <b>001.03</b>                            |       | <b>Excavate by hand to expose existing services and backfill</b>                                                    | m <sup>3</sup>  | 400        |      |              |
| <b>001.04</b>                            |       | <b>Compliance with Occupational Health and Safety Act and applicable regulations</b>                                |                 |            |      |              |
| B001.04.01                               |       | Compilation of a Health and Safety Plan                                                                             | Lump Sum        | 1          |      |              |
| B001.04.02                               |       | Provision of Health and Safety File                                                                                 | Lump Sum        | 1          |      |              |
| B001.04.03                               |       | Implementation of OH&S Plan                                                                                         | Lump Sum        | 1          |      |              |
| 001.04.04                                |       | Provision of Construction Supervisors                                                                               | Lump Sum        | 1          |      |              |
| 001.04.05                                |       | Provision of a SACPCMP registered Safety Officer (Full-time)                                                        | Month           | 18         |      |              |
| 001.04.06                                |       | Other obligations                                                                                                   | Lump Sum        | 1          |      |              |
| 001.04.07                                |       | Medical Entry and Exit for Employees                                                                                | Lump Sum        | 1          |      |              |
| 001.04.09                                |       | Compliance with the Environmental Management Plan. Allow only for adapting working methods and programmes to comply | Lump Sum        | 1          |      |              |
| <b>B001.05</b>                           |       | <b>Community Liaison Officer (Task Level 5)</b>                                                                     | Provisional Sum | 1          | -    | R 360 000.00 |
| 001.05.01                                |       | a) Handling Cost and Charges for the Contractor on Item B001.05                                                     | %               | 360 000.00 |      |              |
| <b>TOTAL SECTION 001 CARRIED FORWARD</b> |       |                                                                                                                     |                 |            |      |              |

| Item                                                | LI/SC | Description                                                                                                                                                                                                      | Unit            | Quantity | Rate | Amount       |
|-----------------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|------|--------------|
| <b>BROUGHT FORWARD</b>                              |       |                                                                                                                                                                                                                  |                 |          |      |              |
| B001.06                                             |       | Provision of Construction and Materials Manager                                                                                                                                                                  | Month           | 18       |      |              |
| B001.07                                             |       | Administration Of Local Emerging Contractors                                                                                                                                                                     | Lump Sum        | 1        |      |              |
| B001.08                                             |       | Training Of Targeted Labourers                                                                                                                                                                                   | Provisional Sum | 1        |      | R 100 000.00 |
| B001.09                                             |       | Appointment of Local Security Company                                                                                                                                                                            | Lump Sum        | 1        |      |              |
| 001.09                                              |       | Prime Cost Items                                                                                                                                                                                                 |                 |          |      |              |
| 001.09.01                                           |       | Relocation of existing pipes on site, from 110 mm Ø to 600 mm Ø                                                                                                                                                  | Provisional Sum | 1        | -    | R 200 000.00 |
| 001.09.02                                           |       | Realignment of overhead electrical lines                                                                                                                                                                         | Provisional Sum | 1        | -    | R 150 000.00 |
| 001.09.03                                           |       | Additional concrete control tests by an independent laboratory ordered by the Engineer                                                                                                                           | Provisional Sum | 1        | -    | R 50 000.00  |
| 001.09.04                                           |       | Appointment of a specialist geotechnical/ geohydrological company for the groundwater control/management (dewatering) at the new Pump Station using suitable method as per Part C4 Section C4.2: Soil Conditions | Lump Sum        | 1        |      |              |
| B001.09.05                                          |       | Exposing of all pipes and services on site, co-ordinating the positions, marking up on as built drawings, installing route markers, labelling of pipes, valve chambers and route markers                         | Provisional Sum | 1        | -    | R 80 000.00  |
| 001.09.06                                           |       | Cathodic Protection of All Steel Pipework                                                                                                                                                                        | Provisional Sum | 1        | -    | R 100 000.00 |
| <b>TOTAL SECTION 001 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                                                                                                                                                  |                 |          |      |              |

CONTRACT NO. HHS 01 - 2024/25

SERIES 0: GENERAL

SECTION 002: ENGINEER'S ACCOMMODATION

| Item                                         | LI/SC | Description                                                                        | Unit     | Quantity | Rate | Amount |
|----------------------------------------------|-------|------------------------------------------------------------------------------------|----------|----------|------|--------|
| 002                                          |       | SERIES 0: GENERAL                                                                  |          |          |      |        |
|                                              |       | SECTION 002: ENGINEER'S ACCOMMODATION                                              |          |          |      |        |
| 002.01                                       |       | Services:                                                                          |          |          |      |        |
| B002.01.01                                   |       | Services for offices and Laboratories                                              | Month    | 18       |      |        |
| 002.01.02                                    |       | Services for cooking and ablution facilities on Site for the Engineer's Site staff | Lump Sum | 1        |      |        |
| B002.02                                      | LI    | Treatment and maintenance of areas surrounding offices and laboratories            | Month    | 18       |      |        |
| B002.03                                      |       | Offices and laboratory accommodation                                               | Month    | 18       |      |        |
| B002.04                                      |       | Provision of Survey Equipment and Assistants                                       | Month    | 18       |      |        |
| 002.05                                       |       | Project Name Boards                                                                | No.      | 2        |      |        |
| TOTAL SECTION 002 CARRIED FORWARD TO SUMMARY |       |                                                                                    |          |          |      |        |

CONTRACT NO. HHS 01 - 2024/25

SERIES 0: GENERAL

SECTION 003: TRAINING AND DEVELOPMENT

| Item                                         | LI/SC | Description                                                      | Unit            | Quantity   | Rate | Amount       |
|----------------------------------------------|-------|------------------------------------------------------------------|-----------------|------------|------|--------------|
| B003                                         |       | SERIES 0: GENERAL                                                |                 |            |      |              |
|                                              |       | SECTION B003: TRAINING AND DEVELOPMENT                           |                 |            |      |              |
| B003.08.01                                   |       | Provision of Accredited SMME Training                            | Provisional Sum | 1          | -    | R 60 000.00  |
|                                              |       | (a) Handling Cost and Charges for the Contractor on Item B003.01 | %               | 60 000.00  |      |              |
| B003.08.02                                   |       | Provision of Accredited Technical Skills Training                | Provisional Sum | 1          | -    | R 100 000.00 |
|                                              |       | (a) Handling Cost and Charges for the Contractor on Item B003.02 | %               | 100 000.00 |      |              |
| TOTAL SECTION 003 CARRIED FORWARD TO SUMMARY |       |                                                                  |                 |            |      |              |

| Item                                     | LI/SC | Description                                                                          | Unit           | Quantity | Rate | Amount |
|------------------------------------------|-------|--------------------------------------------------------------------------------------|----------------|----------|------|--------|
| <b>101</b>                               |       | <b>SERIES 1: ANCILLARY WORK</b>                                                      |                |          |      |        |
|                                          |       | <b>SECTION 101: SITE CLEARING AND GRUBBING</b>                                       |                |          |      |        |
| 101.01                                   |       | Clearing and grubbing:                                                               |                |          |      |        |
| 101.01.01                                | SC    | Area                                                                                 | m <sup>2</sup> | 2 600    |      |        |
| 101.01.02                                | SC    | Strips (4 m wide on pipeline route for rising and gravity mains)                     | m              | 250      |      |        |
| <b>101.02</b>                            |       | <b>Cutting and removing large trees with girth:</b>                                  |                |          |      |        |
| 101.02.01                                | SC    | Exceeding 1 m and up to and including 2 m                                            | No.            | 5        |      |        |
| 101.02.02                                | SC    | Exceeding 2 m and up to and including 3 m                                            | No.            | 1        |      |        |
| 101.02.03                                | SC    | Exceeding 3 m and up to and including 4 m                                            | No.            | 1        |      |        |
| <b>101.03</b>                            |       | <b>Grubbing and the removal of the stumps and roots of large trees with a girth:</b> |                |          |      |        |
| 101.03.01                                | SC    | Exceeding 1 m and up to and including 2 m                                            | No.            | 5        |      |        |
| 101.03.02                                | SC    | Exceeding 2 m and up to and including 3 m                                            | No.            | 1        |      |        |
| 101.03.03                                | SC    | Exceeding 3 m and up to and including 4 m                                            | No.            | 1        |      |        |
| <b>101.04</b>                            |       | <b>Re-clearing areas (only on the written instructions of the Engineer)</b>          |                |          |      |        |
| 101.04.01                                | SC    | Strips (4 m wide on pipeline route for rising main)                                  | m              | 250      |      |        |
| 101.04.02                                | SC    | Areas not classified as strips (parking area)                                        | m <sup>2</sup> | 300      |      |        |
| <b>101.05</b>                            |       | <b>Removal and disposal of specific elements</b>                                     |                |          |      |        |
| 101.05.01                                | SC    | Concrete kerbing / kerbing combination                                               | m              | 950      |      |        |
| <b>TOTAL SECTION 101 CARRIED FORWARD</b> |       |                                                                                      |                |          |      |        |

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SERIES 1: ANCILLIARY WORKS

SECTION 101: SITE CLEARING AND GRUBBING

| Item                                         | LI/SC | Description                                                | Unit | Quantity | Rate | Amount |
|----------------------------------------------|-------|------------------------------------------------------------|------|----------|------|--------|
| BROUGHT FORWARD                              |       |                                                            |      |          |      |        |
| 101.05.02                                    | SC    | Concrete or brick elements<br>(reinforced or unreinforced) |      |          |      |        |
| 101.05.02.01                                 | SC    | Foundations and floor slabs of<br>building / valve boxes.  | m³   | 200      |      |        |
| 101.05.02.02                                 | SC    | Walls of building / valve boxes                            | m³   | 200      |      |        |
| TOTAL SECTION 101 CARRIED FORWARD TO SUMMARY |       |                                                            |      |          |      |        |

| Item                                                | LI/SC | Description                                              | Unit            | Quantity | Rate | Amount      |
|-----------------------------------------------------|-------|----------------------------------------------------------|-----------------|----------|------|-------------|
| <b>104</b>                                          |       | <b>SERIES 1: ANCILLARY WORKS</b>                         |                 |          |      |             |
|                                                     |       | <b>SECTION 104: LANDSCAPING AND GRASSING</b>             |                 |          |      |             |
| <b>104.03</b>                                       |       | <b>Preparing areas for grassing and ground covers</b>    |                 |          |      |             |
| 104.03.02                                           |       | Top soiling on the Site with                             |                 |          |      |             |
| 104.03.02.01                                        | LI    | Topsoil obtained from the Site                           | m <sup>3</sup>  | 190      |      |             |
| 104.03.02.02                                        |       | Topsoil provided by the Contractor from other sources    | m <sup>3</sup>  | 190      |      |             |
| 104.03.05                                           | LI    | Stockpiling of topsoil                                   | m <sup>3</sup>  | 190      |      |             |
| <b>104.04</b>                                       |       | <b>Grassing</b>                                          |                 |          |      |             |
| 104.04.01                                           |       | Hydroseeding                                             |                 |          |      |             |
| 104.04.04.01                                        |       | Providing approved seed mixture for hydroseeding         | kg              | 5        |      |             |
| 104.04.04.02                                        |       | Hydroseeding                                             | ha              | 0.5      |      |             |
| <b>104.07</b>                                       |       | <b>Trees, shrubs and ground covers</b>                   |                 |          |      |             |
| 104.07.01                                           | SC    | Provision of trees and shrubs (allow for R1500.00/ tree) | No              | 7        |      |             |
| 104.07.02                                           | SC    | Provision of ground covers                               | No              | 7        |      |             |
| 104.07.03                                           | SC    | Planting and establishing of trees                       |                 |          |      |             |
| 104.07.03.01                                        | SC    | Trees                                                    | No              | 7        |      |             |
| 104.07.03.03                                        | SC    | Ground Covers                                            | No              | 7        |      |             |
| <b>104.08</b>                                       |       | <b>Extra work for landscaping</b>                        | Provisional Sum | 1        | -    | R 20 000.00 |
| <b>TOTAL SECTION 104 CARRIED FORWARD TO SUMMARY</b> |       |                                                          |                 |          |      |             |

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SERIES 1: ANCILLIARY WORKS

SECTION 105: FENCING

| Item                                         | LI/SC | Description                                                                                          | Unit | Quantity | Rate | Amount    |
|----------------------------------------------|-------|------------------------------------------------------------------------------------------------------|------|----------|------|-----------|
| 105                                          |       | SERIES 1: ANCILLARY WORKS                                                                            |      |          |      |           |
| 105.01                                       | SC    | SECTION 105: FENCING                                                                                 |      |          |      |           |
| 105.01.09                                    |       | Supply and Erection of new Fencing Material                                                          |      |          |      |           |
| 105.01.09                                    |       | Fencing to match standard City of Tshwane spec (ClearVu)                                             | m    | 120      |      |           |
| 105.01.10                                    |       | Remove existing sections and replace with new sections to match, sections are not continuous         | m    | -        |      | Rate Only |
| 105.02                                       | SC    | New gates                                                                                            |      |          |      |           |
| 105.02.02                                    |       | Double leaf                                                                                          |      |          |      |           |
| 105.02.02.01                                 |       | Double gate, 6 metres wide, to suit existing fence, gms gate with corrosion protection of steel work | No.  | 2        |      |           |
| 105.05                                       | SC    | The drilling and blasting of holes for posts and anchors                                             | No.  | -        |      | Rate Only |
| 105.06                                       |       | Provision of Temporary Fencing                                                                       |      |          |      |           |
| 105.06.01                                    |       | Ordinary                                                                                             | m    | 400      |      |           |
| TOTAL SECTION 105 CARRIED FORWARD TO SUMMARY |       |                                                                                                      |      |          |      |           |

| Item                                                | LI/SC | Description                                                                                                                   | Unit           | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>202</b>                                          |       | <b>SERIES 2: EARTHWORKS</b>                                                                                                   |                |          |      |           |
|                                                     |       | <b>SECTION 202: TRENCHING</b>                                                                                                 |                |          |      |           |
| <b>202.01</b>                                       |       | <b>Trench excavations</b>                                                                                                     |                |          |      |           |
| 202.01.01                                           |       | Up to 1,0 m deep                                                                                                              | m <sup>3</sup> | 870      |      |           |
| 202.01.02                                           |       | Over 1.0m and up to 1.5m deep                                                                                                 | m <sup>3</sup> | 450      |      |           |
| 202.01.03                                           |       | Over 1.5m and up to 2.0m deep                                                                                                 | m <sup>3</sup> | 450      |      |           |
| 202.01.04                                           |       | Over 2.0m and up to 2.5m deep                                                                                                 | m <sup>3</sup> | 450      |      |           |
| <b>202.02</b>                                       |       | <b>Extra over item 202.01 for excavating in</b>                                                                               |                |          |      |           |
| 202.02.01                                           |       | Intermediate material                                                                                                         | m <sup>3</sup> | 675      |      |           |
| 202.02.02                                           |       | Hard material                                                                                                                 | m <sup>3</sup> | 450      |      |           |
| <b>202.03</b>                                       |       | Excavations outside the normal trench profile                                                                                 | m <sup>3</sup> | -        |      | Rate Only |
| <b>202.04</b>                                       | LI    | Hand excavation (extra over item 202.01)                                                                                      | m <sup>3</sup> | 150      |      |           |
| <b>202.06</b>                                       | LI    | The backfilling of trenches (excluding selected backfill around /and the pipe barrel) with material obtained from excavations | m <sup>3</sup> | 1 850    |      |           |
| <b>202.07</b>                                       |       | <b>Extra over items 202.06 for using backfill material obtained</b>                                                           |                |          |      |           |
| 202.07.03                                           |       | G5 provided by Contractor                                                                                                     | m <sup>3</sup> | 400      |      |           |
| <b>202.10</b>                                       |       | <b>Removal of spoil material</b>                                                                                              |                |          |      |           |
| 202.10.02                                           |       | To dumping areas to be provided by the Contractor                                                                             | m <sup>3</sup> | 400      |      |           |
| B202.11                                             |       | Timbering And Shoring Left in Excavation                                                                                      | m              | 50       |      |           |
| <b>B202.16</b>                                      |       | <b>Cutting And Removal of Premix</b>                                                                                          |                |          |      |           |
| 202.16.01                                           | LI    | Premix thickness up to 100mm                                                                                                  | m <sup>2</sup> | 40       |      |           |
| <b>B202.18</b>                                      |       | <b>Services that intersect a trench</b>                                                                                       | No             | 54       |      |           |
| <b>TOTAL SECTION 202 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                                                               |                |          |      |           |

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SERIES 2: EARTHWORKS

SECTION 203: MASS EARTHWORKS

| Item                                     | LI/SC | Description                                     | Unit           | Quantity | Rate | Amount    |
|------------------------------------------|-------|-------------------------------------------------|----------------|----------|------|-----------|
|                                          |       | <b>SERIES 2: EARTHWORKS</b>                     |                |          |      |           |
| <b>203</b>                               |       | <b>SECTION 203: MASS EARTHWORKS</b>             |                |          |      |           |
| <b>203.01</b>                            |       | <b>Excavate And Borrow To Fill</b>              |                |          |      |           |
| 203.03.01                                |       | Compact to 90% of Modified AASHTO               |                |          |      |           |
|                                          |       | Up to 2,0 m deep                                | m <sup>3</sup> | -        |      | Rate Only |
|                                          |       | 2,0 m - 4,0m deep                               | m <sup>3</sup> | 1 600    |      |           |
|                                          |       | 4,0 m - 6,0m deep                               | m <sup>3</sup> | 1 600    |      |           |
|                                          |       | 6,0 m - 8,0m deep                               | m <sup>3</sup> | -        |      | Rate Only |
|                                          |       | 8,0 m - 10,0m deep                              | m <sup>3</sup> | -        |      | Rate Only |
| <b>203.02</b>                            |       | <b>Rockfill Processing And Compaction</b>       | m <sup>3</sup> | 150      |      |           |
| <b>203.02</b>                            |       | <b>Extra Over Item 203.01 for Excavation In</b> |                |          |      |           |
| 203.02.01                                |       | Intermediate Material                           | m <sup>3</sup> | 1600     |      |           |
| 203.02.02                                |       | Hard Material                                   | m <sup>3</sup> | -        |      | Rate Only |
| 203.02.03                                |       | Boulder Material Class A                        | m <sup>3</sup> | -        |      | Rate Only |
| 203.02.04                                |       | Boulder Material Class B                        | m <sup>3</sup> | -        |      | Rate Only |
| <b>203.03</b>                            |       | <b>Excavate and spoil of</b>                    |                |          |      |           |
| 203.03.01                                |       | Soft Material                                   |                |          |      |           |
|                                          |       | Up to 2,0 m deep                                | m <sup>3</sup> | 1 600    |      |           |
|                                          |       | 2,0 m - 4,0m deep                               | m <sup>3</sup> | -        |      | Rate Only |
|                                          |       | 4,0 m - 6,0m deep                               | m <sup>3</sup> | -        |      | Rate Only |
|                                          |       | 6,0 m - 8,0m deep                               | m <sup>3</sup> | 1 600    |      |           |
|                                          |       | 8,0 m - 10,0m deep                              | m <sup>3</sup> | 1 600    |      |           |
| 203.03.02                                |       | Intermediate material                           | m <sup>3</sup> | 2 400    |      |           |
| 203.03.03                                |       | Hard material                                   | m <sup>3</sup> | 800      |      |           |
| <b>TOTAL SECTION 203 CARRIED FORWARD</b> |       |                                                 |                |          |      |           |

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 SERIES 2: EARTHWORKS  
 SECTION 203: MASS EARTHWORKS

| Item                                                | LI/SC | Description                                                                                                             | Unit           | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>BROUGHT FORWARD</b>                              |       |                                                                                                                         |                |          |      |           |
| 203.08                                              |       | Preparation and compaction of construction bed material to 90% of modified AASHTO density, to depth of 200 mm           | m <sup>3</sup> | 300      |      |           |
| 203.10                                              |       | In situ treatment of the construction bed`                                                                              |                |          |      |           |
| 203.10.01                                           |       | In situ treatment by ripping                                                                                            | m <sup>3</sup> | 50       |      |           |
| 203.11                                              |       | Finishing off slopes                                                                                                    |                |          |      |           |
| 203.11.01                                           |       | Excavation slopes                                                                                                       | m <sup>2</sup> | 1 200    |      |           |
| 203.12                                              |       | Provision of impact roller                                                                                              | No             | -        |      | Rate Only |
| 203.13                                              |       | Keeping impact rollers available on the Site                                                                            | roller -day    | -        |      | Rate Only |
| 203.14                                              |       | Extra over item 203.01 for borrow material (G7) from commercial sources to be supplied by the Contractor                | m <sup>3</sup> | 5 220    |      |           |
| 203.15                                              |       | Extra over items 203.03 and 203.04 for disposing of spoil material to commercial sites to be provided by the Contractor | m <sup>3</sup> | 6 850    |      |           |
| <b>TOTAL SECTION 203 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                                                         |                |          |      |           |

| Item                                                | LI/SC | Description                                                                                    | Unit           | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>302</b>                                          |       | <b>SERIES 3: SEWERS</b>                                                                        |                |          |      |           |
|                                                     |       | <b>SECTION 302: CONSTRUCTION</b>                                                               |                |          |      |           |
| <b>302.01</b>                                       |       | <b>Supplying, laying and jointing of sewer pipes irrespective of depth or width of trench:</b> |                |          |      |           |
| 302.01.01                                           |       | For class 34 Heavy Duty uPVC pipes with socketed joints:                                       |                |          |      |           |
| 302.01.01.01                                        |       | 110mm dia.                                                                                     | m              | -        |      | Rate Only |
| 302.01.01.04                                        |       | 160mm dia.                                                                                     | m              | 50       |      |           |
| 302.01.01.05                                        |       | 200mm dia                                                                                      | m              | 720      |      |           |
| 302.01.01.06                                        |       | 250mm dia.                                                                                     | m              | 170      |      |           |
| <b>302.02</b>                                       |       | <b>Construction of pipe bedding</b>                                                            |                |          |      |           |
| 302.02.02                                           |       | Class B bedding:                                                                               |                |          |      |           |
| 302.02.02.03                                        |       | 160mm dia.                                                                                     | m              | 50       |      |           |
| 302.02.02.04                                        |       | 200mm dia.                                                                                     | m              | 720      |      |           |
| 302.02.02.05                                        |       | 250mm dia.                                                                                     | m              | 170      |      |           |
| <b>302.03</b>                                       |       | <b>Concrete encasing of pipes</b>                                                              | m <sup>3</sup> | -        |      | Rate Only |
| <b>302.08</b>                                       |       | <b>Marker blocks</b>                                                                           | No             | 7        |      |           |
| <b>B302.09</b>                                      |       | <b>Supply, Handle, Store If necessary and construct pre-cast concrete sewer manholes</b>       |                |          |      |           |
| B302.09.01                                          |       | For sewers 300mm in diameter and smaller                                                       |                |          |      |           |
| B302.09.01.01                                       |       | 1250mm ND Pre-cast concrete manholes                                                           | No             | 26       |      |           |
| 302.09.02                                           |       | For sewers with diameters exceeding 300mm                                                      |                |          |      |           |
| 302.09.02.01                                        |       | 1500mm dia. Pre-cast concrete manholes                                                         | No             | -        |      | Rate Only |
| <b>TOTAL SECTION 302 FOR SEWERS CARRIED FORWARD</b> |       |                                                                                                |                |          |      |           |

| Item                                                | LI/SC | Description                                                                                              | Unit           | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>BROUGHT FORWARD</b>                              |       |                                                                                                          |                |          |      |           |
| <b>302.10</b>                                       |       | <b>Extra over item 302.09 for the construction of manholes in excess of 1.0m deep</b>                    |                |          |      |           |
| 302.10.01                                           |       | For sewers 300mm in diameter and smaller                                                                 |                |          |      |           |
| 302.10.01.01                                        |       | 1000mm dia. pre-cast concrete manholes                                                                   |                |          |      |           |
| 302.10.01.01.01                                     |       | Over 1.0m and up to 2.0m deep                                                                            | No             | 10       |      |           |
| 302.10.01.01.02                                     |       | Over 2.0m and up to 2.5m deep                                                                            | No             | 13       |      |           |
| 302.10.02                                           |       | For sewers with diameters exceeding 300mm                                                                |                |          |      |           |
| 302.10.02.01                                        |       | 1500mm dia. pre-cast concrete manholes                                                                   |                |          |      |           |
| 302.10.02.01.01                                     |       | Over 1.0m and up to 1.5m deep                                                                            | No             | -        |      | Rate Only |
| 302.10.02.01.02                                     |       | Over 1.5m and up to 2.0m deep                                                                            | No             | -        |      | Rate Only |
| 302.10.02.01.03                                     |       | Over 2.0m and up to 2.5m deep                                                                            | No             | 3        |      |           |
| <b>302.12</b>                                       |       | <b>Supplying and installing manhole covers and frames</b>                                                |                |          |      |           |
| 302.12.01                                           |       | SANS 558 Type 4 circular:                                                                                |                |          |      |           |
| 302.12.01.01                                        |       | 600mm dia.                                                                                               | No             | -        |      | Rate Only |
| 302.12.05                                           |       | Pre-cast concrete cover with pre-cast concrete frame:                                                    |                |          |      |           |
| 302.12.05.01                                        |       | 600mm dia.                                                                                               | No             | 26       |      |           |
| <b>302.14</b>                                       |       | <b>Supplying and placing selected backfill material around and up to 300mm above pipe barrels using:</b> |                |          |      |           |
| 302.14.01                                           |       | Excavated material                                                                                       | m <sup>3</sup> | 110      |      |           |
| 302.14.02                                           |       | Imported material                                                                                        | m <sup>3</sup> | 360      |      |           |
| <b>TOTAL SECTION 302 FOR SEWERS CARRIED FORWARD</b> |       |                                                                                                          |                |          |      |           |

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SERIES 3: SEWERS

SECTION 302: CONSTRUCTION

| Item                                                    | LI/SC | Description                                     | Unit           | Quantity | Rate | Amount |
|---------------------------------------------------------|-------|-------------------------------------------------|----------------|----------|------|--------|
| BROUGHT FORWARD                                         |       |                                                 |                |          |      |        |
| 302.15                                                  |       | Extra over item 30.14.01 for screening material | m <sup>3</sup> | 110      |      |        |
| 3.16                                                    |       | Connecting to existing manholes                 |                |          |      |        |
| 302.16.01                                               |       | 160mm dia. uPVC Class 400kPa                    | No             | 2        |      |        |
| 302.16.02                                               |       | 200mm dia. uPVC Class 400kPa                    | No             | 5        |      |        |
| 302.16.03                                               |       | 250mm dia. uPVC Class 400kPa                    | No             | 2        |      |        |
| 302.23                                                  |       | Temporary handling of sewage                    | Day            | 18       |      |        |
| TOTAL SECTION 302 FOR SEWERS CARRIED FORWARD TO SUMMARY |       |                                                 |                |          |      |        |

| Item                                                | LI/SC | Description                            | Unit | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|----------------------------------------|------|----------|------|-----------|
|                                                     |       | <b>SERIES 3: SEWERS</b>                |      |          |      |           |
| <b>303</b>                                          |       | <b>SECTION 303: TESTING OF SEWERS</b>  |      |          |      |           |
| 303.01                                              |       | Testing of manholes                    | No   | 26       |      |           |
| <b>303.02</b>                                       |       | <b>Air testing of sewers</b>           |      |          |      |           |
| 303.02.01                                           |       | 160mm dia.                             | m    | -        |      | Rate Only |
| 303.02.02                                           |       | 200mm dia.                             | m    | 720      |      |           |
| 303.02.03                                           |       | 250mm dia.                             | m    | 170      |      |           |
| <b>303.03</b>                                       |       | <b>CCTV camera inspection</b>          |      |          |      |           |
| 303.03.01                                           |       | 160mm dia.                             | m    | 100      |      |           |
| 303.03.02                                           |       | 200mm dia.                             | m    | 720      |      |           |
| 303.03.03                                           |       | 250mm dia.                             | m    | 170      |      |           |
| <b>303.04</b>                                       |       | <b>Unblocking Sewer Existing Lines</b> |      |          |      |           |
| 303.04.01                                           |       | 160mm dia.                             | m    | 100      |      |           |
| 303.04.02                                           |       | 200mm dia.                             | m    | 100      |      |           |
| 303.04.03                                           |       | 250mm dia.                             | m    | 100      |      |           |
| 303.04.04                                           |       | 315mm dia.                             | m    | -        |      | Rate Only |
| <b>TOTAL SECTION 303 CARRIED FORWARD TO SUMMARY</b> |       |                                        |      |          |      |           |

| Item                                     | LI/SC | Description                                                                                                                                                                                                                                                                                                                                                           | Unit | Quantity | Rate | Amount    |
|------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-----------|
| <b>402</b>                               |       | <b>SERIES 4: WATER<br/>RETICULATION AND WATER<br/>MAINS</b>                                                                                                                                                                                                                                                                                                           |      |          |      |           |
| <b>B402.01</b>                           |       | <b>SECTION 402: CONSTRUCTION</b>                                                                                                                                                                                                                                                                                                                                      |      |          |      |           |
|                                          |       | <b>Supplying, laying and jointing of<br/>water pipes irrespective of depth</b>                                                                                                                                                                                                                                                                                        |      |          |      |           |
| 402.01.01                                |       | Supply, handle, lay and bed uPVC<br>Class 12 pipes to SABS 966 Part 1:<br>1998, with rubber ring joints to<br>SABS 974, test and disinfect                                                                                                                                                                                                                            |      |          |      |           |
| 402.01.01.01                             |       | 90 mm diameter uPVC Class 12                                                                                                                                                                                                                                                                                                                                          | m    | 50       |      |           |
| 402.01.01.02                             |       | 160 mm diameter uPVC Class 12                                                                                                                                                                                                                                                                                                                                         | m    | 230      |      |           |
| 402.01.01.03                             |       | 200 mm diameter uPVC Class 12                                                                                                                                                                                                                                                                                                                                         | m    | -        |      | Rate Only |
| 402.01.01.04                             |       | 250 mm diameter uPVC Class 12                                                                                                                                                                                                                                                                                                                                         | m    | -        |      | Rate Only |
| <b>402.02</b>                            |       | <b>Extra over item 402.01 for<br/>providing and installing fittings,<br/>valves and specials:</b>                                                                                                                                                                                                                                                                     |      |          |      |           |
|                                          |       | Class 12, uPVC bends with rubber<br>ring joints to SABS 966, 1998, each<br>bend with spigot and socket                                                                                                                                                                                                                                                                |      |          |      |           |
| 402.02.01.01                             |       | 90 mm diameter up to 11,25°                                                                                                                                                                                                                                                                                                                                           | No   | 4        |      |           |
| 402.02.01.02                             |       | 160 mm diameter up to 11,25°                                                                                                                                                                                                                                                                                                                                          | No   | 4        |      |           |
| 402.02.01.03                             |       | 200 mm diameter up to 11,25°                                                                                                                                                                                                                                                                                                                                          | No   | -        |      | Rate Only |
| 402.02.01.04                             |       | 250 mm diameter up to 11,25°                                                                                                                                                                                                                                                                                                                                          | No   | -        |      | Rate Only |
| 402.02.02.01                             |       | <b>AIR VALVES:</b> Resilient seal, SABS<br>664 specification, ductile iron body &<br>gate, stainless steel non-rising<br>spindle, anti-clockwise closing,<br>handwheel operated, double flanged<br>and drilled to SABS 1123.<br>Manufacturers standard epoxy paint<br>(Sigmaguard EHB or similar) to a<br>DFT of 250 microns. ("AVK" or<br>"VAG" or similar approved) |      |          |      |           |
| 402.02.02.01.01                          |       | 50 mm diameter class 16 drilled to<br>T1600/3 (F - F = 150 mm)                                                                                                                                                                                                                                                                                                        | No   | 1        |      |           |
| <b>TOTAL SECTION 402 CARRIED FORWARD</b> |       |                                                                                                                                                                                                                                                                                                                                                                       |      |          |      |           |

| Item                                     | LI/SC | Description                                                                                                                                                                                                                                                                                                                                 | Unit           | Quantity | Rate | Amount    |
|------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>BROUGHT FORWARD</b>                   |       |                                                                                                                                                                                                                                                                                                                                             |                |          |      |           |
| 402.02.02.02                             |       | <b>SCOUR VALVES</b> Resilient seal, SABS 664 specification, ductile iron body & gate, stainless steel non-rising spindle, anti-clockwise closing, handwheel operated, double flanged and drilled to SABS 1123. Manufacturers standard epoxy paint (Sigmaguard EHB or similar) to a DFT of 250 microns. ("AVK" or "VAG" or similar approved) |                |          |      |           |
| 402.02.02.02.01                          |       | 160 mm diameter Class 16 Drilled to T1600/3 (F - F = 150mm)                                                                                                                                                                                                                                                                                 | No             | 1        |      |           |
| <b>402.02.02.03</b>                      |       | <b>SPECIALS &amp; FITTINGS</b>                                                                                                                                                                                                                                                                                                              |                |          |      |           |
| 402.02.02.03.01                          |       | 90 mm diameter x 11.5° Bend                                                                                                                                                                                                                                                                                                                 | No             | 4        |      |           |
| 402.02.02.03.02                          |       | 160 mm diameter x 22.5° Bend                                                                                                                                                                                                                                                                                                                | No             | 4        |      |           |
| 402.02.02.03.03                          |       | 160 mm diameter x 90° Bend                                                                                                                                                                                                                                                                                                                  | No             | 1        |      |           |
| <b>402.02.05</b>                         |       | <b>MAGNETIC FLOW METER:</b>                                                                                                                                                                                                                                                                                                                 |                |          |      |           |
| 402.02.05.01                             |       | 160 mm diameter Class 16 Drilled to T1600/3                                                                                                                                                                                                                                                                                                 | No             | 1        |      |           |
| 402.02.05.02                             |       | 200 mm diameter Class 16 Drilled to T1600/3                                                                                                                                                                                                                                                                                                 | No             | -        |      | Rate Only |
| <b>402.02.06</b>                         |       | <b>SPECIALS &amp; FITTINGS:</b> uPVC pressure bends to fit uPVC Class 12 pipes                                                                                                                                                                                                                                                              |                |          |      |           |
| 402.02.06.01                             |       | 160 mm diameter x 11.5° Bend                                                                                                                                                                                                                                                                                                                | No             | 4        |      |           |
| 402.02.06.02                             |       | 160 mm diameter x 22.5° Bend                                                                                                                                                                                                                                                                                                                | No             | 1        |      |           |
| 402.02.06.03                             |       | 160 mm diameter x 45° Bend                                                                                                                                                                                                                                                                                                                  | No             | 1        |      |           |
| 402.02.06.04                             |       | 160 mm diameter x 90° Bend                                                                                                                                                                                                                                                                                                                  | No             | 1        |      |           |
| <b>402.03</b>                            |       | <b>Encasement of pipes with:</b>                                                                                                                                                                                                                                                                                                            |                |          |      |           |
| 402.03.01                                |       | Class 15/19 concrete                                                                                                                                                                                                                                                                                                                        | m <sup>3</sup> | -        |      | Rate Only |
| 402.03.02                                |       | Soilcrete                                                                                                                                                                                                                                                                                                                                   | m <sup>3</sup> | -        |      | Rate Only |
| <b>TOTAL SECTION 402 CARRIED FORWARD</b> |       |                                                                                                                                                                                                                                                                                                                                             |                |          |      |           |

| Item                                     | LI/SC     | Description                                                                                                                   | Unit           | Quantity | Rate | Amount    |
|------------------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>BROUGHT FORWARD</b>                   |           |                                                                                                                               |                |          |      |           |
| <b>402.04</b>                            | <b>LI</b> | <b>Providing thrust blocks using class 15MPa/19 mm concrete</b>                                                               | m <sup>3</sup> | 10       |      |           |
| <b>402.05</b>                            |           | <b>Supplying and placing unscreened selected backfill material under, alongside and up to 200 mm above pipe barrel using:</b> |                |          |      |           |
| 402.05.01                                | LI        | Excavated material                                                                                                            | m <sup>3</sup> | 30       |      |           |
| 402.05.02                                | LI        | Imported material from sources provided by the Contractor                                                                     | m <sup>3</sup> | 95       |      |           |
| <b>402.06</b>                            | <b>LI</b> | <b>Extra over item 402.05 for screening excavated material for selected backfill</b>                                          | m <sup>3</sup> | 30       |      |           |
| <b>402.07</b>                            |           | <b>Valve chambers</b>                                                                                                         |                |          |      |           |
| 402.07.02                                | SC        | Construction of valve chambers only, material measured under pump station for concrete, reinforcing, formwork, finishing      |                |          |      |           |
| 402.07.02.01                             |           | Valve chamber, 3.0 m x 3,0                                                                                                    |                |          |      |           |
|                                          |           | (a) 25 MPa/19mm concrete for foundations, brickwork infill, columns, plinths and roof slab                                    | m <sup>3</sup> | -        |      | Rate Only |
|                                          |           | (b) Y10 reinforcing for foundations and infill brickwork                                                                      | ton            | -        |      | Rate Only |
|                                          |           | (c) 110 mm single skin brickwork, either side of concrete infill, quality face brick, sample to be clarified in tender        | m <sup>2</sup> | -        |      | Rate Only |
|                                          |           | (d) Allowance for ventilation holes in brickwork and extended through concrete, holes 110 mm x 110 mm x 400 mm deep           | No             | -        |      | Rate Only |
| <b>TOTAL SECTION 402 CARRIED FORWARD</b> |           |                                                                                                                               |                |          |      |           |

| Item                                                | LI/SC     | Description                                                                                                                  | Unit           | Quantity | Rate | Amount    |
|-----------------------------------------------------|-----------|------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>BROUGHT FORWARD</b>                              |           |                                                                                                                              |                |          |      |           |
|                                                     |           | (e) Formwork for roof slab<br>i) horizontal, including all supports                                                          | m <sup>2</sup> | -        |      | Rate Only |
|                                                     |           | ii) vertical, 250 mm high                                                                                                    | m              | -        |      | Rate Only |
|                                                     |           | (f) Waterproofing of concrete roof                                                                                           | m <sup>2</sup> | -        |      | Rate Only |
|                                                     |           | (g) Allowance for electrical installations, conduits, lights. etc.                                                           | Lump sum       | -        |      | Rate Only |
|                                                     |           | (h) Aluminium mesh screens at ventilation openings for insects, with aluminium frame and fixed to inside walls, 1,2 mx 0,6 m | No             | -        |      | Rate Only |
| 402.07.02.02                                        |           | Valve chamber for isolating valves, 2,5 m x 2,5 m, including floor slab, brickwork, casting in of pipes, mentis grating      | No             | -        |      | Rate Only |
| <b>402.08</b>                                       | <b>LI</b> | <b>Installation of marker blocks, route markers</b>                                                                          | No             | 5        |      |           |
| <b>402.10</b>                                       |           | <b>Sterilizing of pipelines:</b>                                                                                             |                |          |      |           |
| 402.10.01                                           |           | 90 mm diameter uPVC pipe                                                                                                     | m              | 50       |      |           |
| 402.10.02                                           |           | 160 mm diameter uPVC pipe                                                                                                    | m              | 230      |      |           |
| 402.10.03                                           |           | 200 mm diameter uPVC pipe                                                                                                    | m              | -        |      | Rate Only |
| 402.10.04                                           |           | 250 mm diameter uPVC pipe                                                                                                    | m              | -        |      | Rate Only |
| <b>TOTAL SECTION 402 CARRIED FORWARD TO SUMMARY</b> |           |                                                                                                                              |                |          |      |           |

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SERIES 4: WATER RETICULATION AND WATERMAINS

SECTION 403: TESTING

| Item                                         | LI/SC | Description                                        | Unit | Quantity | Rate | Amount    |
|----------------------------------------------|-------|----------------------------------------------------|------|----------|------|-----------|
| 403                                          |       | SERIES 4: WATER<br>RETICULATION AND WATER<br>MAINS |      |          |      |           |
| 403.01                                       |       | SECTION 403: TESTING                               |      |          |      |           |
|                                              |       | Hydraulic field-testing of<br>pipelines:           |      |          |      |           |
| 403.01.01                                    |       | 90 mm diameter uPVC Class 12                       | m    | 50       |      |           |
| 403.01.02                                    |       | 160 mm diameter uPVC Class 12                      | m    | 230      |      |           |
| 403.01.03                                    |       | 200 mm diameter uPVC Class 12                      | m    | -        |      | Rate Only |
| 403.01.04                                    |       | 250 mm diameter                                    | m    | -        |      | Rate Only |
| TOTAL SECTION 403 CARRIED FORWARD TO SUMMARY |       |                                                    |      |          |      |           |

| Item                                                | LI/SC     | Description                                                                                       | Unit           | Quantity | Rate | Amount |
|-----------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------|----------------|----------|------|--------|
| <b>501</b>                                          |           | <b>SERIES 5: DRAINAGE AND EROSION PROTECTION</b>                                                  |                |          |      |        |
|                                                     |           | <b>SECTION 501: SUBSURFACE DRAINS AND DRAINAGE BLANKETS</b>                                       |                |          |      |        |
| <b>501.01</b>                                       | <b>LI</b> | <b>Crushed stone</b>                                                                              |                |          |      |        |
| 501.01.01                                           |           | 19mm graded crushed stone                                                                         | m <sup>3</sup> | 40       |      |        |
| <b>501.04</b>                                       | <b>LI</b> | <b>Geotextiles</b>                                                                                |                |          |      |        |
|                                                     |           | (a) Class A6                                                                                      | m <sup>2</sup> | 400      |      |        |
| <b>501.05</b>                                       |           | <b>Pipes in subsurface drains</b>                                                                 |                |          |      |        |
| 501.05.01                                           |           | Unplasticized PVC pipes and fittings, normal duty completes with couplings                        |                |          |      |        |
| 501.05.01.01                                        |           | 160mm internal diameter, perforated or slotted                                                    | m              | 200      |      |        |
| <b>501.07</b>                                       |           | <b>Concrete outlet structures for subsurface drains including formwork (Concrete class 15/19)</b> | m <sup>3</sup> | 2        |      |        |
| <b>501.08</b>                                       |           | <b>Concrete caps for subsurface drainpipes</b>                                                    | No.            | 8        |      |        |
| <b>TOTAL SECTION 501 CARRIED FORWARD TO SUMMARY</b> |           |                                                                                                   |                |          |      |        |

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SERIES 5: DRAINAGE AND EROSION PROTECTION

SECTION 503: KERBING AND CHANNELLING

| Item                                         | LI/SC | Description                                                             | Unit | Quantity | Rate | Amount |
|----------------------------------------------|-------|-------------------------------------------------------------------------|------|----------|------|--------|
| 503                                          |       | SERIES 5: DRAINAGE AND EROSION PROTECTION                               |      |          |      |        |
| 503.01                                       | SC    | SECTION 503: KERBING AND CHANNELLING                                    |      |          |      |        |
| 503.01.01                                    |       | Concrete kerbing, class 25 MPa                                          |      |          |      |        |
| 503.01.01.01                                 |       | Fig 4 to SABS 927 for entrance road and parking area                    |      |          |      |        |
| 503.01.01.01.01                              |       | Installed horizontally for entrance road, on concrete bedding           | m    | 18       |      |        |
| 503.01.01.01.02                              |       | Installed vertically for parking area                                   | m    | 180      |      |        |
| 503.01.02                                    |       | Fig 8c to SABS 927                                                      |      |          |      |        |
| 503.01.02.01                                 |       | Figure 8c, installed into ground, flush with top of paving for walkways | m    | 475      |      |        |
| TOTAL SECTION 503 CARRIED FORWARD TO SUMMARY |       |                                                                         |      |          |      |        |

| Item                                     | LI/SC     | Description                                                                                                   | Unit           | Quantity | Rate | Amount    |
|------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>505</b>                               |           | <b>SERIES 5: DRAINAGE AND EROSION PROTECTION</b>                                                              |                |          |      |           |
|                                          |           | <b>SECTION 505: EROSION PROTECTION</b>                                                                        |                |          |      |           |
| <b>505.01</b>                            |           | <b>Foundation trench excavation and backfilling:</b>                                                          |                |          |      |           |
| 505.01.02                                |           | In all other classes of material                                                                              | m <sup>3</sup> | -        |      | Rate Only |
| <b>505.02</b>                            | <b>SC</b> | <b>Surface preparation for the bedding of gabions</b>                                                         | m <sup>2</sup> | -        |      | Rate Only |
| <b>505.03</b>                            | <b>SC</b> | <b>Gabions</b>                                                                                                |                |          |      |           |
| 505.03.01                                |           | Gabion boxes (2 x 1 x 0,5m box from 80 x 100 x 2,7mm Class A galvanized wire mesh)                            | m <sup>3</sup> | -        |      | Rate Only |
| 505.03.02                                |           | Gabion mattresses (2 x 1 x 0,3 mattresses, 80 x 100 2,5mm Class A galvanized wire)                            | m <sup>3</sup> | -        |      | Rate Only |
| <b>505.05</b>                            | <b>SC</b> | <b>Filter fabric for precast retaining wall blocks, gabions and riprap (Kaymat U24 geotextile or similar)</b> | m <sup>2</sup> | -        |      | Rate Only |
| <b>505.06</b>                            | <b>SC</b> | <b>Stone pitching</b>                                                                                         |                |          |      |           |
| 505.06.01                                |           | Plain pitching                                                                                                |                |          |      |           |
| 505.06.01.01                             |           | Method 1                                                                                                      | m <sup>2</sup> | -        |      | Rate Only |
| 505.06.01.02                             |           | Method 2                                                                                                      | m <sup>2</sup> | -        |      | Rate Only |
| 505.06.02                                |           | Grouted pitching                                                                                              | m <sup>2</sup> | -        |      | Rate Only |
| 505.06.03                                |           | Wired and grouted pitching                                                                                    | m <sup>2</sup> | -        |      | Rate Only |
| <b>505.08</b>                            | <b>SC</b> | <b>Masonry walls</b>                                                                                          |                |          |      |           |
| 505.08.01                                |           | Plain                                                                                                         | m <sup>3</sup> | -        |      | Rate Only |
| 505.08.02                                |           | Cement mortared                                                                                               | m <sup>3</sup> | -        |      | Rate Only |
| <b>505.09</b>                            |           | <b>Concrete pitching</b>                                                                                      |                |          |      |           |
| <b>TOTAL SECTION 505 CARRIED FORWARD</b> |           |                                                                                                               |                |          |      |           |

SERIES 5: DRAINAGE AND EROSION PROTECTION  
SECTION 505: EROSION PROTECTION

| Item                                         | LI/SC | Description                                                                                       | Unit           | Quantity | Rate | Amount    |
|----------------------------------------------|-------|---------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| BROUGHT FORWARD                              |       |                                                                                                   |                |          |      |           |
| 505.09.01                                    | SC    | Cast in situ concrete pitching (20 MPa of concrete and 150 mm thickness of pitching)              | m <sup>2</sup> | -        |      | Rate Only |
|                                              |       | Segmental Concrete Block Walls                                                                    |                |          |      |           |
| 505.09.04                                    | SC    | Precast concrete blocks "Loffelstein" or "Enviro Wall" or similar approved (250 to 275 thickness) | m <sup>2</sup> | -        |      | Rate Only |
| 505.10                                       |       | Concrete in edge beams and foundation trenches (Class 25/19 concrete)                             | m <sup>3</sup> | -        |      | Rate Only |
|                                              |       |                                                                                                   |                |          |      |           |
| TOTAL SECTION 505 CARRIED FORWARD TO SUMMARY |       |                                                                                                   |                |          |      |           |

| Item                                                | LI/SC | Description                                                                      | Unit           | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|----------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>601</b>                                          |       | <b>SERIES 6: ROADS AND PARKING AREAS</b>                                         |                |          |      |           |
|                                                     |       | <b>SECTION 601: GRAVEL PAVEMENT LAYERS</b>                                       |                |          |      |           |
| <b>601.01</b>                                       |       | <b>Preparation and compaction of in situ subgrade material to</b>                |                |          |      |           |
| 601.01.02                                           |       | 93% of modified AASHTO density                                                   | m <sup>3</sup> | 1 670    |      |           |
| <b>601.02</b>                                       |       | <b>Gravel layers constructed from material obtained from commercial sources</b>  |                |          |      |           |
| <b>601.02.01</b>                                    |       | <b>Subgrade</b>                                                                  |                |          |      |           |
| 601.02.01.02                                        |       | G7 quality material, compacted to 93% of modified AASHTO density                 | m <sup>3</sup> | 1 670    |      |           |
| <b>601.02.02</b>                                    |       | <b>Subbase</b>                                                                   |                |          |      |           |
| 601.02.02.02                                        |       | G5 quality material, compacted to 97% of modified AASHTO density                 | m <sup>3</sup> | 1 670    |      |           |
| <b>601.03</b>                                       |       | <b>Gravel layers constructed from material obtained from excavations</b>         |                |          |      |           |
| <b>601.03.01</b>                                    |       | <b>Subgrade</b>                                                                  |                |          |      |           |
| 601.03.01.02                                        |       | G7 quality material, compacted to 93% of modified AASHTO density                 | m <sup>3</sup> | -        |      | Rate Only |
| <b>601.03.02</b>                                    |       | <b>Subbase</b>                                                                   |                |          |      |           |
| 601.03.02.02                                        |       | G5 quality material, compacted to 97% of modified AASHTO density                 | m <sup>3</sup> | -        |      | Rate Only |
| <b>601.07</b>                                       |       | <b>Spoiling of box cut material, not suitable for selected or subbase layers</b> |                |          |      |           |
|                                                     |       |                                                                                  | m <sup>3</sup> | -        |      | Rate Only |
| <b>TOTAL SECTION 601 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                  |                |          |      |           |

| Item                                                | LI/SC | Description                                                                                | Unit           | Quantity | Rate | Amount |
|-----------------------------------------------------|-------|--------------------------------------------------------------------------------------------|----------------|----------|------|--------|
|                                                     |       | <b>SERIES 6: ROADS AND PARKING AREAS</b>                                                   |                |          |      |        |
| <b>604</b>                                          |       | <b>SECTION 604: STABILISATION</b>                                                          |                |          |      |        |
| <b>604.01</b>                                       |       | <b>Chemical stabilisation, extra over unstabilised compacted layers, for subbase layer</b> | m <sup>3</sup> | 1 670    |      |        |
| <b>604.02</b>                                       |       | <b>Chemical stabilising agent:</b>                                                         |                |          |      |        |
| 604.02.01                                           |       | Cementitious road stabilizer, Roadcem (Lafarge) or similar                                 | t              | 106      |      |        |
| <b>604.03</b>                                       |       | <b>Mechanical modification, extra over untreated layer</b>                                 | m <sup>3</sup> | 1 670    |      |        |
| <b>TOTAL SECTION 604 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                            |                |          |      |        |

| Item                                         | LI/SC | Description                                                                                                | Unit           | Quantity | Rate | Amount    |
|----------------------------------------------|-------|------------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| 609                                          |       | SERIES 6: ROADS AND PARKING AREAS                                                                          |                |          |      |           |
|                                              |       | SECTION 609: SEGMENTED PAVING                                                                              |                |          |      |           |
| 609.01                                       | SC    | Construction of segmental block paving made from:                                                          |                |          |      |           |
| 609.01.01                                    |       | 80 mm thick inter-locking concrete, Type S-A, precast blocks, colour charcoal                              | m <sup>2</sup> | 2 180    |      |           |
| 609.01.02                                    |       | 50 mm thick, rectangular blocks, 200 x 100 mm, in herring bone pattern, with edge courses, colour charcoal | m <sup>2</sup> | -        |      | Rate Only |
| 609.01.03                                    |       | Edge strip using Fig 4 kerbing, placed horizontally in concrete bedding                                    | m              | 180      |      |           |
| TOTAL SECTION 609 CARRIED FORWARD TO SUMMARY |       |                                                                                                            |                |          |      |           |

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SERIES 7: STRUCTURES

SECTION 701: FOUNDATIONS FOR STRUCTURES

| Item                                         | LI/SC | Description                                         | Unit           | Quantity | Rate | Amount    |
|----------------------------------------------|-------|-----------------------------------------------------|----------------|----------|------|-----------|
| 701                                          |       | <b>SERIES 7: STRUCTURES</b>                         |                |          |      |           |
|                                              |       | <b>SECTION 701: FOUNDATIONS FOR STRUCTURES</b>      |                |          |      |           |
| 701.07                                       |       | <b>Foundation fill consisting of</b>                |                |          |      |           |
| 701.07.04                                    |       | Reinforced concrete (Class 15/19)                   | m <sup>3</sup> | 120      |      |           |
| 701.07.05                                    |       | 50 mm thick blinding layer, class 15/19 concrete    | m <sup>3</sup> | 15       |      |           |
| 701.07.06                                    |       | 100 mm thick no fines concrete                      | m <sup>3</sup> | -        |      | Rate Only |
| 701.07.07                                    |       | 5 mm thick mortar on top of no fines                | m <sup>2</sup> | -        |      | Rate Only |
| 701.13                                       |       | <b>Foundation lining</b>                            |                |          |      |           |
| 701.13.01                                    |       | 250-micron polyethylene sheeting on top of no fines | m <sup>2</sup> | -        |      | Rate Only |
| 701.13.02                                    |       | 250-micron polyethylene sheeting under wall footing | m <sup>2</sup> | -        |      | Rate Only |
| TOTAL SECTION 701 CARRIED FORWARD TO SUMMARY |       |                                                     |                |          |      |           |

| Item                                                | LI/SC | Description                                                 | Unit           | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|-------------------------------------------------------------|----------------|----------|------|-----------|
| <b>702</b>                                          |       | <b>SERIES 7: STRUCTURES</b>                                 |                |          |      |           |
|                                                     |       | <b>SECTION 702: FALSEWORK, FORMWORK AND CONCRETE FINISH</b> |                |          |      |           |
| <b>702.01</b>                                       |       | <b>Formwork class F1 surface:</b>                           |                |          |      |           |
| 702.01.01                                           |       | Single-surface formwork;                                    |                |          |      |           |
| 702.01.01.01                                        |       | Plane, horizontal, roof slab                                | m <sup>2</sup> | 300      |      |           |
| 702.01.01.02                                        |       | Plane, sloping                                              | m <sup>2</sup> | -        |      | Rate Only |
| 702.01.01.03                                        |       | Plane, Vertical                                             | m              | 1 600    |      |           |
| <b>B702.11</b>                                      |       | <b>Unformed Surfaces</b>                                    |                |          |      |           |
| <b>B702.11.01</b>                                   |       | <b>Class U1 Surface Finish</b>                              |                |          |      |           |
|                                                     |       | a) floor slab – power floating                              | m <sup>2</sup> | 300      |      |           |
|                                                     |       | b) column footings – steel float                            | m <sup>2</sup> | -        |      | Rate Only |
|                                                     |       | c) wall footings – steel float                              | m <sup>2</sup> | -        |      | Rate Only |
|                                                     |       | d) roof slab – power floating                               | m <sup>2</sup> | 300      |      |           |
|                                                     |       | e) roof slab upstand – steel float                          | m <sup>2</sup> | -        |      | Rate Only |
|                                                     |       | f) chamfered edge, 25 mm x 25 mm for top of walls           | m              | 70       |      |           |
| <b>B702.11.02</b>                                   |       | <b>Class U2 Surface Finish</b>                              |                |          |      |           |
| B702.11.02.01                                       |       | Pump plinths                                                | m <sup>2</sup> | 20       |      |           |
| B702.11.02.02                                       |       | Sump floor slabs                                            | m <sup>2</sup> | 70       |      |           |
| B702.11.02.03                                       |       | Sump top of walls                                           | m <sup>2</sup> | -        |      | Rate Only |
| B702.11.02.04                                       |       | Drainage channel around pump station buildings              | m <sup>2</sup> | -        |      | Rate Only |
| B702.11.02.05                                       |       | Top of landing and stairs                                   | m <sup>2</sup> | -        |      | Rate Only |
| <b>TOTAL SECTION 702 CARRIED FORWARD TO SUMMARY</b> |       |                                                             |                |          |      |           |

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SERIES 7: STRUCTURES

SECTION 703: STEEL REINFORCEMENT FOR STRUCTURES

| Item                                         | LI/SC | Description                                     | Unit | Quantity | Rate | Amount |
|----------------------------------------------|-------|-------------------------------------------------|------|----------|------|--------|
| 703                                          |       | SERIES 7: STRUCTURES                            |      |          |      |        |
|                                              |       | SECTION 703: STEEL REINFORCEMENT FOR STRUCTURES |      |          |      |        |
| 703.04                                       |       | Reinforcement                                   |      |          |      |        |
| 703.04.01                                    |       | Mild steel                                      | t    | 5        |      |        |
| 703.04.02                                    |       | High-yield-stress steel                         | t    | 70       |      |        |
| TOTAL SECTION 703 CARRIED FORWARD TO SUMMARY |       |                                                 |      |          |      |        |

| Item                                                | LI/SC | Description                                                                            | Unit            | Quantity | Rate | Amount      |
|-----------------------------------------------------|-------|----------------------------------------------------------------------------------------|-----------------|----------|------|-------------|
| <b>704</b>                                          |       | <b>SERIES 7: STRUCTURES</b>                                                            |                 |          |      |             |
| <b>704.01</b>                                       |       | <b>SECTION 704: CONCRETE</b>                                                           |                 |          |      |             |
| <b>704.01.01</b>                                    |       | <b>Cast in situ concrete</b>                                                           |                 |          |      |             |
| <b>704.01.01.01</b>                                 |       | <b>Concrete Class 20/19 to</b>                                                         |                 |          |      |             |
| 704.01.01.01                                        |       | 150 mm Drainage slab around pump station buildings                                     | m <sup>3</sup>  | 10       |      |             |
| <b>704.01.02</b>                                    |       | <b>Concrete Class 35/19 to</b>                                                         |                 |          |      |             |
| 704.01.02.01                                        |       | Pump station floors at different levels                                                | m <sup>3</sup>  | 120      |      |             |
| 704.01.02.02                                        |       | Pump stations roof with roof edge                                                      | m <sup>3</sup>  | 50       |      |             |
| 704.01.02.03                                        |       | Pump station columns & column heads                                                    | m <sup>3</sup>  | 10       |      |             |
| 704.01.02.04                                        |       | Sump: floor panels & wall panels                                                       | m <sup>3</sup>  | 300      |      |             |
| 704.01.02.05                                        |       | Stairs and landings                                                                    | m <sup>3</sup>  | 10       |      |             |
| 704.01.02.06                                        |       | Generator, pumps and macerator plinths,                                                | m <sup>3</sup>  | 10       |      |             |
| 704.01.02.07                                        |       | Closing In of pipe penetrations through walls                                          | m <sup>3</sup>  | 5        |      |             |
| <b>704.07</b>                                       |       | <b>Design of concrete mixes by a specialist organization appointed by the Engineer</b> | Provisional Sum | 1        | -    | R 25 000.00 |
| <b>TOTAL SECTION 704 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                        |                 |          |      |             |

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SERIES 7: STRUCTURES

SECTION 705: PRESTRESSING OF CONCRETE

| Item                                         | LI/SC | Description                           | Unit | Quantity | Rate | Amount    |
|----------------------------------------------|-------|---------------------------------------|------|----------|------|-----------|
| 705                                          |       | SERIES 7: STRUCTURES                  |      |          |      |           |
|                                              |       | SECTION 705: PRESTRESSING OF CONCRETE |      |          |      |           |
| 705.01                                       |       | Prestressing tendons:                 |      |          |      |           |
| 705.01.01                                    |       | Longitudinal tendons                  | MN.m | -        |      | Rate Only |
| 705.02                                       |       | Anchorage and couplers:               |      |          |      |           |
| 705.02.01                                    |       | Anchorage at jacking end              | MN   | -        |      | Rate Only |
| TOTAL SECTION 705 CARRIED FORWARD TO SUMMARY |       |                                       |      |          |      |           |

| Item                                                | LI/SC | Description                                                                                         | Unit | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------|------|----------|------|-----------|
| <b>706</b>                                          |       | <b>SERIES 7: STRUCTURES</b>                                                                         |      |          |      |           |
|                                                     |       | <b>SECTION 706: JOINTS IN STRUCTURES</b>                                                            |      |          |      |           |
| <b>706.01</b>                                       |       | <b>Flexible Bandage Type Joints</b>                                                                 |      |          |      |           |
| 706.01.01                                           |       | Horizontal wall construction joint, Hypalon bandage or similar                                      | m    | -        |      | Rate Only |
| 706.01.02                                           |       | Wall / floor joint, including Sika bandage, closed cell corner fillet, Jointex by Sondor or similar | m    | -        |      | Rate Only |
| <b>706.02</b>                                       |       | <b>Filler to Joints</b>                                                                             |      |          |      |           |
| 706.02.01                                           |       | Joint sealer between wall footing and apron slab                                                    | m    | -        |      | Rate Only |
| 706.02.02                                           |       | 8 mm Jointex by Sondor over buttress, wall to roof joint 400 mm wide                                | m    | -        |      | Rate Only |
| <b>706.06</b>                                       |       | <b>Joints with Water Stops</b>                                                                      |      |          |      |           |
| 706.06.01                                           |       | Water stops in a straight joint                                                                     |      |          |      |           |
| 706.06.01.01                                        |       | Construction joint in floor, including water stop and bandage                                       | m    | 80       |      |           |
| <b>TOTAL SECTION 706 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                                     |      |          |      |           |

| Item                                     | LI/SC | Description                                                                                                                                                                                                                                      | Unit           | Quantity | Rate | Amount    |
|------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|-----------|
| <b>805</b>                               |       | <b>SERIES 8: SPECIFIC WORKS</b>                                                                                                                                                                                                                  |                |          |      |           |
| <b>805.03</b>                            |       | <b>SECTION 805: BUILDING WORK</b>                                                                                                                                                                                                                |                |          |      |           |
| <b>805.03.01</b>                         |       | <b>Waterproofing</b>                                                                                                                                                                                                                             |                |          |      |           |
| 805.03.01                                |       | One layer of 375 micron 'Consul Plastics Brick grip DPC' embossed polyethylene damp proof course In walls                                                                                                                                        | m <sup>2</sup> | -        |      | Rate Only |
| 805.03.02                                |       | One layer of 250 micron 'Consul Plastics Gunplas USB Green' polyethylene water sheeting sealed at laps with 'Gunplas Pressure Sensitive Tape' In floors                                                                                          | m <sup>2</sup> | -        |      | Rate Only |
| 805.03.03                                |       | Prepare and apply two coats Master seal® 501 surface applied capillary waterproofing system to concrete and/or bagged brick surfaces using a brush or spray, all in accordance with manufacturer's instructions Against walls                    | m <sup>2</sup> | -        |      | Rate Only |
| 805.03.04                                |       | Prepare and apply two coats dura.@slurry, all in accordance with manufacturers recommendations. On internal vertical surfaces of sumps, catchpits, etc                                                                                           | m <sup>2</sup> | 990      |      |           |
|                                          |       | Ditto, internal horizontal surfaces to falls and currents, etc.                                                                                                                                                                                  | m <sup>2</sup> | 800      |      |           |
| 805.03.05                                |       | One-layer Derbigum SP4 waterproofing membrane, with 75mm side laps and 100mm end laps, sealed to primed surface to falls and crossfalls by `torch fusion` installed by an Approved Derbigum Contractor under a ten-year guarantee. On flat roofs | m <sup>2</sup> | 110      |      |           |
| <b>TOTAL SECTION 805 CARRIED FORWARD</b> |       |                                                                                                                                                                                                                                                  |                |          |      |           |

| Item                                     | LI/SC | Description                                                                                                                                                                                                                                                                                                                             | Unit           | Quantity | Rate | Amount |
|------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|--------|
| <b>BROUGHT FORWARD</b>                   |       |                                                                                                                                                                                                                                                                                                                                         |                |          |      |        |
| 805.03.06                                |       | Bandage cover flashing strips not exceeding 300mm girth at turn-ups, including sealing top edge with mastic in and including groove in brickwork                                                                                                                                                                                        | m              | 150      |      |        |
| 805.03.07                                |       | Two coats bituminous aluminium paint on roofs                                                                                                                                                                                                                                                                                           | m <sup>2</sup> | 300      |      |        |
| 805.03.08                                |       | 300 x 300mm Agricultural drain comprising of 100mm perforated geopipes with HDPE or uPVC couplings enclosed in 20mm crushed stone wrapped in 'Bidim' nonwoven continuous filament needle-punched polyester geotextile with 150mm end laps, including securing against retaining wall (excavations, backfilling, etc measured elsewhere) | m              | 250      |      |        |
| 805.03.09                                |       | Kaytech Wick Drain GPW100 with interlocking joints to core stapled together placed vertically against retaining wall at 1500mm centres (subsoil drainage system, excavations, filling, etc measured elsewhere)                                                                                                                          | m              | 1000     |      |        |
| <b>805.04</b>                            |       | <b>Structural steel</b>                                                                                                                                                                                                                                                                                                                 |                |          |      |        |
| 805.04.01                                |       | 91 x 180mm x 18,8kg/m IPE180 universal beams in rectangular portal frames size 2,5 x 3,6m high overall                                                                                                                                                                                                                                  | kg             | 1100     |      |        |
| 805.04.02                                |       | 152 x 152mm x 23kg/m universal column as gantry beam welded and bolted to portal frames                                                                                                                                                                                                                                                 | kg             | 1150     |      |        |
| 805.04.03                                |       | Base plates, face plates, connector plates, etc                                                                                                                                                                                                                                                                                         | kg             | 170      |      |        |
| 805.04.04                                |       | 406 x 140 x 39kg/m gantry bolted to cast insitu base plate                                                                                                                                                                                                                                                                              | kg             | 520      |      |        |
| 805.04.05                                |       | 70 x 70 x 8 L-Bracing Steel Angles                                                                                                                                                                                                                                                                                                      | No             | 1        |      |        |
| <b>TOTAL SECTION 805 CARRIED FORWARD</b> |       |                                                                                                                                                                                                                                                                                                                                         |                |          |      |        |

| Item                                     | LI/SC | Description                                                                                                                                                                                                                                                                                       | Unit           | Quantity | Rate | Amount |
|------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|--------|
| <b>BROUGHT FORWARD</b>                   |       |                                                                                                                                                                                                                                                                                                   |                |          |      |        |
| 805.04.06                                |       | 203 x 133 x 30 kg/m gantry bolted to cast insitu base plate                                                                                                                                                                                                                                       | No             | 360      |      |        |
| 805.04.07                                |       | 70 x 70 x 6L Bracing Steel Angle                                                                                                                                                                                                                                                                  | No             | 1        |      |        |
| 805.04.08                                |       | 203 x 133 x 30 kg/m gantry bolted to cast insitu base plate                                                                                                                                                                                                                                       | No             | 365      |      |        |
| 805.04.09                                |       | 70 x 70 x 6 L-Bracing Steel Angles                                                                                                                                                                                                                                                                | No             | 1        |      |        |
| 805.04.10                                |       | 200 x 200 x 10mm thick base plate with 20 x 8 x 100mm fishtail mgs                                                                                                                                                                                                                                | No             | 1        |      |        |
| 805.04.11                                |       | 300 x 200 x 10mm thick base plate with 6 No off connected 50 x 10 x 100mm fishtail mgs                                                                                                                                                                                                            | No             | 1        |      |        |
| 805.04.12                                |       | 16mm Diameter x 140mm long Chemical Anchor                                                                                                                                                                                                                                                        | No             | 50       |      |        |
| 805.04.13                                |       | Prepare, touch-up and prime with one coat of 'Plascon Metal Primer (UC 501)' and finish with two coats of 'Plascon Super Universal Enamel (NY 1/G)' strictly in accordance with manufacturer's instructions                                                                                       |                |          |      |        |
| 805.04.13.01                             |       | On structural steel lattice columns, beams, trusses, etc                                                                                                                                                                                                                                          | m <sup>2</sup> | 1800     |      |        |
| <b>805.05</b>                            |       | <b>Metalwork</b>                                                                                                                                                                                                                                                                                  |                |          |      |        |
|                                          |       | Galvanised mild steel                                                                                                                                                                                                                                                                             |                |          |      |        |
| 805.05.01                                |       | Welded double flight stair (balustrades elsewhere), 2200 x 5000mm on plan x 6000mm high overall to plantroom, of 6mm "Vastrap" plate continuous treads, risers and landing welded along edges to 150 x 8mm flat section stringers, with one end bolted to brickwork or concrete (bolts elsewhere) | Kg             | 3250     |      |        |
| <b>TOTAL SECTION 805 CARRIED FORWARD</b> |       |                                                                                                                                                                                                                                                                                                   |                |          |      |        |

| Item                                     | LI/SC | Description                                                                                                                                                                                                                                                                                       | Unit           | Quantity | Rate | Amount |
|------------------------------------------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|--------|
| <b>BROUGHT FORWARD</b>                   |       |                                                                                                                                                                                                                                                                                                   |                |          |      |        |
| 805.05.02                                |       | Welded cat ladder 600mm wide and 1800mm high overall to A/C plant, etc. of 50 x 5mm flat section stringers and 34,1mm diameter x 2,5mm thick pipe rungs 600mm long at approximately 300mm centres, including flat and angle section connections bolted to brickwork or concrete (bolts elsewhere) | Kg             | 300      |      |        |
| 805.05.03                                |       | M10 Hilti HL sleeve anchors, 108 mm depth with bolt heads welded to stringers                                                                                                                                                                                                                     | No             | 20       |      |        |
| 805.05.04                                |       | Galvanised mild steel 'Inter-Link' welded ball type interlinking balustrade system to balconies and stairs                                                                                                                                                                                        | m              | 700      |      |        |
| 805.05.05                                |       | Double Concrete Door (Sliding) 1100mm x 2500mm                                                                                                                                                                                                                                                    | No             | 1        |      |        |
| 805.05.06                                |       | Double Concrete Door (Sliding) 1100mm x 3000mm                                                                                                                                                                                                                                                    | No             | 1        |      |        |
| 805.05.07                                |       | Opening tools and keys for the Concrete Doors                                                                                                                                                                                                                                                     | No             | 2        |      |        |
| <b>805.06</b>                            |       | <b>Paintwork</b><br>Paint to galvanised metal work<br>One coat Metal Primer (UC 501) and two coats 'Plascon Super Universal Enamel' paint                                                                                                                                                         |                |          |      |        |
|                                          |       | Doors                                                                                                                                                                                                                                                                                             | m <sup>2</sup> | 100      |      |        |
|                                          |       | Balustrades                                                                                                                                                                                                                                                                                       | m <sup>2</sup> | 1 500    |      |        |
|                                          |       | Stairs & Cat ladders                                                                                                                                                                                                                                                                              | m <sup>2</sup> | 200      |      |        |
| <b>TOTAL SECTION 805 CARRIED FORWARD</b> |       |                                                                                                                                                                                                                                                                                                   |                |          |      |        |

| Item                                                | LI/SC | Description                                                                                                                   | Unit | Quantity | Rate | Amount    |
|-----------------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------|------|----------|------|-----------|
| <b>BROUGHT FORWARD</b>                              |       |                                                                                                                               |      |          |      |           |
| <b>B805.13</b>                                      |       | <b>Anchor Blocks</b>                                                                                                          |      |          |      |           |
| B805.13.01                                          |       | Stainless steel straps for<br>a) 400 mm Ø pipe                                                                                | No   | -        |      | Rate Only |
|                                                     |       | b) 150 mm Ø pipe                                                                                                              | No   | -        |      | Rate Only |
|                                                     |       | including manufacturing, supply,<br>fitting and securing                                                                      |      |          |      |           |
| <b>B805.14</b>                                      |       | <b>Ventilation Holes</b>                                                                                                      |      |          |      |           |
| B805.14.01                                          |       | Drilling of 50 mm Ø holes through<br>370 mm thick concrete walls                                                              | No   | 100      |      |           |
| <b>B805.15</b>                                      |       | <b>High Security lids</b>                                                                                                     |      |          |      |           |
| B805.15.01                                          |       | 650mm x 550mm concrete manhole<br>with a robust locking mechanism and<br>installed as per the manufacturer's<br>specification | No   | 5        |      |           |
| B805.15.02                                          |       | Opening tool and key assembly for<br>locking/unlocking all the lids                                                           | No   | 1        |      |           |
| <b>TOTAL SECTION 805 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                                                               |      |          |      |           |

| Item                                         | LI/SC | Description                                   | Unit            | Quantity   | Rate | Amount       |
|----------------------------------------------|-------|-----------------------------------------------|-----------------|------------|------|--------------|
| 903                                          |       | SERIES 9: QUALITY CONTROL                     |                 |            |      |              |
| 903.06                                       |       | SECTION 903: TESTING                          |                 |            |      |              |
| 903.06                                       |       | Other special tests requested by the Engineer |                 |            |      |              |
| 903.06.01                                    |       | Cost of testing                               | Provisional Sum | 1          | -    | R 150 000.00 |
| 903.06.02                                    |       | Charge on prime cost sum                      | %               | 150 000.00 |      |              |
| TOTAL SECTION 903 CARRIED FORWARD TO SUMMARY |       |                                               |                 |            |      |              |

| Item                                      | LI/SC | Description                                                                                                                                                                                                                                          | Unit | Quantity | Rate | Amount |
|-------------------------------------------|-------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|--------|
| <b>1001.01</b>                            |       | <b>SERIES 10: ELECTRICAL INSTALLATION</b>                                                                                                                                                                                                            |      |          |      |        |
|                                           |       | <b>SECTION 1001: POWER AND LIGHTING RETICULATION</b>                                                                                                                                                                                                 |      |          |      |        |
| <b>1001.01</b>                            |       | <b>11KV 60kw Generator</b>                                                                                                                                                                                                                           |      |          |      |        |
| 1001.01.01                                |       | <b>GenSet</b><br>88kVA Stand by diesel generator set with AMF panela, soundproof weatherproof, Switchboard automatic change over panel, with voltage regulator complete with all equipment and accessories complete with all equipment as specified: | No.  | 1        |      |        |
| <b>1001.03</b>                            |       | <b>Cables</b>                                                                                                                                                                                                                                        |      |          |      |        |
| 1101.03.01                                |       | 35 mm sqr 4 core<br>PVC/PVC/SWA/PVC normal power supply cable.                                                                                                                                                                                       | m    | 60       |      |        |
|                                           |       | 25 mm sqr bare copper conductor                                                                                                                                                                                                                      | m    | 60       |      |        |
|                                           |       | Cable termination of cable and BCEW complete with glands, shrouds, lugs, connections and commissioning                                                                                                                                               |      |          |      |        |
|                                           |       | 35 mm sqr 4-core<br>PVC/PVC/SWA/PVC normal power supply cable                                                                                                                                                                                        | m    | 2        |      |        |
|                                           |       | 25 mm sqr bare copper conductor                                                                                                                                                                                                                      | m    | 2        |      |        |
| 1001.03.02                                |       | 25 mm sqr 4 core<br>PVC/PVC/SWA/PVC normal power supply cable                                                                                                                                                                                        | m    | 60       |      |        |
|                                           |       | 16 mm sqr bare copper conductor                                                                                                                                                                                                                      | m    | 60       |      |        |
|                                           |       | Cable termination of cable and BCEW complete with glands, shrouds, lugs, connections and commissioning                                                                                                                                               |      |          |      |        |
|                                           |       | 25 mm sqr 4-core<br>PVC/PVC/SWA/PVC normal power supply cable                                                                                                                                                                                        | m    | 2        |      |        |
| <b>TOTAL SECTION 1001 CARRIED FORWARD</b> |       |                                                                                                                                                                                                                                                      |      |          |      |        |

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SERIES 10: ELECTRICAL INSTALLATION

SECTION 1001: POWER AND LIGHTING RETICULATION

| Item                                      | LI/SC | Description                                                                                                                   | Unit | Quantity | Rate | Amount |
|-------------------------------------------|-------|-------------------------------------------------------------------------------------------------------------------------------|------|----------|------|--------|
| <b>BROUGHT FORWARD</b>                    |       |                                                                                                                               |      |          |      |        |
| <b>1001.05</b>                            |       | <b>16 mm sqr bare copper conductor</b><br><br><b>Wires</b>                                                                    | m    | 2        |      |        |
| 1001.05.01                                |       | 2,5 mm sir PVC insulated conductor                                                                                            | m    | 500      |      |        |
|                                           |       | 4 mm sir PVC insulated conductor                                                                                              | m    | 300      |      |        |
|                                           |       | 6 mm sir PVC insulated conductor                                                                                              | m    | 100      |      |        |
|                                           |       | 2.5 mm sir Bare Copper Earth Wire                                                                                             | m    | 400      |      |        |
|                                           |       | 4 mm sir Bare Copper Earth Wire                                                                                               | m    | 50       |      |        |
| <b>1001.06</b>                            |       | <b>SWITCHED SOCKET OUTLETS</b>                                                                                                |      |          |      |        |
| 1001.06.01                                |       | 16 Amp single switched socket outlet complete with cover plate for installation in a 100 mm x 100 mm draw box, etc.           | No.  | 4        |      |        |
| 1001.06.01.01                             |       | 16 Amp double switched socket outlet complete with cover plate for installation in a 100 mm x 100 mm draw box, etc.           | No.  | 1        |      |        |
| 1001.06.01.02                             |       | 100 mm x 100 mm draw box flush mounted complete chased in                                                                     | No.  | 5        |      |        |
| 1001.06.01.03                             |       | 100 mm x 50 mm draw box surface mounted complete installed                                                                    | No.  | 1        |      |        |
| 1001.06.02                                |       | 25 mm diameter PVC conduit complete installed with all bends, fixing saddles, adaptors, chased into walls, act. as specified. | No.  | 150      |      |        |
| <b>1001.07</b>                            |       | <b>DISTRIBUTION BOARDS</b>                                                                                                    |      |          |      |        |
| 1001.07.01                                |       | Supply and install floor mounted Distribution boards DB-A complete with all accessories and shop drawings                     | No.  | 1        |      |        |
| 1001.07.02                                |       | MCC including all cables and racking                                                                                          | No.  | 1        |      |        |
| <b>TOTAL SECTION 1001 CARRIED FORWARD</b> |       |                                                                                                                               |      |          |      |        |

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SERIES 10: ELECTRICAL INSTALLATION

SECTION 1001: POWER AND LIGHTING RETICULATION

| Item                                          | LI/SC | Description                                                      | Unit | Quantity | Rate | Amount |
|-----------------------------------------------|-------|------------------------------------------------------------------|------|----------|------|--------|
| BROUGHT FORWARD                               |       |                                                                  |      |          |      |        |
| 1001.08                                       |       | LIGHT FITTINGS                                                   |      |          |      |        |
| 1001.08.01                                    |       | Type A - 1500mm IP65 LED T8 power proof cool white 5000k 54watts | No.  | 10       |      |        |
| 1001.08.02                                    |       | Type B - 60w LED Flood light with at least 5-year guarantee      | No.  | 2        |      |        |
| 1001.08.03                                    |       | Type c - 30w LED Flood light with at least 5-year guarantee      | No.  | 2        |      |        |
| 1001.08.04                                    |       | Type D - 20w Round cast aluminium LED Decorative bulkhead        | No.  | 8        |      |        |
| TOTAL SECTION 1001 CARRIED FORWARD TO SUMMARY |       |                                                                  |      |          |      |        |

**SERIES 11: ELECTRICAL INSTALLATION**  
**SECTION 1101: POWER AND LIGHTING SMALL POWER**

| Item                                      | LI/SC | Description                                                                                               | Unit | Quantity | Rate | Amount |
|-------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------|------|----------|------|--------|
| <b>1101</b>                               |       | <b>SERIES 11: ELECTRICAL<br/>INSTALLATION</b>                                                             |      |          |      |        |
| <b>1101.01</b>                            |       | <b>SECTION 1101: POWER AND<br/>LIGHTING SMALL POWER</b>                                                   |      |          |      |        |
| <b>1101.01</b>                            |       | <b>LIGHT SWITCHES</b>                                                                                     |      |          |      |        |
| 1101.01.01                                |       | Single lever one-way light switch<br>completes with all accessories                                       | No.  | 4        |      |        |
| 1101.01.02                                |       | Wall mounted Single lever one way<br>override light switch sensor<br>complete with all accessories        | No.  | 2        |      |        |
| 1101.01.03                                |       | Two levers one-way light switch<br>complete with all accessories                                          | No.  | 2        |      |        |
| 1101.01.04                                |       | Photocell                                                                                                 | No.  | 2        |      |        |
| <b>1101.02</b>                            |       | <b>ISOLATORS AND POWER<br/>OUTLET POINTS</b>                                                              |      |          |      |        |
| 1101.02.01                                |       | 20 Ampere 230V single pole isolator<br>single phase complete with cover<br>plates installed as specified. | No.  | 2        |      |        |
| 1101.02.02                                |       | 20 Ampere 400 V four pole isolator<br>3-phase complete with cover plates<br>installed as specified.       | No.  | 2        |      |        |
| <b>1101.03</b>                            |       | <b>WIRE WAYS TRUNKING</b>                                                                                 |      |          |      |        |
| 1101.03.01                                |       | 76 mm x 127 mm galvanised<br>trunking complete with cover,<br>fixings, tees, bends, ends, splices,<br>etc | m    | 60       |      |        |
| 1101.03.02                                |       | Hangers for 76 x 127 trunking<br>spaced at 1.5 meter                                                      | m    | 60       |      |        |
| 1101.03.03                                |       | 150 mm wide cable tray                                                                                    | m    | 30       |      |        |
| 1101.03.04                                |       | 300 mm wide cable mash basket                                                                             | m    | 30       |      |        |
| <b>1101.04</b>                            |       | <b>CABLE SLEEVES AND<br/>TRENCHING</b>                                                                    |      |          |      |        |
| 1101.04.01                                |       | 110mm cable sleeves                                                                                       | m    | 500      |      |        |
| <b>TOTAL SECTION 1101 CARRIED FORWARD</b> |       |                                                                                                           |      |          |      |        |

**SERIES 11: ELECTRICAL INSTALLATION**  
**SECTION 1101: POWER AND LIGHTING SMALL POWER**

| Item                                                 | LI/SC | Description                                                                                                                                        | Unit           | Quantity | Rate | Amount |
|------------------------------------------------------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|------|--------|
| <b>BROUGHT FORWARD</b>                               |       |                                                                                                                                                    |                |          |      |        |
| 1101.04.02                                           |       | 800mm x 800mm x 600mm manhole                                                                                                                      | No.            | 2        |      |        |
| <b>1101.05</b>                                       |       | <b>EXCAVATE AND BACKFILL<br/>CABLE TRENCH 800DEEP<br/>600WIDE INCLUDING<br/>COMPACTING</b>                                                         |                |          |      |        |
| 1101.05.01                                           |       | In hand - pickable soil                                                                                                                            | m <sup>3</sup> | 4        |      |        |
| 1101.05.01.01                                        |       | In Soft Rock                                                                                                                                       | m <sup>3</sup> | 1        |      |        |
| 1101.05.01.02                                        |       | In hard Rock                                                                                                                                       | m <sup>3</sup> | 5        |      |        |
| 1101.05.01.03                                        |       | Danger Tape                                                                                                                                        | m <sup>3</sup> | 2        |      |        |
| <b>1101.06</b>                                       |       | <b>TRANSFORMER</b>                                                                                                                                 |                |          |      |        |
| 1101.06.01                                           |       | Connection fee and cost of the new transformer                                                                                                     | Sum            | 1        |      |        |
| <b>1101.07</b>                                       |       | <b>EARTHING AND BONDING</b>                                                                                                                        |                |          |      |        |
| 1101.07.01                                           |       | Complete EARTHING and bonding of all water pipes, waste pipes, trunking, cable ladders, trays, etc.                                                | Sum            | 1        |      |        |
| 1101.07.02                                           |       | Clean earth installation for the voice data installation to be tested and upgrade complete as required, etc.                                       | Sum            | 2        |      |        |
| <b>1101.08</b>                                       |       | <b>AS BUILT DRAWINGS</b>                                                                                                                           |                |          |      |        |
| 1101.08.01                                           |       | Trace the existing installation and compile a complete set of marked up as built drawings to be submitted in the operating and maintenance manuals | Sum            | 1        |      |        |
| <b>1101.09</b>                                       |       | <b>CERTIFICATE OF COMPLIANCE</b>                                                                                                                   |                |          |      |        |
| 1101.09.01                                           |       | Issuing a certificate of compliance for the complete electrical installation                                                                       | Sum            | 1        |      |        |
| <b>TOTAL SECTION 1101 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                                                                                    |                |          |      |        |

## SERIES 12: MECHANICAL AND ELECTRICAL EQUIPMENT

## SECTION 1201: MECHANICAL AND ELECTRICAL

| Item                                      | LI/SC | Description                                                                                                                                                                                      | Unit | Quantity | Rate | Amount |
|-------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|------|--------|
| 1201                                      |       | <b>SERIES 12: MECHANICAL AND ELECTRICAL EQUIPMENT</b>                                                                                                                                            |      |          |      |        |
|                                           |       | <b>SECTION 1201: MECHANICAL INSTALLATION</b>                                                                                                                                                     |      |          |      |        |
| 1201.1                                    |       | <b>MAMELODI X6 PHOMOLONG PUMP STATION</b><br>Supply, installation and commissioning of Sewer Equipment as shall be detailed in the schedule of quantities. This bill must be read in conjunction |      |          |      |        |
|                                           |       | <b>PLANT ROOM AREA</b>                                                                                                                                                                           |      |          |      |        |
| 1201.1.1                                  |       | <b>SEWER PUMPS</b><br>(i) SELF PRIMING SEWER PUMPS, each with flow rate of 25l/s @ 20m Head                                                                                                      | No.  | 2        |      |        |
|                                           |       | (ii) Submersible Pumps For Dewatering (5l/s, Head 15m)                                                                                                                                           | No.  | 2        |      |        |
|                                           |       | <b>INFLOW COLLECTION AREA</b>                                                                                                                                                                    |      |          |      |        |
| 1201.1.2                                  |       | <b>MECERATORS</b><br>Supply and Install Open Channel MECERATORS as shown on drawing (21 l/s @ 20m Head), with 6 metre extended motor shaft.                                                      | No.  | 2        |      |        |
| 1201.1.3                                  |       | <b>PIPEWORK</b><br>(i) Supply and install Diameter 160 Class 12 uPVC pipework                                                                                                                    | m    | 20       |      |        |
|                                           |       | (ii) Supply and install Diameter 200 Class 12 uPVC pipework                                                                                                                                      | m    | 20       |      |        |
| 1201.1.4                                  |       | <b>FITTINGS</b><br>(i) Supply and install DN 160 High Performance Flanged Concentric Butterfly Valves                                                                                            | No   | 10       |      |        |
|                                           |       | 1 a) Supply and install DN 200 High Performance Flanged Concentric Butterfly Valves                                                                                                              | No   | 10       |      |        |
|                                           |       | (ii) Supply and install Flanged PN16 BS4504 Flexible Connector Diameter 160                                                                                                                      | No   | 4        |      |        |
| <b>TOTAL SECTION 1201 CARRIED FORWARD</b> |       |                                                                                                                                                                                                  |      |          |      |        |

| Item                                                 | LI/SC | Description                                                                        | Unit | Quantity | Rate | Amount |
|------------------------------------------------------|-------|------------------------------------------------------------------------------------|------|----------|------|--------|
| <b>BROUGHT FORWARD</b>                               |       |                                                                                    |      |          |      |        |
| 1201.1.5                                             |       | (iii) Supply and install Flanged<br>PN16 BS4504 Flexible<br>Connector Diameter 200 | No   | 4        |      |        |
|                                                      |       | (iv) Supply and install Flanges<br>Diameter 160                                    | No   | 16       |      |        |
|                                                      |       | (v) Supply and install Flanges<br>Diameter 160                                     | No   | 16       |      |        |
|                                                      |       | (vi) Supply and install Non-Return<br>Valves Diameter 160                          | No   | 8        |      |        |
|                                                      |       | (vii) Supply and install Non-Return<br>Valves Diameter 160                         | No   | 8        |      |        |
|                                                      |       | (viii) Supply and install Long Radius<br>Elbow Diameter 160                        | No   | 8        |      |        |
|                                                      |       | (ix) Supply and install Long Radius<br>Elbow Diameter 160                          | No   | 8        |      |        |
|                                                      |       | (x) Isolation Valves For Sumps<br>Diameter 400                                     | No   | 6        |      |        |
|                                                      |       | <b>PUMPS AND MECERATOR<br/>CONTROLS</b>                                            |      |          |      |        |
|                                                      |       | (i) Supply and install IP54 Control<br>Panels with soft starters                   | No   | 2        |      |        |
|                                                      |       | (ii) Supply and install Sewage Float<br>Switches                                   | No   | 4        |      |        |
|                                                      |       | (iii) MCC including Cable Racking                                                  | No   | 1        |      |        |
| <b>TOTAL SECTION 1201 CARRIED FORWARD TO SUMMARY</b> |       |                                                                                    |      |          |      |        |

**CONTRACT NO. HHS 01 - 2024/25**  
**SUMMARY OF BILL OF QUANTITIES**

| SECTION                                    | DESCRIPTION                                       | AMOUNT |
|--------------------------------------------|---------------------------------------------------|--------|
| 001                                        | GENERAL REQUIREMENTS AND CHARGES                  |        |
| 002                                        | ENGINEER'S ACCOMMODATION                          |        |
| 003                                        | TRAINING AND DEVELOPMENT                          |        |
| 101                                        | SITE CLEARING AND GRUBBING                        |        |
| 104                                        | LANDSCAPING AND GRASSING                          |        |
| 105                                        | FENCING                                           |        |
| 202                                        | TRENCHING                                         |        |
| 203                                        | MASS EARTHWORKS                                   |        |
| 302                                        | SEWERS: CONSTRUCTION                              |        |
| 303                                        | TESTING OF SEWERS                                 |        |
| 402                                        | WATER RETICULATIONS AND WATER MAINS: CONSTRUCTION |        |
| 403                                        | TESTING                                           |        |
| 501                                        | SUBSURFACE DRAINS AND DRAINAGE BLANKETS           |        |
| 503                                        | KERBING AND CHANNELLING                           |        |
| 505                                        | EROSION PROTECTION                                |        |
| 601                                        | GRAVEL PAVEMENT LAYERS                            |        |
| 604                                        | STABILISATION                                     |        |
| 609                                        | SEGMENTED PAVING                                  |        |
| 701                                        | FOUNDATIONS FOR STRUCTURES                        |        |
| 702                                        | FALSEWORK, FORMWORK AND CONCRETE FINISH           |        |
| 703                                        | STEEL REINFORCEMENT FOR STRUCTURES                |        |
| 704                                        | CONCRETE                                          |        |
| 705                                        | PRESTRESSING OF CONCRETE                          |        |
| 706                                        | JOINTS IN STRUCTURES                              |        |
| 805                                        | SPECIFIC WORKS: BUILDING WORK                     |        |
| 903                                        | TESTING                                           |        |
| 1001                                       | POWER AND LIGHTING RETICULATION                   |        |
| 1101                                       | POWER AND LIGHTING SMALL POWER                    |        |
| 1201                                       | MECHANICAL INSTALLATION                           |        |
| <b>SUB-TOTAL A</b>                         |                                                   |        |
| Add 10% for Contingencies on SUB – TOTAL A |                                                   |        |
| <b>SUB-TOTAL B</b>                         |                                                   |        |
| Add 10% for CPA on SUB – TOTAL B           |                                                   |        |
| <b>SUB-TOTAL C</b>                         |                                                   |        |
| Add 15% VAT on SUB – TOTAL C               |                                                   |        |
| <b>TOTAL CARRIED TO FORM OF OFFER</b>      |                                                   |        |

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE  
CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING  
AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED  
STANDS AT MAMELODI X6 PHOMOLONG**

**PORTION 2: CONTRACT**

**PART C3: SCOPE OF WORK**

## SCOPE OF WORK

### INDEX

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| C3.2    | ENGINEERING .....                                                                                                                                | C3.2    |
| C3.3    | PROCUREMENT .....                                                                                                                                | C3.3    |
| C3.4    | CONSTRUCTION .....                                                                                                                               | C3.4    |
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**NOTE: ALL DRAWINGS REFERED TO UNDER THIS SECTION OF THE TENDER  
DOCUMENT ARE INCLUDED UNDER VOLUME 2**

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

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**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE  
CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING  
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STANDS AT MAMELODI X6 PHOMOLONG**

**C3.1 DESCRIPTION OF THE WORKS**

## **C3.1 DESCRIPTION OF THE WORKS**

### **1.1 EMPLOYER'S OBJECTIVES**

The objective of the project is to provide bulk sewer upgrading and sewer link connection services at Mamelodi X6 Phomolong. The aim is to ensure that the standard of living is improved through the provision of basic sanitation services to the broader community. The project is also aimed at delivering public infrastructure to the community through construction by using conventional methods, and most importantly using Labour Intensive methods to empower the community according to the Expanded Public Works Programme (EPWP).

The project entails the upgrading of the bulk and link sewer system to connect 1051 reticulated stands. This will include the construction of a new sewer pump station to allow 21l/s sewage flow generated by the development and to pump it through a 230m long, 160mm diameter rising main and then gravitated through a 712m long, 200mm diameter gravity main pipelines to a 200mm diameter existing gravity sewer system.

The employer's objectives are to have the works constructed cost-effectively without compromising quality or construction standards, in such a manner that:

- a) employment and entrepreneurial opportunities are created for members of the local community in the execution of the works and in aspects of the third-party management support that is to be provided by the Contractor;
- b) the amount of the construction cost retained by the local community is significant;
- c) entrepreneurs from the local community are developed through the performance of construction contracts with assistance from, and under guidance of, third-party management support provided by the Contractor and,
- d) entrepreneurs are given sufficient support in construction management and materials management to ensure their success.

**NOTE 1** *The employer's objective in requiring the appointment of a construction manager is to provide expertise and resources that selected sub-contractors might lack, capacitate these contractors to successfully complete their contracts and to minimize the risk of works not being constructed to stated requirements, within budget and on time.*

**NOTE 2** *The employer's objective in appointing a materials manager is to ensure that supported contractors are supplied timeously with materials that comply with the requirements of the project. The Contractor may be required to procure materials on behalf of the sub-contractors and the materials manager will be required to facilitate and plan accordingly with the Contractor.*

Works earmarked for Labour Intensive construction methods will be numbered with a prefix “LI” in the bill of quantities to distinguish them from the conventional construction works. Such work shall be constructed using local workers who are temporarily employed in terms of the project specification.

The Contractor will be appointed with a minimum Construction Industry Development Board (CIDB) 7CE.

City of Tshwane is not bound to accept the lowest or any tender and reserves the right to accept the whole or any part of a tender.

## **1.2 OVERVIEW OF THE WORKS**

The project requires the construction of bulk sewer upgrading and sewer link connection to connect 1051 reticulated stands at Mamelodi Extension 6, Phomolong.

The description of the works contained is merely an outline of the Contract works to be undertaken and shall not limit the work to be carried out by the Contractor under this Contract. The Schedule of Quantities provide only for the type of work that may be undertaken and the quantities are provided purely for tendering purposes and is indicative of the expected or estimated quantities.

The Scope of Works entails the following:

- The Construction of a sewer pump station to allow the 21 l/s sewage flow generated by the development and to pump it through the rising and gravity mains. The fortress pump station will have walls and roof made of reinforced concrete with no windows. The doors will be sliding doors made of densely reinforced high strength concrete with robust locking mechanism. The pump station will have electrical and mechanical equipment including pumps, pipework and backup power. It will also be fenced of.
- The supply, lay and joint of rising sewer pipes including associated features for the 230m long, 160mm diameter class 12 rising main.
- The supply, lay and joint of gravity sewer pipes including associated features for the 712m long, 200mm diameter heavy duty class 400kPa gravity main.

### **1.2.1 EXTENT OF THE WORKS**

**a) The extent of the Works consists of:**

General

- General Requirements And Charges which covers the principles, responsibilities and requirements applicable to the contract as a whole as well as to all work and costs involved in the establishment of the Contractor's organization, camps and construction equipment on the site and their removal after completion.
- Provision of Office accommodation for the Engineer's resident staff.
- The Clearing of the Site and the grubbing necessary for the Construction of the works covered by the contract.
- Landscaping and Grassing or establishment of vegetation at the pump station and along the pipeline.
- Erection of New fences, moving of existing fences, erection and later removal of temporary fences.
- Trenching for bulk sewer pipelines.
- Construction of large excavations and embankments for the pumpstations.
- Construction of Sewers using materials conforming to requirements.
- Tests to Sewer Pipelines.
- Construction of Water Reticulations, Pipelines using materials conforming to requirements.
- Construction using prefabricated units of culverts and manholes.
- Construction of Protective coverings for the protection of Earthworks against erosion.
- Construction of Subgrade, subbase layers and base layers at the pump station.
- Stabilization of materials used in the construction of paved area at the Pump Station.
- Paving of Parking areas with individual paving units laid together.
- Foundation work for the concrete Pump Station.
- Design, supply and erection of all falsework and formwork in the construction of Pump Station.
- Supplying and placing of steel reinforcement in the concrete pump station.
- Manufacture, transportation, placing and testing of concrete used for the pump station.
- Supply and installation of all permanent joints that will permit movement.
- Erection of pump station building using concrete.
- Requirements for testing laboratories and equipments to test properties of materials.
- Power And Electrical Reticulation.
- Pumps and steel pipework installations.
- Maintenance of the work during Construction and during the 12 months Defects Liability Period

#### **b) Particular Works**

In particular the following needs to be observed and considered where estimating the cost of the works:

- Bidders shall prepare and submit the programme of works taking into consideration that the Employer may require that the services be completed in a specific order.
- The contractor shall, upon commencement, inspect the pipeline routes and inform the engineer of all obstructions to be relocated.

- A high level of superintendence is required.

### 1.2.2 PHASING OF THE WORKS

The works will not be phased but constructed over 2 financial years.

The Contractor will commence with the Works in the 2024/2025 Financial Year.

| Financial Year | Portion       |
|----------------|---------------|
| 2024/2025      | All the works |
| 2025/2026      | All the works |

### 1.3 NATURE OF THE WORKS

The employer wishes to deliver public infrastructure using labour-intensive methods and sub-contractors where possible. The works in this contract are to be executed by using both conventional construction and labour-intensive construction methods according to the Special Public Works Programme (SPWP) as prescribed in the guidelines of the Expanded Public Works Programme (EPWP).

a) Conventional construction methods

- Removal of boulders or other obstructions too large to be hand removed
- Excavation of trenches deeper than 1,5m
- Cathodic Protection of all steel pipework
- Lifting of precast concrete rings
- Construction of gravel pavement layers
- Chemical stabilisation of layers
- Concrete

b) Labour intensive construction methods (EPWP)

Items deemed suitable for construction using labour intensive construction methods are prefixed “LI” in the schedule of quantities. The employer’s further objective is to optimise labour opportunities and the contractor shall be required to construct the works accordingly. The “LI” activities, inter alia, include but are not limited to:

- Clearing of the areas for the excavation of trenches, including the removal of any trees or other impediments to the installation of new reticulation pipelines.
- Excavation of trenches not exceeding 1,5m in depth, including for all shoring and other safety methods to ensure safe working conditions;
- Excavate by hand to expose existing services and backfill;
- Bedding and laying of new sewer pipelines;
- Backfilling of all new sewer pipelines as specified;

- Construction of manholes, excluding the lifting of precast concrete rings.
- The installation of fence where necessary;
- Fixing damaged residential fences and walls.

c) Local Emerging Contractors (LEC)

Items deemed suitable for construction using Local Emerging Contractors include but are not limited to:

- Supply and erection of fence and gate;
- Construction of segmented block paving;
- Construction of concrete pavements;
- Construction of edge restraints;
- Construction of subsoil drains;
- Reinstatement of bitumen surfacing;
- Landscaping to facilitate good site drainage

d) Construction and Materials Manager

The Main Contractor will be required to appoint a Materials and Construction Manager to mentor, train and assist the appointed local emerging contractors and the daily activities are listed in C3.3.2 and C3.3.3. The minimum qualification for the construction manager will be a National Diploma in Civil Engineering or higher qualification in Civil Engineering.

In areas where required by the Engineer the contractor will be required to make use of local emerging contractors to execute dedicated portions of the work. Only approved tendered rates will apply for work executed and the contractor must ensure that the local emerging contractors are paid a market related price for work done. The contractor will be compensated for the additional site supervision, management of local emerging contractors, material management, training and personal protective clothing that may be required for the local emerging contractors as a percentage value of the work done by the subcontractor.

The City of Tshwane (CoT) is committed to utilize indigents that are registered on the CoT Indigent Register on all projects. The aim is to ensure commitment by each contractor on a project to utilize 50% of its personnel of the indigents list provided by the CoT in order to enhance poverty alleviation and the uplifting of indigents.

The idea is to place indigents in the correct or appropriate project roles/occupations to help them achieve income capacity and/or to equip them through skills development. The contractor must provide data about the number of indigents required, qualifications, type of placement/occupation and gender before the project starts. The successful contractor appointed must accommodate students that need practical training or in-service training.

The Contractor will adopt the following structure for the selecting, training and appointing of local emerging contractor(s) for this project:

1. The Project Steering Committee (PSC) under the leadership of the ward councilor(s) will compile a list of all the local emerging contractors in the ward(s) where the project will be executed.
2. Immediately after the approval of the appointment of the principal contractor on the project, the PSC under the leadership of the ward councilor(s) will invite all the local emerging contractors in the ward(s) where the project will be executed as captured on the abovementioned list to apply for possible inclusion on the list of candidates to be appointed as local emerging contractor(s) by the principal contractor on the project.
3. The applicants will then be evaluated and a short list will be compiled by the PSC together with the appointed Construction and Materials Manager and the appointed principal contractor.
4. The successful candidates will then be trained by the appointed NQF accredited EPWP Training Provider on all the predetermined unit standards.
5. The successful candidate(s) will then enter into a written agreement/contract with the principal contractor.
6. The principal contractor should make provision for administration of local emerging contractors. The principal contractor must provide to the local emerging contractor(s) a construction and material manager to assist them with their construction work (C3.3.2 and C3.3.3). The principal contractor will be paid to provide a construction and material manager to the local emerging contractor(s) via the contract that will be awarded to the principal contractor. The principal contractor will price all items, except in the case of a nominated sub-contractor(s). These tariffs will be binding on the principal contractor if the work is executed by the principal contractor and should no local emerging contractor(s) be available.
7. The principal contractor can hold the local emerging contractor(s) responsible for the quality and quantity of work done by them through their agreement/contract, but will be ultimately responsible and liable for the work done being the principal contractor and mentor to the local emerging contractor(s).
8. The principal contractor and consultants responsible for the site supervision will submit a performance evaluation report to the Client, the CoT, and to the CIDB for their records should the local emerging contractor(s) being registered with the CIDB, in the process of registering or planning to register with the CIDB after the completion of the construction works on the project.
9. A register of all the trained, appointed local emerging contractor(s) and experienced emerging contractors per ward will be kept at the Water and Sanitation Department on the Management System.

10. Ensure that each local emerging contractor(s) Health and Safety Management Plan is implemented and maintained on their portion of the Works.
11. A monthly progress report including an annexure of the performance of local emerging contractors will be submitted on a monthly basis.

The above structure will ensure that local emerging contractors with potential to be trained and given the opportunity to be appointed as local emerging contractor(s) and to gain valuable experience under the mentorship of a construction and materials contractors manager.

#### **1.4 TEMPORARY WORKS**

No temporary works have been allowed for.

#### **1.5 LOCAL ECONOMIC PARTICIPATION SPECIFICATION**

##### **A. PREAMBLE**

The City of Tshwane has a long-term commitment to the protection and Participation of local business and industry, including the Participation and support of construction skills and – capacity. In addition, the municipality is committed to the provision of as many job opportunities as possible to its local communities and therefore to the consistent pursuance and achievement of the objectives of EPWP. Having regard for the specialized nature of this project, the municipality in its role as Employer requires the maximum possible level of Local Economic Participation, as defined in this contract, as well as the maximum possible level of employment of local skills and labour. This specification therefore forms a very important aspect of this contract, which will be enforced and will require the full attention of the Contractor for the duration of the contract.

##### **B. DEFINITIONS**

**“Local Sub-Contractor”** means a legal business entity with its registered office and/or physical address in the City of Tshwane municipal area, duly registered with the Construction Industry Participation Board (CIDB) and with the required CIDB grading and who has actively conducted business in the City of Tshwane municipal area for a period of more than 12 months.

**“Local Supplier”** means a legal business entity with its registered office and/or physical address in the City of Tshwane municipal area who has actively conducted business in the City of Tshwane municipal area for a period of more than 12 months and who supplies goods or materials directly to the end user.

##### **C. SPECIFICATION**

1. LOCAL ECONOMIC PARTICIPATION (LEP) shall comprise of:
  - a. The direct participation of Local Sub-contractors in the Contract.

- b. The direct participation of Local Suppliers and Service Providers in the Contract.
    - c. The direct employment of local labor, - semi-skilled and - skilled staff by the Contactor and Local Sub-contractors.
  2. Direct Participation shall mean the engagement of resources, listed in 1 above, by the Contractor without the involvement of any other intermediary parties or agents.
  3. LOCAL ECONOMIC PARTICIPATION (LEP) shall be measured by value as follows:
    - a. Where activities, as measured under LI and SC of the Bill of Quantities, are performed entirely by Local Sub-contractors at the rate in the Bill of quantities, the value of the measured item shall be deemed to be the net value of LEP in respect of that activity.
    - b. Where an activity, performed in terms of the above, is valued at a scheduled rate that includes a profit mark-up, supervision fee, administration fee or any other mark-up, the net value of the item payable to the Local Sub-contractor shall be deemed to be the net value of the LEP in respect of that activity.
    - c. Where any component of the Contract, measured in the Schedule of Quantities, being a material or plant item or service required for the completion of the Contract, is provided entirely by a Local Supplier or Service Provider, at the rate in the Schedule of Quantities, the value of the measured item shall be deemed to be the net value of LEP in respect of that component.
    - d. Where a component, supplied in terms of point 'c' above, is valued at a scheduled rate that includes a profit mark-up, supervision fee, administration fee or any other mark-up, the net value of the item payable to the Local Supplier shall be deemed to be the net value of the LEP in respect of that component.
    - e. The value of local labour shall be the net value of wages and/or salaries paid to individuals, recruited from communities in the City of Tshwane municipal area, for the purpose of the Contract, by the Contractor or any of the Local Sub-contractors, appointed in terms of this Contract.
  4. Tenderers shall indicate in their tenders the value (as a percentage) of Local Economic Participation (LEP) that will be achieved should he be awarded the contract. This tendered value, split between the participation of Local Suppliers and Service Providers on the one hand and Local Sub-contractors on the other shall become the Contractor's Local Economic Participation target.

The achievement of this target will be a contractual obligation, which will be enforced in terms of the provisions of this section.
  5. The Contractor shall, within seven (7) days of the date of the Letter of Acceptance, submit to the Engineer a detailed plan for the achievement of his tendered Local Economic Participation (LEP) objectives and target, including a schedule of construction activities, construction components, materials, goods and services, local skills and labour etc, in which their valuation in terms of the principles of this specification is clearly indicated. This schedule shall indicate how targets will be met.

6. The Engineer shall approve this detailed plan in writing within seven (7) days of its submission by the Contractor.
7. The Contractor shall submit to the Engineer monthly progress reports, in a format approved by the Engineer, clearly indicating progress to date in respect of LEP. These reports will be in addition to monthly MIG reports required from the Contractor.
8. The Contractor shall, if requested by the Engineer at any stage of the Contract, submit within seven (7) days all necessary documentation required to confirm the accuracy of information provided in the monthly progress reports. Documentation shall include but not be limited to:
  - a. Tax invoices,
  - b. Wage sheets,
  - c. Salary Advices
  - d. Orders.
9. At the completion of the project and prior to the issue of the Performance Certificate, the Contractor shall submit audited (audited by a recognized third-party institution) figures to substantiate and confirm actual LED expenditure achieved during the implementation of the Contract. Failure to meet the tendered target will be result in a financial penalty as described under Sub-Clause 4.10.1 of the General Conditions of Contract (as amended).
10. Failure by the Contractor to comply with any of the requirements in 4, 5, and 6 above shall be dealt with in terms of Clause 9.2 of the General Conditions of Contract.
11. The Contractor shall during the course of the Contract have the opportunity to submit revised detailed plans for the achievement of Local Economic Participation (LEP) objectives and targets, considering practical constraints encountered during the construction process and including the necessary motivation for such revised detailed plans.
12. In the event that the Contractor is prevented to comply with his implementation plan by any circumstances outside his control, he shall within seven (7) days submit to the Engineer a notice outlining such circumstances in detail and stipulating the impact of such circumstances on the Local Economic Participation in the Contract and as defined above. The Engineer shall within seven (7) days of receiving such a notice inform the Employer accordingly and who shall be obliged to:
  - a. Rectify the circumstances preventing compliance and exempting the Contractor from his obligations, in terms of his implementation plan, for the duration of the period in which the circumstances prevailed, or
  - b. Exempting the Contractor entirely from his obligations in terms of its implementation plan in so far as these are affected by the specific circumstances.
13. Any dispute arising from this specification or the implementation thereof shall be resolved in accordance with the provisions of Clause 10 of the General Conditions of Contract.

14. A payment item has been included under schedule 1 (preliminary and general charges) for all costs related to the compilation and administration of all LED-related documentation as well as the auditing of the final figures by a recognized third-party institution.

#### D. NON-SPECIALIST WORK LOCAL SUB-CONTRACTORS

All work measured that have been identified for construction by local sub-contractors as a minimum requirement, which does not prevent the Contractor from employing sub-contractors for other portions of work in order to achieve the tendered LEP target.

### 1.6 LOCATION OF SITE

The Mamelodi X6 Phomolong site is situated South-East of Mamelodi Gardens Township, West of Mamelodi East Township and North of Hatherley Municipal Waste Dump Site. It is bounded to the North by Mohwelere Street, to the West by Solomon Mahlangu Drive, and to the South by the Railway lines as clearly indicated on the Location Map below.



## **1.7 GEOTECHNICAL INFORMATION**

### **Geotechnical Investigations**

The site investigation covered a full set of indicators including CBR, Field Moistures, in-situ Densities and Dynamic cone penetration (DCP) to a depth of 1.0m. The Geotechnical Investigation assisted in indicating the type of soil and underlying material including water table.

#### **1.7.1 New Pump Station**

- A specialist geohydrological company must be appointed by the Contractor for the groundwater control / management using suitable method.
- Groundwater will be encountered approximately 1.5m deep.

#### **1.7.2 Rising Main**

- Surface water was encountered along the length of the pipeline route.
- Groundwater seepage was experienced, although the 24-hour groundwater testing was not done.

#### **1.7.3 Bedding and Fill Material**

- There is no natural occurring selected granular bedding materials available on site.
- The material excavated from the pipe trenches can be used for general fill.

#### **1.7.4 Excavations**

The material down to bedrock varies in consistency, from very base to dense. From the Engineer's interpretation of the consistency, the material can be classified in terms of SANS 1200D as soft to intermediate and can be excavated using appropriate plant. Lateral supports will be required during excavation for the pump station.

## **1.8 FEATURES REQUIRING SPECIAL ATTENTION**

### **1.8.1 Existing Services**

All existing services shall be indicated to the contractor where after he will assume full responsibility for maintaining these in good running order. It shall be understood that the protection of the existing services shall in no way be impaired during the contract.

The wayleaves are also to be utilized to identify clashes of services with the Sewer Rising Main and Gravity Main design

Wayleaves to be attained are shown on the table below.

| <b>Name of Institution</b>       | <b>Type of Service</b> |
|----------------------------------|------------------------|
| Eskom / Internal Distribution    | Electricity            |
| Telkom                           | Telecommunication      |
| City Of Tshwane Municipality     | Electricity            |
| City Of Tshwane Municipality     | Water and Sanitation   |
| DFA                              | Fibre                  |
| Randwater                        | Water Pipes            |
| Liquid Communication / Neotel    | Fibre                  |
| Cell C                           | Fibre                  |
| City Of Tshwane Municipality     | Environmental Services |
| City Of Tshwane Municipality     | Roads and Stormwater   |
| Frog Foot                        | Fibre                  |
| Extribx Pty Ltd T/A SAS Networks | Fibre                  |
| Link Africa                      | Fibre                  |
| Metro Fibre                      | Fibre                  |
| MTN                              | Fibre                  |
| Sasol                            | Gas Pipes              |
| Transnet                         | Pipe Lines             |
| Tshwane Broad Band               | Fibre                  |
| Vodacom                          | Fibre                  |
| VumaTel                          | Fibre                  |

#### **1.8.2 Surveying and Cadastral Beacons (including Stand pegs)**

The Contractor shall be held responsible for the cost incurred in replacing or repositioning of any cadastral beacons which may have been disturbed by his actions.

Under no circumstances shall cadastral beacons be replaced by unauthorized persons and the Engineer shall be informed immediately of such disturbed beacons. The Engineer shall arrange for the replacement of any beacons by a competent Land Surveyor.

#### **1.9 SUPPLYING OF MATERIALS**

All materials required for this contract shall be supplied by the Contractor. The Contractor shall take care that no delay is caused due to a shortage of material. Therefore, material required shall be ordered well in advance.

While care had been taken in calculating the quantities, the Contractor shall check the quantities before ordering. No claims for payment of excess or incorrect materials due to such shall be entertained.

#### **1.10 QUALITY CONTROL**

It is the responsibility of the Contractor to deliver work of quality and accuracy that is in accordance with the specifications and drawings, and the Contractor shall at his own cost provide a quality control system and provide experienced Engineers, Foreman, Surveyors, Technicians and other Technical Personnel together with the necessary transport, instruments and plant to ensure that proper supervision and positive control be applied on the job at all

times. This also includes work done by sub-contractors, including nominated sub-contractors for specialised work or otherwise.

The cost of all supervision and control, test included, performed by the Contractor, shall be included in the relevant rates for the different items when tendering, except where separate provision has been made in the sections of the specifications.

The Contractor's attention is drawn to the stipulations of the different sections of the specifications regarding the minimum frequency of test to ensure proper quality control. The Contractor shall increase this frequency if he deems fit to ensure appropriate control.

The Contractor shall, at the completion of each part of the work and requesting approval thereof by the Engineer, submit all applicable test results, measurements and levels to indicate that it conforms with the relevant specifications.

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE  
COSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING  
AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED  
STANDS AT MAMELODI X6 PHOMOLONG**

**C3.2       ENGINEERING**

## **C3.2 ENGINEERING**

### **3.2.1 STANDARDS AND CODES OF PRACTICE**

The following design standards for civil engineering infrastructure will apply:

- i) *Principles and Standards for the Design and construction of Water and Sanitation Systems in the City of Tshwane* by the Service Delivery Department: Water and Sanitation of the CoT (Revised July 2010).
- ii) *Standard Specifications for Municipal Civil Engineering Works Series 4: Water Reticulation and Water Mains (September 2000)* as supplied by the Water and the Environment Department, Water Supply Department of the City Council of Pretoria (Incorporated in the City of Tshwane).
- iii) *Guidelines for the provision of engineering services and amenities in residential township development* by the National Housing Board (Red book).
- iv) *General Conditions of Contract for Construction Works (2015) (Third Edition)* by the South African Institution of Civil Engineers.
- v) *Standardized Specification 719* as supplied by the South African Bureau of Standards
- vi) *Australian Standard® for Fusion-bonded medium-density polyethylene coating and lining for pipes and fittings AS 4321-1995* as prepared by the Committee WS/9 on Rolled and Welded Steel Pipe of Standards Australia
- vii) *Standard Specifications for Municipal Civil Engineering Works* of the City of Tshwane (Third Edition 2005).

### **3.2.2 EMPLOYER'S DESIGN**

The Contractor undertakes only construction on the basis of full designs issued by the Employer. The Contractor is to follow the specification, the design and construction drawings as laid out by the Employer. The design of the Works is detailed on the drawings and described in this document.

### **3.2.3 DRAWINGS**

The drawings issued to tenderers as part of the tender documents must be regarded as provisional and preliminary for the tenderer's benefit to generally assess the scope of work. The work shall be carried out in accordance with the latest available revision of the drawings approved for construction.

At commencement of the contract, the Engineer shall deliver to the Contractor copies of the construction drawings and any instructions required for the commencement of the works. From time to time thereafter during the progress of the works, the Engineer may issue further drawings or revisions for construction purposes as may be necessary for adequate construction, completion and defects correction of the works.

Drawings issued separately in Volume 2 will be listed hereafter. The drawings represent the total works required under this contract. The employer has developed comprehensive standardized typical details which can be obtained by the contractor from the employer.

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 required by the Engineer. The Engineer 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 Contractor shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates, or stake value and offset. Where necessary, levels shall also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Engineer's Representative on a regular basis. All information in possession of the Contractor, required by the Engineer and/or the Engineer's Representative to complete the as-built/record drawings, must be submitted to the Engineer's Representative before a Certificate of Completion will be issued.

The Drawings prepared by the Employer for the permanent Works are bound at the back of this volume. The Employer reserves the right to issue amended and/or additional drawings during the Contract

**Note:** All applicable Drawings are Included Under Volume 2.

## **C3.2.2 DESIGN & SPECIFICATIONS**

### **3.2.2.1 PUMP STATION**

The new pump stations will consist of a reinforced concrete sump (118l/s) with two (2) separate compartments and dry well to house the sewage pumps, electrical panels and control equipments. The pump station building including roof will also be reinforced concrete and will also serve as structural support to the overhead gantry.

#### **Constituents:**

- **Concrete**

Concrete shall have a cube strength of 35 MPa at 28 days with a water/cement ratio not exceeding 0,55. The concrete shall contain a minimum of 350 kg of OPC per m<sup>3</sup> for imperviousness and durability. A cement/slag mix of 60:40 must be used. The use of dolomitic aggregate is compulsory.

- **Reinforcing Steel**

High tensile (450 MPa) reinforcing steel with be installed in all structural members (roof, wall, floor) to counter and limit crack formation to tolerable levels.

### **3.2.2.2 GENERAL MECHANICAL SERVICES INSTALLATION SPECIFICATION**

#### **1 General And Requirements**

#### **2 Scope Of The Work**

This specification covers the supply, delivery, installation, testing, commissioning and handing over of the complete Mechanical Equipment Installation at **Mamelodi X6 Phomolong Pump Station**, as specified, which form part of this specification. All the work shall be carried out to the complete satisfaction of the Client and Consulting Engineer.

The specialist Sub-contractor shall be responsible for:

- (a) Selecting, purchasing, transport and storage of all materials required for this Contract.
- (b) All appliances, materials and sundries necessary for the proper execution of this Contract include Electrical Control Panels.

(c) Commissioning and testing.

All materials and equipment supplied shall be of high quality from fresh unused stocks suited to the required function and must comply with the requirements of the most recent editions of the relevant SABS or BS Specifications and their amendments. If available only materials carrying the SABS mark shall be used.

Only qualified technicians shall be used for this installation.

### **3 Compliance With Regulations And Generals**

Sub-contractor shall be responsible to ensure that the installation complies with all the latest statutory requirements and regulations and in particular with the following:

- (a) SABS 0140-1978; Identification colour marking
- (b) SABS 0139-1981; The prevention, automatic detection and extinguishing on fire in buildings.
- (c) SABS 0147-1992; refrigerating systems including plants associated with air conditioning systems
- (d) SABS 1530–Part 1: 1991; Panels with two impervious facing sheets.
- (e) The most recent edition of the SABS Code 0142-1981as amended.
- (f) The Occupational Health and Safety Act No. 85 of 1993.
- (g) Government, Provincial and Local Authority, Regulations, Bylaws, Rules and other legal instructions.
- (h) The Regulations and Bylaws of the Supply Authority.
- (i) The regulations of the Local Fire Department.

### **4 Storage Of Materials**

Materials shall be stored on site in areas allocated by the Contractor. Stored equipment and materials shall be reasonably protected against site damage, loss and theft.

### **5 Accessibility**

All equipment shall be so installed as to be readily accessible for operation, maintenance and repair. Minor changes and deviations from the tender drawings

may be made, to achieve this, but major changes or changes involving extra cost may not be made without approval of the Engineer.

All such changes must be properly documented.

## **6 Manufacturer's Ratings**

All equipment specified shall operate well within the manufacturer's ratings. Any tender offering equipment for use beyond these limits will not be considered.

Tenderers shall submit manufacturer's ratings and all technical information of all equipment offered for the full range of capacities, requirements, pressure & temperature ranges, sizes, etc.

## **7 Power And Drain Connections**

All plumbing between equipment, water and drain points shall form part of this contract and the contractor shall supply and deliver the equipment required.

The power supply from the distribution boards shall be installed by others up to a main isolator or electrical panel as shown on the drawings. The final connections from the isolator or electrical panel into the control panels or to the equipment shall form part of this contract. The contractor shall therefore supply all electrical and control equipment required for the final connections.

## **8 Space For Equipment And Access**

Tenderers shall satisfy themselves that the equipment offered by them can be accommodated in the available space as shown in the drawings. Should it be found at a later date that the equipment offered does not fit, then all costs arising from the rectification of this problem shall be for the contractors account.

Tenderers shall satisfy themselves that the equipment as offered by them will pass through available building openings. Large equipment shall be made up in sections and each section shall be small enough for access through doors and other building openings. All additional costs involved for the modification of equipment or to change the make of equipment in order to allow access shall be for the account of the contractor and shall form part of this tender.

## **9 Inspection, Testing And Commissioning**

The Department reserves to itself the right to arrange for the inspection of all goods forming the specification at any stage before final acceptance and by any means it may think fit, and when such inspection is to be carried out, the relevant contracts, orders or sub-orders shall, be endorsed accordingly.

When the inspection at the contractor's works or warehouse is specified, the Department's quality assurance officer or authorized representative shall have free access to the premises of the contractor at all times during working hours', shall have liberty to inspect work which is the subject of the contract or order, at any stage of manufacture, and may reject any goods which are found to be incomplete, defective or in any way not conforming with the terms of the contract or order. The contractor shall afford all reasonable facilities for such access and inspection.

The contractor shall supply, without charge to the Department, all tools, gauges, templates and other equipment which may be required for checking the accuracy of the work; shall provide the labour necessary for inspecting the work or order and shall render all reasonable assistance in carrying out this checking and inspection.

The contractor shall prepare and supply, without charge to the Department, all test pieces, samples and specimens; shall provide all labour and apparatus for carrying out tests and analyses in accordance with the terms of the contract or order and render all reasonable assistance in making such tests and analyses.

Where equipment, that is to be dispatched by the contractor, is finally inspected, the inspecting authority should normally complete a "CERTIFICATE OF INSPECTION", listing the approved items as they will appear on the contractor's invoice. In those cases where the Department has agreed to the certification of the contractor's invoice, a "CERTIFICATE OF INSPECTION" must not be completed. The inspecting authority must certify and sign the contractor's invoice listing the approved items.

Goods which are partly or fully packed before inspection shall not be inspected until they are unpacked. In such cases no "CERTIFICATE OF INSPECTION" shall be issued until such goods have been inspected and accepted. The contractor's quality system should be based on the framework of SABS 0157.

## 1.9 SAMPLES AND TECHNICAL DATA

The Mechanical Sub-contractor shall submit samples and/or equipment submittals including technical data of all equipment and fittings for the approval of the Engineer before ordering or commencing manufacture of these items.

## 10 Operation And Maintenance Manuals

The contractor shall prepare and supply manuals for the successful installation, operation and maintenance of the equipment. A draft of the manual shall be submitted after pre-testing for approval. The draft shall then be corrected, if required, and two sets of the manual shall be submitted before delivery of the equipment will be taken.

The manual shall contain the following information:

- a) Equipment data (mechanical / electrical and controls):
  - Description of all equipment (make, model, ratings, etc.)
  - Manufacturer, brochures and numbers.
  - Design capacities, selection parameters, size and rating.
  - Pressures and temperature limitations (if applicable).
- b) Operating procedures / instructions:
  - Starting and stopping procedures.
  - Abnormal and emergency operating procedures.
  - Safety devices and settings.
  - Manual operation.
  - Operator's duties.
  - Temperature, pressure, etc. settings for controllers, etc.
- c) Testing data

The results of all checks and measurements as recorded during the pre-testing period shall be included and shall be compiled in such a manner that every check and measurement is clearly defined.
- d) Maintenance instruction:
  - Routine maintenance calendar.
  - All maintenance procedures.

- Trouble shooting guide.
- Maintenance schedules for all equipment.
- Maintenance data and record books.

e) Spares:

- List of all spares and model numbers.
- Addresses and contact numbers of suppliers.

The operating maintenance instructions specified above shall preferably be obtained from the equipment manufacturer and where no such manuals exist, they shall be compiled by the contractor to the best of his ability and approved by the Engineer.

The contract will be considered incomplete until all pre-test results and certificates have been conducted to the satisfaction of the clients representative and all drawings and manuals have been handed over to the Engineer / Department.

#### DRAWINGS

The contractor is to supply the following drawings and drawings shall be in accordance with SABS 0111, Code of Practice for Engineering Drawings.

Engineers' drawings issued for the service are not manufacturing drawings and the dimensions given are sufficient for tendering purposes or to enable the contractor to complete his working drawings.

Three copies of the following drawings shall be submitted by the contractor to the Engineer/Department for approval before the supply/delivery of the equipment.

a) Contractor's work drawings

These are structural or other drawings on which all building requirements as indicated on the Engineer's drawings are verified, changes and/or additional requirements to be made in the structure to meet the dimensional requirements of the equipment and materials to be installed. Contractors' work drawings shall also include positions, sizes and masses of major pieces of equipment, positions, sizes and masses of bases for the equipment, waterproofing details, grouting required, all piping connections as well as all other building requirements necessary for the successful installation and operation of the equipment.

b) Mechanical drawings

These are all workshop and equipment layout drawings required for the installation of the equipment. These drawings shall be used by the Contractor for the installation of the equipment supplied by the contractor.

The contractor shall check in detail the engineers drawing issued and take measurements before work drawings are issued for construction or equipment is manufacture, to ensure that the equipment will fit into the space available. Positions and sizes of openings through floors and walls, etc., as indicated on the Engineering drawings shall be adhered to as far as possible. Amendments will only be considered if absolutely unavoidable.

Drawings, except contractor's drawings, shall be submitted for approval but shall in any event not be submitted later than three weeks after the date of acceptance of the tender. Contractors work drawings shall be submitted within two weeks from the date of acceptance of the tender. The contractor shall base his drawings on the architects, structural and engineer's drawings issued to him by the Department.

The contractor is advised to submit three copies of the mechanical drawings for comments by the Engineer/Department after which his original drawing shall be updated and submitted for signature to ensure that all drawings issued for construction/installation of the equipment are certified as approved by the engineer/Department.

Any work done by the contractor without and approved drawings shall be at the contractor's own risk and any changes required to conform with the contract documents or to co-ordinate his work with other traders shall be for the account of the contractor.

Approval of drawings by the Engineer shall not relieve the contractor of his responsibilities to carry out the work in terms of the contract documents.

The mechanical drawings shall be updated (if applicable) during the contract period and shall be included in the O and M manual as required.

## 11 Inspection

The Client reserves to itself the right to arrange for the inspection of all goods forming the specification at any stage before final acceptance and by any means it may think fit, and when such inspection is to be carried out, the relevant contracts, orders or sub-orders shall be endorsed accordingly.

When the inspection at the contractor's works or warehouse is specified, the Department's quality assurance officer or authorized representative shall have free access to the premises of the contractor at all times during working hours, shall have liberty to inspect work which is the subject of the contract or order, at any stage of manufacture, and may reject any goods which are found to be incomplete, defective, or in any way not conforming with the terms of the contract or order. The contractor shall afford all reasonable facilities for such access and inspection.

The contractor shall supply, without charge to the Client, all tools, gauges, templates and other equipment which may be required for checking the accuracy of the work; shall provide the labour necessary for inspecting the work or order and shall render all reasonable assistance in carrying out this checking and inspection.

The contractor shall prepare and supply, without charge to the Department, all test pieces, samples and specimens; shall provide all labour and apparatus for carrying out tests and analyses in accordance with the terms of the contract or order and render all reasonable assistance in making such tests and analyses.

Where equipment, that is to be dispatched by the contractor, is finally inspected, the inspecting authority should normally complete a "CERTIFICATE OF INSPECTION", listing the approved items as they will appear on the contractor's invoice. In those cases where the Department has agreed to the certification of the contractor's invoice, a "CERTIFICATE OF INSPECTION" must not be completed. The inspecting authority must certify and sign the contractor's invoice listing the approved items.

Goods which are partly or fully packed before inspection shall not be inspected until they are unpacked. In such cases no "CERTIFICATE OF INSPECTION" shall be issued until such goods have been inspected and accepted.

The contractor's quality system should be based on the framework of SANS 274.

## **12 Testing And Acceptance**

The contractor shall test all equipment to be supplied in accordance to any recognized testing procedure or code approved by the Engineer/Department. Refer to the SPAC clauses 1.12, 1.13 and 1.14. The contractor shall submit at least two weeks prior to the commencement of the testing a testing program and check lists to the Engineer/Department and at the same time notify the Engineer/Department of the code or procedure to which all equipment to be supplied will be tested. The results of all checks and measurements shall be recorded in writing during the testing period and the Engineer/Department representative has to witness these tests. Certified testing records shall be handed to the Engineer/Department. The following equipment shall be assembled at the contractor's premises and tested.

## **13 Guarantee**

The contractor shall guarantee that the equipment offered will give satisfactory and efficient service, for a period of one year from the date practical completion, or to replace or repair, with a minimum of delay and free of charge, any components which may fail other than by fair wear and tear during this period.

## **14 Painting**

Iron and steel surfaces must be properly cleaned by removing all dirt, oil, scale and rust by brushing and sanding until a clean shiny surface is obtained. Hereafter a metal primer must be applied.

Galvanized surfaces must be cleaned with a galvanizing cleaning agent and then washed with clean water to remove the factory-applied protection against white rust. Hereafter a calcium plumbate primer must be applied, followed by an undercoat between 24 and 72 hours after application of the primer.

Other surfaces must be cleaned by removing all dirt and a primer as specified by the paint suppliers for the particular surface must be applied.

The primer coat must be followed by a matt undercoat and a final top coat of high gloss enamel of an approved colour.

Each layer of paint must be clearly distinguishable from each other by means of different colours and each layer must be properly sanded before the following coat is applied.

All paint must be at least SANS quality for industrial use and must be approved by the Engineer, both regarding quality and colour. Colour coding shall be according to SANS 10140 Part IV.

The following SANS codes shall apply:

|            |                                             |
|------------|---------------------------------------------|
| SANS 10064 | PREPARATION OF STEEL SURFACES FOR PAINTING  |
| SANS 10140 | IDENTIFICATION COLOUR CODING (ALL PARTS)    |
| SANS 630   | HIGH GLOSS ENAMEL ART PAINT                 |
| SANS 678   | BASE PAINT FOR WOOD (INTERIOR AND EXTERIOR) |
| SANS 679   | SINC-CHROMATE BASED BASE PAINT FOR STEEL    |
| SANS 681   | UNDERCOATS FOR PAINTWORK                    |
| SANS 682   | ALUMINIUM BODY COLOUR PAINT                 |
| SANS 723   | ETCHING PAINT                               |
| SANS 912   | CALCIUM PLUMBATE BASE PAINT                 |
| SANS 1091  | NATIONAL COLOUR STANDARD FOR PAINT          |
| SANS 1186  | SAFETY SYMBOL SIGNS                         |

## 15 Welding

All welding, during the manufacturing or pre-assembling of the equipment, shall be performed according to the latest technology using the latest developed and approved welding equipment, and where exposed it shall be smoothly finished off.

## 16 Sound And Vibration Control

The contractor shall be responsible for the detail design and/or selection of all sound and vibration control equipment. Sound and vibration control shall be designed to give the resultant sound pressure levels specified in General Technical Requirements, when based on the sound characteristics of the rooms given in General Technical Requirements. The vibration isolation system shall be designed and selected and adjusted for a maximum total transmissibility of not more than 2,5%.

All rotating equipment shall be balanced, both statically and dynamically and shall not have any critical speeds within 30% of the operating speed. In addition, all rotating equipment and associated pipe work and ductwork shall be provided with vibration isolation mounts.

Isolators shall give both horizontal and vertical deflection and the amplitude shall not exceed 3 mm. All pipe and duct connections to vibrating equipment shall be flexible to allow freedom of the equipment to move.

## **17 Training Of Department Representatives And End User Client**

The contractor shall be responsible for the training of the Department's staff during the commissioning period and after the installation and maintenance manuals has been completed. The staff must receive enough instructions to ensure that they are fully conversant with the equipment concerned. Site staff shall be instructed on:

The full installation, commissioning, testing and operating methods of the equipment.

All instructions and problem solving of equipment.

Stopping the equipment in emergency and warning against restarting after an emergency.

Positions and settings of all control equipment.

Operating temperatures, pressures, etc.

All safety measures including electrical.

Name, address and telephone number of the equipment suppliers and contractor that can be contacted during installation and maintenance of the equipment.

The operating and maintenance manual must be available during the training of the staff. Staff must also be made conversant with the contents of the manuals.

All instruments such as thermometers, pressure gauges, indicators, etc. shall be marked at the operating point under normal conditions. Such markings shall be neatly done on the scale itself and not on the protecting glass cover.

## **18 Service Conditions**

Tenderers shall ensure that all equipment offered is suitable for use under the conditions specified and are invited to call for any further information that may be required.

### 18.1 General Location

Site Location : **MAMELODI (PRETORIA)**  
Site Altitude : ~1339 m  
Site Latitude : 25° 43' 25" S  
Site Longitude : 28° 24' 06" E

### 18.2 External Design Conditions

Summer Ambient Temperature : 21.9°C  
Winter Ambient Temperature : 11.8°C

### 18.3 Internal Design Conditions

Summer Room Temperature : 21.9°C  
Summer Room Relative Humidity : 40 - 60% (not controlled)  
Winter Room Temperature : 11.8°C

NOTE: ALL EQUIPMENT SHALL BE SELECTED TO SUIT THE ALTITUDE AND EXTERNAL DESIGN CONDITIONS FOR **MAMELODI (PRETORIA)**.

## 19 Other Services

### 19.1 Electrical

Surface mounted and recessed lighting shall be used in the buildings, as indicated.

## 20 Building Construction Period

The Contractor shall provide the building construction period and program.

## 21 Insurance

The Contractor shall carry Insurance in accordance with the contract.

## 22 Surety

The Contractor shall provide surety in accordance with the contract requirements.

## **23 Mechanical Drawings**

The Contractor shall be responsible for providing the following drawings for the execution of the project.

- 23.1 Mechanical Drawings
- 23.2 Builder's Work Drawings
- 23.3 Shop Drawings
- 23.4 Electrical & Pneumatic Diagrams
- 23.5 Record Drawings

## **24 Samples And Technical Data**

The Contractor shall submit samples and/or equipment submittals including technical data of all equipment and fittings for the approval of the Engineer before ordering or commencing manufacture of these items.

## **25 Inspection, Testing And Commissioning**

The Contractor shall be responsible for testing and commissioning of the complete plant and allow for inspections by the Engineer as required.

## **26 Operating And Maintenance Manuals**

The Contractor shall provide Operating and Maintenance Manuals for Mechanical Services installed.

## **27 Maintenance And Defects**

The Contractor shall be responsible for Maintenance and Defects in accordance with

**The period of liability for Maintenance and Defects shall be 12 months.**

## **28 Associated Services**

- 28.1 Builder's Work

The Contractor shall be responsible for providing all small openings in brick walls for pipework etc. and for providing the necessary flashing, support brackets for pipework ductwork etc.

The Contractor shall be responsible for providing all Builders' Work Drawings for the work to be provided by the Main Contractor. Full details of all large openings for ducting in the roof and brick walls, details of concrete bases, etc. are to be included on these drawings which are to be submitted to the Engineer for approval in good time to comply with building programme.

The Contractor shall also check the positions and sizes of all these openings, bases, etc., provided by the Main Contractor.

The Contractor shall provide all waterproofing and making good.

## 28.2 Electrical Work

The Contractor shall be responsible for all electrical work including the control panels, where specified and wiring to all mechanical equipment that forms part of this contract.

The Contractor will provide the mains supply and earth connection to the main isolator and earth bar at each control panel, located as indicated on the drawings.

Where no control panel is specified the Contractor will provide the main supply and earth connection, terminating at the equipment isolator as indicated on the drawings.

The Contractor shall be responsible for providing all power supply loading data on the Builders' Work Drawings. He shall also submit control panel drawings, wiring diagrams and schematics for approval by the Engineer before manufacture of the control panels is commenced.

## 29 Pumps

### 29.1 Schedule Of Sewage Pumps

| REF    | LOCATION | DESCRIPTION | NO<br>OFF | FLOW<br>(l/s) | PUMP TYPE                        |
|--------|----------|-------------|-----------|---------------|----------------------------------|
| SPP 01 | Drywell  | Sewage Pump | 1         | 21            | Horizontal Shaft<br>Self-Priming |
| SPP 02 | Drywell  | Sewage Pump | 1         | 21            | Horizontal Shaft<br>Self-Priming |

Sewage pumps shall be horizontal shaft self-priming. They shall be provided with an open type impeller and capable of passing solids in excess of 75mm. They shall be capable to pump fluids that are mildly aggressive with substantial amount of solids.

The pumps shall have dual protection of bearings with external seal leakage monitor, side mount clean out for access to both impeller and flapper valve, self-cleaning wear plate.

## 29.2 Construction Detail For Pumps

|                     |                                             |
|---------------------|---------------------------------------------|
| Impeller            | Ductile Iron, ASTM A536, 100-70-03          |
| Volute Casing       | Ductile Iron, ASTM A536, 65-45-12           |
| Impeller Washer     | 416 Stainless Steel, Heat Treated           |
| Backplate / Bracket | Ductile Iron, ASTM A536, 65-45-12           |
| Wear Plate          | Mild Steel                                  |
| Bearing Frame       | Ductile Iron, ASTM A536, 65-45-12           |
| Shaft               | 17-4 Stainless Steel                        |
| Shaft Sleeve        | 416 Stainless Steel                         |
| Fasteners           | Grade 5 Steel                               |
| Mechanical Seal     | Tungsten Carbide vs. Silicon Carbide Type 2 |

## 30 Macerators (Grinders)

### 30.1 Schedule of Macerators

| REF    | LOCATION | DESCRIPTION | NO<br>OFF | FLOW<br>(l/s) | MECERATO<br>R TYPE |
|--------|----------|-------------|-----------|---------------|--------------------|
| MCR 01 | SUMP     | MECERATOR   | 1         | 28            | IN-LINE            |
| MCR 02 | SUMP     | MECERATOR   | 1         | 28            | IN-LINE            |

Macerators shall be compact, and tough on solids in sludge. The grinders shall be in-line type connecting the inlet and outlet sumps.

The Macerators shall come complete with extended motor shafts of maximum length 4 570mm.

### 30.2 Construction Detail For Mecerators

|                 |                      |
|-----------------|----------------------|
| Housing         | Ductile Iron         |
| Cutters         | Hardened Alloy Steel |
| Shaft           | Hardened Alloy Steel |
| Mechanical Seal | Tungsten Carbide     |

## 31. Schedule Of Particulars

The following schedule of particulars must be completed in full by the contractor and submitted to the Client / Engineer for approval.

### 31.1 Sewerage Pumps

| <u>ITEM NO</u> | <u>DESCRIPTION</u>            | <u>PARTICULARS</u> |
|----------------|-------------------------------|--------------------|
| a              | Make                          |                    |
| b              | Model                         |                    |
| c              | Country of origin             |                    |
| d              | Solids Handling Capacity (mm) |                    |
| e              | Minimum Flow Rate (l/s)       |                    |
| f              | Maximum Flow Rate (l/s)       |                    |

### 31.2 Mecerators

| <u>ITEM NO</u> | <u>DESCRIPTION</u>            | <u>PARTICULARS</u> |
|----------------|-------------------------------|--------------------|
| a              | Make                          |                    |
| b              | Model                         |                    |
| c              | Country of origin             |                    |
| d              | Solids Handling Capacity (mm) |                    |
| e              | Minimum Flow Rate (l/s)       |                    |
| f              | Maximum Flow Rate (l/s)       |                    |

### **3.2.2.3 PIPELINES (STEEL PIPES EXCLUDING DUCTILE IRON)**

#### **1. Description of Steel Pipes and Specials**

##### **Underground Pipes:**

Steel pipes shall be Grade X42 in terms of API 5L. Stainless steel pipes shall be Grade 316 in terms of ASTM A312. Steel and stainless steel pipes shall be epoxy lined and coated in compliance with SANS 1217 to a dry film thickness of 600 micron minimum.

Underground flanges shall be covered in profiling mastic and double tape wrapped.

##### **Fittings and Specials (within valve chamber or reservoir or cast into concrete in reservoir or through valve chamber walls):**

Steel pipe fittings and specials shall be Grade X42 in terms of API 5L. Stainless steel pipe fittings and specials shall be Grade 316 in terms of ASTM A312. Steel and stainless steel pipes shall be epoxy lined and coated in compliance with SANS 1217 to a dry film thickness of 600 micron minimum.

#### **2. Dimensional Specification of Pipes**

All pipes to conform to API 5L or SANS 719.

#### **3. Coating Specification**

##### **Fusion Bonded Polyethylene Coatings**

The pipe coating shall be Sintakote II complying with all aspects of AS 1193, AS 4131 and AS 4321 of the latest revisions.

All coating materials shall be supplied complete with an original ISO 17050-1 Certificates of Conformity (COC) for the materials, clearly indicating compliance with all mechanical, physical and chemical properties of the coating, as defined in AS 4321, AS 1193 and AS 4131.

The supplier shall ensure that testing takes place as per AS 4321 Appendix A, as defined in **Table A1** for the pipeline coating at the mill. In addition to this, a detailed third party report indicating compliance as per the 5 Yearly Type Testing shall be included in the bid, and shall be approved by the client in writing before production commences. The annual testing as per **Table A1** shall also be submitted with the bid and shall be approved by the client in writing before production commences.

The minimum Dry Film Thickness (DFT) shall be 2.3 mm minimum or as per **Table 1** of AS 4321 for the different pipeline diameters as agreed by the Client.

The pipeline frequency of testing during production shall be as per AS 4321 **Table 2**.

The surface profile shall be angular and at least 60 $\mu$ -75 $\mu$  and the dust and debris level shall never exceed Class 2 ISO 8502-3 during production, the latter shall be confirmed during production on every 5<sup>th</sup> pipe and records shall form part of the hand-over pack issued to the Client. The cutback distance of the coating will be 75 mm from the pipe end.

### Three Layer Polyethylene (3LPE) Coatings

The 3LPE coating shall comply with ISO 21809-1, the Canadian Specification CSA Z245.20/Z245.21 is not applicable.

The materials supplied as part of the 3LPE coating, including the Fusion Bonded Epoxy (FBE), Copolymer adhesive and Polyethylene (PE) outer coating shall be supplied with ISO 10474 or EN 10204 Inspection Certificates 2.1 and 2.2, giving the results of the testing of coated pipes, as supplied on the contract/purchase order and signed by a representative of the client which has been duly authorised to issue such documents, by the client in writing.

Pipeline production and coating may not take place without a client approved Inspection and Testing Plan (ITP) document providing an overview of the sequence of inspections and tests, including appropriate resources and procedures. The client shall approve the ITP and Quality Control Procedure (QCP) in writing prior to coating production commencing.

Subsequent to the approval of the documentation detailed above, a Procedure Qualification Trial (PQT) shall take place and shall be witnessed by the client or the duly appointed and authorised person appointed by the client to witness that application of the coating and subsequent inspection/testing of its properties, to confirm that the Application Procedure Specification (APS) is adequate to produce a coating with the specified properties, carried out prior to the start of production.

The 3LPE shall be Type B coating, as per ISO 21809-1 **Table 1**.

The 3LPE coating shall as a minimum be as follows:

|          |         |
|----------|---------|
| FBE      | 0.30 mm |
| Adhesive | 0.20 mm |
| HDPE     | 2.00 mm |

The 3LPE shall have minimum total thickness as above, and on heavier wall pipes it shall comply with class B3, as per ISO 21809-1 **Table 2**.

The applicator shall use epoxy material that is in accordance with **Table 3**, Class B, as per ISO 21809-1 and shall test the materials/ensure compliance as detailed above in accordance with ISO 10474 or EN 10204.

The applicator shall use adhesive material that is in accordance with **Table 4**, Class B, as per ISO 21809-1 and shall test the materials/ensure compliance as detailed above in accordance with ISO 10474 or EN 10204.

The applicator shall use PE/PP material that is in accordance with **Table 5**, Class B, as per ISO 21809-1 and shall test the materials/ensure compliance as detailed above in accordance with ISO 10474 or EN 10204.

The applicator shall provide batch certificates supplied by the manufacturer of each material and shall contain the information given in **Table 6** ISO 21809-1. The batch certificate shall state test methods and acceptance criteria. The applicator shall identify the materials and shall confirm that the certificates comply and relate to the specified materials, as well as the requirements stipulated in Clauses 8.3.2 and 8.3.3 ISO 21809-1.

Prior to the start of coating production and any specified PQT, the applicator shall prepare an APS as per Clause 9.2 ISO 21809-1.

The APS, including any client approved written revisions, shall be approved by the Client prior to the start of production and any specified PQT and they shall comply with the requirements of **Table 7**, Class B coating system.

The APS shall be verified by a PQT in accordance with ISO 21809-1 **Annexure L**. The applicator shall prepare an ITP and a daily log to record quality control data in accordance with **Annexure L** of ISO 21809-1.

Prior to the commencement of the surface preparation for the coating operations, a visual inspection shall be performed on the bare steel pipes in order to verify that there are no steel or weld defects (welding slag, spatter or raised/sharp edges) or contamination with oil, grease, soil, dirt and similar contaminants.

In the event that steel defects are detected they shall be rectified using a file, light grinding or any other suitable tool as stipulated in API 1104 Clause 13.10. This intervention shall not reduce the pipe wall thickness below the tolerances specified in the relevant Project Documents. In case the steel defect is of the nature that simple correction of this defect cannot be performed, the pipe affected by this defect shall be quarantined until the appropriate measures are taken.

In case oil, grease, or any other residues (e.g. adhesive materials or similar contaminants) are present, then they shall be removed using a high pressure water based detergent cleaner, and/or a suitable "solvent" as per the requirements of SSPC-SP-1 Specification. In the event of other "adherent" contaminant being present, then power tool brushes or any other appropriate method may be utilised in order to remove the contaminant from the pipe surface prior to grit blasting.

The blast cleaning abrasives shall be, at all times, kept dry, clean and free from contamination. The blast cleaning shall be performed when the following conditions are

satisfied:

- The steel surface temperature is at least 3°C above the ambient dew point, which shall be checked using a calibrated hygrometer or other method approved by Client.
- The steel surface shall have no traces of moisture;
- The steel surface is protected from bad weather conditions such as rain or the strong wind which can bring contaminants such as soil, sand, dirt, salt or any other such similar contaminant.

In the case that the steel surface temperature is less than 3°C above the ambient dew point or traces of moisture are detected on the steel surface, the steel surface shall be heated using induction heating until the steel surface temperature is within the range of 50°C to 60°C. This temperature shall be maintained until all of the moisture has been removed from the steel surface.

Abrasive blast cleaning shall be in strict compliance with ISO 21809-1 Clause 10.1.2 with the exception that the profile shall be measured using ISO 8503-4 (Stylus method), replica tape is not permitted.

As per ISO 8502-3, the cleanliness of the steel surface shall be measured using the ISO Form: "Preparation of Steel Substrates before Application of Paint and Related Products – Test for the Assessment of Surface Cleanliness – Part 3: Pressure Sensitive Tape Method." As prescribed, a strip of clear tension tape shall be placed, tacky side down, onto the blasted steel surface of the pipe after cleaning. The tape shall then be removed from the surface and placed on a piece of white glossy paper where it will be compared to the cleanliness levels provided in the ISO 8502-3 specification procedure. This shall not exceed a "Debris" and "Dust" level of Class/Level 2 at any given time and shall be recorded during pipe production on at least every 5th pipe to confirm compliance and records shall be kept for the client, which may be inspected at any given time.

The salt level on the bare steel pipe surface shall be measured according to ISO 8502-2 and shall be a maximum of 20 mg NaCl/m<sup>2</sup>. The basic procedure of the test shall be to dampen circular piece of test paper of known area with a specified volume of laboratory water containing less than 0.1µg/cm<sup>2</sup> of salt. The test paper shall then be applied to the pipe for a period of 2 minutes, after which the test paper will be removed from the pipe and its resistivity measured. The salt content on the pipe will then be determined through the calibrated Salt Contamination Meter which uses the negative correlation between resistivity and salt content, along with empirically measured historical data to provide a reading.

If excessive salt contamination is established ( $\geq 20$  mg NaCl/m<sup>2</sup>) during production testing, then the applicator shall ensure that a "Pre-Wash" system shall be employed prior to coating in order to remove the salt without causing "flash rusting" or any other "surface contamination". The "pre-wash" shall be performed and shall form an integral part of the production Pre-Qualification Testing (PQT) before acceptance of the "Pre-

Wash” procedure.

The maximum time elapsed after completion of the abrasive blasting operation, pre-wash (if applicable) and the application of the P primer shall be 120 minutes if RH < 85% and 60 minutes if RH > 85%. At no time shall the steel surface temperature be allowed to drop below the dew point before application of the P Primer. Should either of these conditions apply, the surface preparation shall be re-inspected and/or the surface preparation repeated as required.

The application of the 3LPE coating shall be in accordance with the approved APS in accordance with Clauses 10.2.2.3 and 4 of ISO 21809-1.

Inspection and testing shall be carried out in accordance with the approved APS and ITP and shall meet the minimum requirements as stipulated in ISO 21809-1 **Tables 8 and 9**.

Coating repairs shall be addressed via a client approved APS and PQT as per Clause 12 ISO 21809-1.

Pipeline marking shall be as per the Clients requirements, but shall as a minimum include all aspects detailed in Clause 13 of ISO 21809-1.

### **Alternative Coatings**

Alternative coatings which comply with the same or possess very similar coatings properties as those detailed above, may be considered by the client.

Rigid Polyurethane (RPU) coatings shall comply fully with EN 10290 and RPU suppliers shall verify compliance with an independent third party approved type testing report that is not more than 4 years old.

Toll manufactured RPU products shall also comply fully with AWWA C222 and/or EN 10290 and RPU suppliers shall verify compliance with an independent third party approved type testing report that is not more than 4 years old showing full compliance with all of those requirements defined in EN 10290 Table 4. The international “holding” company and/or overseas “registered brand” manufacturers test reports are not deemed to be acceptable, as the products are toll manufactured locally with the potential that local generic components are used. Testing of both tolls manufactured and imported products is mandatory. Imported products shall be issued with an ISO 17050-1 Certificate of Conformity from the supplier (point of origin) stipulating compliance with all chemical, physical and mechanical properties of the applied product, as per ISO 10474 or EN 10204 Inspection Certificates 2.1 and 2.2 and shall comply in full with Table 4 of EN 10290 or AWWA C222 for RPU products.

The minimum mainline and FJR coating dry film thickness for the RPU system shall be 3000μ.

#### **4. Field Joint Repairs (FJR) External Coatings**

On both FBMDPE and 3LPE coatings, only Client approved DVGW Certified and or other Client approved certification materials may be used. All materials shall comply to the requirements of EN 12068 Class C HT50°C UV for either tapes and heat shrinkable sleeves (HSS).

An ISO 17050-1 Certificate of Conformity from the supplier (point of origin) stipulating compliance with all chemical, physical and mechanical properties of the applied product, as per ISO 10474 or EN 10204 Inspection Certificates 3.1.B and 3.1 shall be submitted i.e. the DVGW Type Test Report and in-house batch testing for the batch(s) to be supplied.

Pipeline FJR repairs may not take place without a client approved Inspection and Testing Plan (ITP) document providing an overview of the sequence of inspections and tests, including appropriate resources and procedures. The client shall approve the ITP and Quality Control Procedure (QCP) in writing prior any FJR construction/production commencing.

Subsequent to the approval of the documentation detailed above, a Procedure Qualification Trial (PQT) shall take place and shall be witnessed by the client or the duly appointed and authorised person appointed by the client to witness that application of the FJR and subsequent inspection/testing of its properties, to confirm that the Application Procedure Specification (APS) is adequate to produce a FJR system with the specified properties, carried out prior to the start of construction.

For RPU mainline coatings, the same RPU material shall be utilised, once the Client has approved the APS, QCP and ITP. An ISO 17050-1 Certificate of Conformity from the RPU supplier (point of origin) stipulating compliance with all chemical, physical and mechanical properties of the applied product, as per ISO 10474 or EN 10204 Inspection Certificates 2.1 and 2.2 shall be submitted i.e. the EN 10290 Type Test Report and in-house batch testing for the batch(s) to be supplied as per EN 10290.

#### **5. Lining Specification**

The pipe lining shall be suitable for immersion as per SANS ISO 12944-2 Im1 (Immersion) and shall be SANS 241 compliant. The minimum dry film thickness shall be 600µm.

The lining shall comply fully with EN 15655/EN10339 and suppliers shall verify compliance with an independent third party approved type testing report that is not more than 4 years old.

Toll manufactured products shall also comply fully with EN 15655/EN10339 and suppliers shall verify compliance with an independent third party approved type testing report that is not more than 4 years old showing full compliance with Table 1 for the toll manufactured product. The international “holding” company and/or overseas

“registered brand” manufacturers test reports are not deemed to be acceptable, as the products are toll manufactured locally with the potential that local generic components are used. Testing of both tolls manufactured and imported products is mandatory. Imported products shall be issued with an ISO 17050-1 Certificate of Conformity from the supplier (point of origin) stipulating compliance with all chemical, physical and mechanical properties of the applied product, as per ISO 10474 or EN 10204 Inspection Certificates 2.1 and 2.2.

All lining products shall possess a SANS 241 Potable Water Certificate, which shall not be more than 2 years old and issued by SANS. Products without a SANS 241 Potable Water Certificate, shall be tested, and shall be based upon product supplied from the Toll Manufacturing company which will be inspected and collected by the client and/or client’s representative from a production run. No material may be applied without the client approving in writing the SANS Potable Water Certificate.

Pipeline production and lining may not take place without a client approved Inspection and Testing Plan (ITP) document providing an overview of the sequence of inspections and tests, including appropriate resources and procedures. The client shall approve the ITP and Quality Control Procedure (QCP) in writing prior to lining production commencing.

Subsequent to the approval of the documentation detailed above, a Procedure Qualification Trial (PQT) shall take place and shall be witnessed by the client or the duly appointed and authorised person appointed by the client to witness that application of the lining and subsequent inspection/testing of its properties, to confirm that the Application Procedure Specification (APS) is adequate to produce a lining with the specified properties, carried out prior to the start of production.

The cutback distance from the pipe end will be 75 mm for pipes that can be man entered and field repaired (pipe dia larger than 500 mm), otherwise no cutback will be accepted.

## **6. Field Joint Repairs (FJR) Internal Linings**

All completed Internal Field Joint Repairs (IFJR) shall comply with EN 15655/EN10339 and shall be potable water compliant as per the latest SANS regulations governing potable water. The materials shall be fully compatible with the main lining system and all compatibility testing as per EN 15655 / EN10339 as well as hot water soak testing at the materials maximum operating temperature (e.g. 55°C) for 15 days followed by a full reassessment of all EN 15655/EN10339 tests including adhesion testing onto the overlapped main lining, which will be under taken by an approved independent third party testing house, which has been approved by the Engineer and/or CoT. All proposed materials will have a proven track record with traceable project history and contactable references. All materials shall have a valid SANS 241 Certificate which shall not be more than 4 years old and, on the proviso, that the material certified has not been changed or altered in anyway.

An ISO 17050-1 Certificate of Conformity from the supplier (point of origin) stipulating compliance with all chemical, physical and mechanical properties of the applied product, as per ISO 10474 or EN 10204 Inspection Certificates 2.1 and 2.2 shall be submitted as well as an in-house batch testing for the batch(s) to be supplied. The supplier's laboratory and testing facilities shall also be ISO 9001 certified and/or ISO 17025.

Pipeline IFJR repairs may not take place without a client approved Inspection and Testing Plan (ITP) document providing an overview of the sequence of inspections and tests, including appropriate resources and procedures. The client shall approve the ITP and Quality Control Procedure (QCP) in writing prior any IFJR construction commences.

In the case that the steel surface temperature is less than 3°C above the ambient dew point or traces of moisture are detected on the steel surface, the steel surface shall be heated using induction heating until the steel surface temperature is within the range of 50°C to 60°C. This temperature shall be maintained until all of the moisture has been removed from the steel surface.

Abrasive blast cleaning shall be in strict compliance with ISO 21809-1 Clause 10.1.2 to SA3 with the exception that the profile shall be measured using ISO 8503-4 (Stylus method), replica tape is not permitted.

As per ISO 8502-3, the cleanliness of the steel surface shall be measured using the ISO Form: "Preparation of Steel Substrates before Application of Paint and Related Products – Test for the Assessment of Surface Cleanliness – Part 3: Pressure Sensitive Tape Method." As prescribed, a strip of clear tension tape shall be placed, tacky side down, onto the blasted steel surface of the pipe after cleaning. The tape shall then be removed from the surface and placed on a piece of white glossy paper where it will be compared to the cleanliness levels provided in the ISO 8502-3 specification procedure. This shall not exceed a "Debris" and "Dust" level of Class/Level 2 at any given time and shall be recorded during site production on every IFJR pipe to confirm compliance and records shall be kept for the client, which may be inspected at any given time.

The salt level on the bare steel pipe surface shall be measured according to ISO 8502-2 and shall be a maximum of 20 mg NaCl/m<sup>2</sup>. The basic procedure of the test shall be to dampen circular piece of test paper of known area with a specified volume of laboratory water containing less than 0.1µg/cm<sup>2</sup> of salt. The test paper shall then be applied to the pipe for a period of 2 minutes, after which the test paper will be removed from the pipe and its resistivity measured. The salt content on the pipe will then be determined through the calibrated Salt Contamination Meter which uses the negative correlation between resistivity and salt content, along with empirically measured historical data to provide a reading.

Subsequent to the approval of the documentation detailed above, a Procedure Qualification Trial (PQT) shall take place on site and shall be witnessed by the client or the duly appointed and authorised person appointed by the client to witness that

application of the IFJR and subsequent inspection/testing of its properties, to confirm that the Application Procedure Specification (APS) is adequate to produce an IFJR system with the specified properties, carried out prior to the start of construction and testing shall meet all of the requirements stipulated above.

## **7. Field Welding**

### **General**

Field welding of pipes which have been lined will only be permitted in pipes of DN 450 and larger where a man is able to enter the pipe to make good the lining after welding and testing in accordance with API 1104 Clause 12.8 has been completed. Pipes of lesser diameter may be field welded where concrete linings will be made after the pipeline has been laid and all welds have been tested and approved.

At the discretion of the Engineer, roll welding will be permitted, provided an alignment is maintained by use of skids or of structural framework to accommodate two or more lengths of pipe with an adequate number of roller dollies to prevent sag in the pipe. The entire root bead, however, shall be made with the pipe in a stationary position.

All pipes welded in the trench shall be properly laid and aligned before welding commences. Joint holes shall be excavated at all field welds. The Contractor shall not lift the pipe to provide adequate access for the welders to enable them to weld the joint.

The alignment of abutting ends shall be such that the offset will not exceed 1.5 mm. Line up clamps shall be used for joint "fit-ups". The use of "bridges and wedges" or any method that may induce unnecessary stresses will not be permitted.

Both ends of coated and lined pipes shall be wrapped for a distance of at least 800 mm on either side of the weld by means of a fire resistant plastic, rubber or other approved material mat to ensure that weld spatter or other damage is not caused to the coating and lining during the welding process. The pipe trench shall be kept free of all dirt and water in the vicinity of the weld until after all corrosion protection measures have been completed and approved.

Destructive testing as specified in API 1104 Clause 6.5 shall be carried out. The Contractor shall submit to the Engineer for approval a full procedure specification as detailed in API 1104 Clause 5.3 prior to any field welding being allowed.

## **8. Welding Procedure and Qualification of Welders**

Welding shall only be done by qualified welders who satisfy the requirements of API Std. 1104, Clause 6 and who have been tested at the Contractor's expense by an Independent Inspectorate.

Before any welding of pipeline materials commences, the qualification of welders shall have been approved, all detailed welding procedure specifications with weld diagrams

required for their completion shall have been submitted for approval in a neat form and the welding procedure qualification tests shall have been successfully concluded all in accordance with the relevant standard specifications. Each welder shall mark the pipe adjacent to the weld with the figure assigned to him.

Sufficient records shall be kept by the Contractor to ensure that all field welds can be subsequently identified with the welder concerned.

As far as practicable all out of trench welding shall preferably be done by an automatic submerged process and the Contractor shall provide all necessary plant to carry out this process. Manual submerged electric arc process (MSEAP) welding may be used where in-trench welding is done.

Pre- and post-heat treatment for welding shall be in accordance with API Std. 1104 if required by same and the Contractor shall provide an approved shield to protect the pipe joint from wind and weather during heat treatment and welding.

## **9. Line Up**

Pipes shall be lined up in such a manner as to prevent damage thereto. If the pipe to be used has a longitudinal seam, these seams shall be staggered by not less than twenty degrees and welded sections, or single lengths, shall be assembled in such a manner that this seam shall remain in the top quadrant of the pipe during coating operations and after lowering into the trench.

## **10. Cleaning of Pipe Ends**

Before welding, all foreign matter shall be removed from the bevelled ends. If any of the ends of the pipe joints are damaged to the extent that satisfactory welding contact cannot be obtained, the damaged pipe ends shall be cut and bevelled with an approved bevelling machine. These field bevels of pipe ends shall be made to the satisfaction of the Engineer. Should laminations, split ends, or other defects in the pipe be discovered, the joints of pipes containing such defects shall be cropped, repaired, or removed from the line as designated by the Engineer.

## **11. Weather Conditions**

No welding shall be carried out during rain or high wind unless the welder and joint are adequately protected and sheltered, to ensure that the welding is not impaired.

## **12. Protection of Paintwork**

Before welding commences, a suitable apron at least 800 mm wide shall be wrapped around both sides of the area to be welded to ensure that weld spatter or fallout from arc weld does not damage the paintwork.

During the welding of joints, the Contractor shall ensure that either rubber mats or other suitable material is laid in the pipe invert of epoxy lined steel pipes to protect the lining

against damage by traffic or fall-out from arc welding at the joint. The mats shall be placed the full distance from the point of access up to the point of weld or weld inspection and shall be of sufficient width.

Workmen shall wear soft rubber soled shoes before entering lined pipes. Care shall be taken not to stroke arcs on the epoxy lined areas adjacent to the weld joint. Immediately before welding of joints, the protective tape between the ends of concrete or epoxy linings and coatings and pipe ends shall be removed.

### **13. Butt-Welding**

Pipes and specials to be joined by field welding shall be supplied with ends bevelled for welding. All welding of joints shall comply with API Std. 1104 and only approved type welding rods shall be used.

If backing rings are used, they shall be placed in position and wedged up or adjusted so that the pipe ends are completely circular and properly mated. The space between abutting pipe ends, when aligned for welding, shall be such as to ensure complete penetration without burn-through. For pipes having the same dimensions, the spacing shall be approximately 1,5 mm.

The alignment of the abutting pipe ends shall be such as to minimize the offset between pipe surfaces. For pipes of the same nominal wall thickness, the offset shall not exceed 1,5 mm. Internal line-up clamps shall be used wherever practicable and may be removed after the root bead is 50 % completed, provided that the completed part of the root bead is in segments of approximately equal lengths, spaced about the circumference of the pipe. If conditions make it difficult to prevent movement of the pipe, or if the weld will be unduly stressed, the root bead shall be completed before releasing clamp tension.

External line-up clamps shall be used where it is impracticable to use internal line-up clamps. Partial root beads made when using external clamps shall be uniformly spaced about the circumference of the pipe and shall have an accumulative length of not less than 50% of the pipe circumference before the clamps are removed.

Tack-welding shall be carried out to maintain the root gap and position of the pipe ends during the welding proper. The number of tack-welds shall be kept to a minimum but shall not be less than four around the circumference of the pipe.

After proper preparation and tack-welding, the root bead shall be carried out followed by successive filler passes, and capper finish pass in accordance with the approved welding procedure.

The filler and finish beads shall be deposited by an acceptable method and each filler bead shall be approximately 3 mm in thickness. Completed welds shall have a reinforcing of not less than 0,8 mm and not more than 1,5 mm above the pipe surface around the entire perimeter of the weld, and the width of the finish or cover shall be not

more than 3 mm greater than the original groove.

The number of beads required shall be governed by the wall thickness of the pipe, so that the completed weld will have the reinforcement previously specified; provided, however, that each weld shall consist of at least three beads. No two beads shall be started at the same point. No mitre welds will be permitted, and all welds are to be at ninety degrees ( $\pm 5$  degrees) to the axis of the pipe. All slag and scale shall be removed from each bead for visual inspection immediately after each bead is run.

In all field butt-welds where it is possible to work inside the pipe, the inside weld shall be done first. The chemical composition of weld metal and parent metal shall be similar and the inner weld metal or reinforcement shall not extend more than 1 mm above the inside metal surface of a pipe or special, and any excess shall be removed by grinding.

Defects caused by stray welding arc flashes shall be removed by grinding, provided that the pipe wall thickness is not reduced to less than the specified minimum thickness, otherwise the portion shall be cut out and repaired.

#### **14. Fillet Welding**

Welding shall be as for butt-welding as applicable. All pipes of DN 600 and over shall be welded on both the outside and the inside.

#### **15. Welding Alongside The Trench**

The Contractor may butt-weld factory coated and/or lined steel pipes together alongside the edge of the trench to form continuous welded pipeline sections up to a maximum length of 45 m and to lower each section into the trench, provided the pipe, coating and/or lining are in no way damaged during these operations and provided furthermore that the deflection of the pipe barrel at any point during any stage of the operation does not exceed 2% of pipe outside diameter.

The linings and coatings of factory coated and/or lined pipes jointed together outside the trench shall be made good at these joints outside the trench.

#### **16. Repair of Welds**

Rectification of defective welds shall be in accordance with API Std. 1104 and to the satisfaction of the Engineer. All costs related to the repair of defective welds shall be borne by the Contractor. Defective welds shall be repaired immediately once they are found to be defective. The Engineer has the right to stop the Contractor proceeding with further pipe laying in the event of the Contractor delaying the rectification of defective welds. Furthermore, no consideration will be given to any claims arising from delays in construction resulting from such action.

## **17. Tests Required On Pipes**

The following tests are required:

- Hydrostatic test on every pipe to a minimum of 90% of nominal yield strength.
- Radiographic, Ultrasonic and dye penetration tests on all welding.
- Check all pipes for dimensional compliance with relation to diameter.
- Tests to measure thickness of coating and lining.
- Spark test to check the uniformity and compliance of the lining and coating to ensure electrical isolation of steel material. Holiday Testing as per ASTM G62 requirements for both internal and external coatings. Any repairs to the lining and coating due to either the spark test or the thickness tests will be done in a different colour, or be clearly identified for later reference if any failures are experienced later in the lifespan of the pipeline.
- Data packs with all of the required ISO 10750-1 Certificates of Conformity for the coating materials, as well as all of the required Quality Control Procedures (QCP) pertaining to the application and testing during production, as stipulated in the previous sections.

A report with all test results will be submitted to the client for storage and usage as and when required. The report will further exactly state any repairs to each pipe, and each pipe should indicate a unique reference no traceable for future reference.

## **3.2.2.4 CORROSION PROTECTION OF SPECIALS, VALVES AND FLOWMETERS**

### **1. SCOPE**

This specification covers the corrosion protection of specials, valves and flow meters, subjected to environments with variable corrosive tendencies.

### **2. INTERPRETATIONS**

#### **2.1 Definitions**

Refer to the definitions and terminology detailed in SANS ISO 12944-1

Lining

Refers to the internal coating of valves and pipes.

Coating

Refers to the external coating of valves and pipes.

### **3. APPROVAL PROCEDURE**

#### **3.1 Approvals before award of contract**

Approval by the Engineer of the corrosion protection system, procedures and specific materials offered in the Tender. Legible copies of Manufacturer's data sheets shall be submitted for each product.

#### **3.2 Application of protection material approvals**

Information on the application of the coating system must be supplied by each tenderer, and must include minimum the following information, as defined in SANS ISO 12944-3, SANS ISO 12944-4, SANS ISO 12944-7 and SANS ISO 12944-8, which shall include but not be limited to;

- (a) Qualification of personnel
- (b) Quality of equipment
- (c) Pre-preparation
- (d) Surface preparation
- (e) Application
- (f) Final acceptance

Note the Contractor shall be responsible for the submission and obtaining written approval from the Engineer for all Method Statements and Quality Control Procedure (QCP) and Application Procedure Specifications (APS), which shall be the Contractors detailed document describing the procedures, methods, equipment, tools and qualification of personnel to be used for both the coating and lining application.

### **4. GENERAL REQUIREMENTS**

#### **4.1 Quality assurance and procedures**

The production and application shall be in accordance with SANS ISO 9000, Quality System.

The Contractor shall be responsible for ensuring that he is fully conversant with the requirements of this specification, contract requirements, SANS ISO 12944-1 to 8 and the relevant coating systems.

#### **4.2 Qualified staff**

##### **4.2.1 Application and Repairs (Factory and Site)**

A high standard of workmanship is required. Only experienced personnel shall be used to carry out corrosion protection work and their qualifications shall be detailed in the relevant APS and Method Statements.

Execution and supervision of the work, shall be based upon the minimum requirements stipulated in SANS ISO 12944-7 and detailed in the relevant Method Statements, APS and QCP documents.

#### 4.3 Compatibility of materials

The Contractor shall ensure that metals or alloys are compatible or are adequately protected if, in the galvanic series, there is more than 0,3 volt difference in the galvanic potential.

##### 4.3.1 Design precautions

All equipment shall be designed in accordance with the minimum requirements and guidelines stipulated in ISO 12944-8 and shall be submitted to the Engineer/client for written acceptance, prior to proceeding. The latter shall take into account the accessibility of areas prior to erection and subsequent to erection as well as areas where water entrapment may arise in line with SANS ISO 12944-3.

##### 4.3.2 Corrosion prevention

The Contractor shall ensure that the following steps are taken to minimise corrosion:

- a) If dissimilar metals are used, they need to be isolated and the method of isolation needs to be submitted for written acceptance by the Engineer/Client.
- b) Use electrical insulators between two metals. Insulation must be complete; a bolt requires a sleeve as well as washers of an insulating material.
- c) Joints and crevices between metals shall be sealed.
- d) Where fastening is unavoidable, the fasteners shall be nobler (cathodic) than the base material. Fasteners shall be coated where possible and/or adequately electrically insulated between fasteners and the base material.

#### 4.4 Equipment

##### 4.4.1 Measuring equipment

The Contractor shall have the following fully calibrated measuring equipment required throughout the project duration at his shop or site at all times, so that he may comply with the relevant application standards/specifications, like EN10290 or EN 10289:

- Ambient temperature gauge
- Blast profile gauge
- Dew point instrument
- Dry film thickness gauge
- Electric insulation defect detector
- Surface temperature gauge

- Relative humidity instrument
- Wet film comb

All relevant equipment and/or instruments shall be calibrated daily in order to ensure compliance with all aspects of the specification and/or contract.

#### 4.4.2 Spray equipment

Spray equipment shall be suitable for the production of high quality work, capable of properly atomising the material, agitating materials as required and equipped with suitable pressure regulators and gauges.

All spray equipment shall be fitted with suitable oil and moisture traps, which will ensure that oil and water is measured as per ASTM D4285 or client approved Test Method.

#### 4.4.3 Mixer

All equipment shall ensure full compliance with the application and/or specification and/or contract. The Contractor shall submit full details of the equipment they intend to use as part of this contract.

### 4.5 Handling and transport

#### 4.5.1 Physical protection

Handling, Transport and Erection should comply with SANS ISO 12955-3 Clause 5.11 and the minimum requirements shall be stipulated by the Design Engineers and the Contractors Method Statement, shall be approved prior to implementation.

#### 4.5.2 End covers

See Section 4.5.1 above

#### 4.5.3 Lifting

See Section 4.5.1 above

#### 4.5.4 Marking of valves, pipes, crates and bags

- (a) Each valve, pipe and special shall be legibly, indelibly and durably marked, (in such a manner that the coating is not damaged), with the following information:
- Contract number,
  - Project name,
  - Nominal diameter,

- Hydrostatic test pressure,
- Item number.

(b) The bags and crates shall be tagged using metallic tags and shall indicate the following information:

- Contract number,
- Project name,
- Part numbers,
- Description,
- Sizes,
- Quantities.

Each bag or crate shall have the delivery address listed on a separate metallic tag.

#### 4.5.5 Transport

See Section 4.5.1.

The Site Engineer shall be notified of the delivery date and of any requirements regarding off-loading and storage at site.

#### 4.5.6 Off-loading at site

The supplier shall be responsible for the transportation and off-loading of the equipment and other small components at the delivery site and shall take due cognisance of Section 4.5.1 above.

The final delivery inspection and acceptance of equipment supplied shall be undertaken on site after off-loading has been completed.

#### 4.5.7 Damage

Any damage that occurs during the handling and storage of items at the Manufacturer/Contractor's works, including transportation to site, shall be repaired by the Manufacturer/Contractor at his own cost, in accordance with the specification and to the approval of the Engineer.

#### 4.5.8 Rejection

The Engineer has the right to reject any damaged items and materials which have been delivered and off-loaded at site.

## 5. RECOMMENDED COATING SYSTEMS

### 5.1 Toxicity of lining material

Materials used for the lining of valves and ancillary components shall be compliant with SANS 241 and/or similar European and/or North American Potable Water Drinking Standards, and valid certification shall be provided, prior to ordering the equipment. Certification shall be submitted to the Engineer for his approval.

### 5.2 Proprietary items

Components that are supplied painted or protected e.g. gearboxes, actuators etc. shall only be accepted provided that they meet the corrosion protection requirements of this specification. If this specification cannot be adhered to, the Contractor shall submit full details of the equivalent paint systems for approval by the Engineer, but all linings shall be fully compliant with the specification and SANS 241.

### 5.3 Coating systems

The final selection of all corrosion protection systems shall be submitted to the Engineer for approval before application. The QCP shall refer to the relevant system number listed in the tables below.

The following tables are abbreviated guidelines. The Contractor shall submit in writing the full specification and materials that they intend to use on this project and/or contract. The contractor's proposals must be approved in writing by the Engineer, prior to the contractor proceeding with any of the works. The systems are not listed in order of preference. Any item not listed below must be clarified in writing with the Engineer.

#### 5.3.1 Valves and flow meters (including hand wheels)

Proprietary supplier corrosion protection systems shall be reviewed and assessed in line with the specified and/or stipulated corrosion protection systems, prior to being accepted.

| Material | Surface | System                                                     | Minimum DFT (µm) |
|----------|---------|------------------------------------------------------------|------------------|
| MS       | Lining  | ISO 12944-5 IM1A6.10 and SANS 241 potable water certified. | 600              |
| SG       |         | EN 545 or ISO 2531 Epoxy / PU& SANS 241                    | 600              |
| MS       | Coating | ISO 12944-5 A5M.03 or A5M.04                               | 400<br>500       |
| SG       |         | EN 545 or ISO 2531 Epoxy / PU                              | 400              |

### 5.3.2 Gearboxes

Proprietary supplier corrosion protection systems shall be reviewed and assessed in line with the specified and/or stipulated corrosion protection systems, prior to being accepted.

| Material | Surface | System                                  | Minimum DFT (µm) |
|----------|---------|-----------------------------------------|------------------|
| CI       | Lining  | EN 545 or ISO 2531 Epoxy / PU& SANS 241 | 600              |
| SG       | Coating | EN 545 or ISO 2531 Epoxy / PU           | 400              |

### 5.3.3 Pipe Specials

Proprietary supplier corrosion protection systems shall be reviewed and assessed in line with the specified and/or stipulated corrosion protection systems, prior to being accepted.

| Material | Surface | System                         | Minimum DFT (µm) |
|----------|---------|--------------------------------|------------------|
| MS       | Lining  | ISO 12944-5 IM1A6.10& SANS 241 | 600              |
|          | Coatin  | ISO 12944-5 IM3A6.10           | 600              |

### 5.3.4 Pipe Specials Buried in Soil

Proprietary supplier corrosion protection systems shall be reviewed and assessed in line with the specified and/or stipulated corrosion protection systems, prior to being accepted.

| Material | Surface | System                         | Minimum DFT (µm) |
|----------|---------|--------------------------------|------------------|
| MS       | Lining  | ISO 12944-5 IM1A6.10& SANS 241 | 600              |
|          | Coating | ISO 12944-5 IM3A6.10           | 600              |

### 5.3.5 Couplings, Flange Adaptors

Proprietary supplier corrosion protection systems shall be reviewed and assessed in line with the specified and/or stipulated corrosion protection systems, prior to being accepted.

| Material | Surface | System                         | Minimum DFT (µm) |
|----------|---------|--------------------------------|------------------|
| MS       | Lining  | ISO 12944-5 IM1A6.10& SANS 241 | 600              |
|          | Coating | ISO 12944-5 IM3A6.10           | 600              |

#### 5.3.6 Joints

Proprietary supplier corrosion protection systems shall be reviewed and assessed in line with the specified and/or stipulated corrosion protection systems, prior to being accepted.

| Environment                               | Material | System                                               | Minimum DFT (µm) |
|-------------------------------------------|----------|------------------------------------------------------|------------------|
| Flange faces                              | MS       | EN 15655/EN10339                                     | 60 - 90          |
| Coupling or Flanged Joints Buried in Soil | MS       | EN 12068 Class A or C HT30/50°C<br>Petrolatum System |                  |

#### 5.3.7 All SANS 62 fitting components to be Hot Dip Galvanised to SANS 121 ISO 1461

#### 5.4 Abbreviations and notes

ABS : Acryl-nitrile-butadiene-styrene  
Al : Aluminium  
CI : Cast iron -grade 220  
CS : Cast steel  
DCA: Die cast aluminium  
DFT : Dry film thickness  
FBE : Fusion-bonded Epoxy  
FBP : Fusion-bonded Polyester  
FBPE: Fusion-bonded Polyethylene  
GRP: Glass fibre reinforced Polyester  
HDG: Hot-dip galvanized  
HDPE: High Density Polyethylene  
ISO : International Standards Organisation  
PC : Polycarbonate  
PVC : Polyvinylchloride  
MS : Mild steel – grade 300WA  
SG : Spheroidal graphite cast iron – grade 420  
SS : Stainless steel – grades 304, 304L, 316 and 316L  
UV : Ultra Violet  
3Cr12: Corrosion resistant steel  
µm : Micrometer  
The following items shall be approved by the Engineer

## **6. HOT-DIP GALVANIZING**

Only for pipes up to 200 mm diameter maximum and flow less than 2 m/s.

- Pipes shall not be embedded in concrete.
- Water analysis shall be provided.
- Pipes over 200 mm diameter to be coated with a duplex system

## **7. SEALANT**

Interfaces of different environments shall be sealed with a Polyurethane or Polysulphide flexible sealant to be applied in accordance with the manufacturer's data sheets.

## **8. UN-COATED STAINLESS STEEL**

Only to be used if no galvanic reaction and anaerobic conditions are found.

## **9. PICKLE AND PASSIVATE**

- If not in contact with less noble material.
- If exposed to anaerobic conditions seal-coat all crevices with an Elastoplastic Epoxy.
- Shall be done by the dipping process.

## **10. GALVANIC CELLS**

Where a galvanic cell is situated within a water path <150 mm and concrete cover <75 mm, the MS, 3CR12 or SS shall be coated.

## **11. ANAEROBIC CONDITIONS**

SS grade 316L shall be used under anaerobic and aggressive water conditions.

## **12. POLYURETHANE FOR COLOUR CODING**

- Re-coatable or pure Aliphatic Polyurethane where required for colour coding.
- Only UV resistant Polyurethane shall be used.

## **13. PRIMERS**

Primers shall only be used in special cases i.e. over-coating of galvanized surfaces.

#### **14. 3CR12**

In view of superior corrosion resistance, coated 3CR12 material is preferred.

#### **15. MILD STEEL**

Mild steel may only be used where the pipe lining can be refurbished in situ

#### **16. ITEMS SUBJECTED TO HIGH TEMPERATURES**

Items to be manufactured out of stainless steel or coated with heat resistant paint.

#### **17. EPOXY PRIMER**

Epoxy primer may not be required if appropriate two pack Epoxy/ Re-coatable or pure Aliphatic Polyurethane is being used.

#### **18. MANUFACTURE AND PRE-PREPARATION**

##### **18.1 Responsibility**

##### **18.1.1 Pre-preparation**

The Manufacturer or Refurbisher shall be responsible for all the pre-preparation of equipment prior to surface preparation. Pre-preparation shall be carried out to the approval of the Engineer.

##### **18.1.2 Personnel**

Pre-preparation shall be carried out by competent personnel, under the supervision of an experienced supervisor.

##### **18.1.3 Marking**

All items shall be permanently and indelibly marked to identify each individual item as specified by the Engineer.

##### **18.2 Fabrication requirements**

##### **18.2.1 Defects**

All extrusions, rolled steel and castings shall be clean and free of score marks, pits, protrusions, blisters, porosity, blowholes, cracks or any other flaws which may be detrimental and as defined in API 1104 shall be rejected and/or repaired in line with the requirements of API 1104.

The contractor shall provide full details of all defects and all defect repairs and the stipulated repair methods, detection methods and qualifications and certification of all equipment and/or personnel utilised to effect such repairs shall be submitted for written acceptance by the Engineer, before any repairs are undertaken.

#### 18.2.2 Materials

##### 18.2.2.1 Castings

Castings with defects exceeding the restrictions given in the latest edition of ASTM A781/781M for Steel and Steel Alloys and/or assessed in accordance with A802/A802M-95(2010)e1 Standard Practice for Steel Castings, Surface Acceptance Standards, Visual Examination and/or A903/A903M-99(2012) Standard Specification for Steel Castings, Surface Acceptance Standards, Magnetic Particle and Liquid Penetrant Inspection and/or A958/A958M-14 Standard Specification for Steel Castings, Carbon and Alloy, with Tensile Requirements, Chemical Requirements Similar to Standard Wrought Grades.

Small and repaired blowholes shall be tested as per the abovementioned ASTM standard in order to ensure materials compliance.

##### 18.2.2.2 Corrosion resistant steels

Fabrication shall take place in dedicated areas separated from carbon steel.

All equipment used in the forming and manipulation of stainless steel items during fabrication shall be clean and free of materials that may contaminate the metal with carbon steel.

The manufacture of items from corrosion resistant steels shall be in accordance with the SASSDA's Information Series and the guidelines of the material supplier.

Discoloration caused by welding or cutting shall be mechanically cleaned by buffing followed by pickling and passivation in accordance with the SASSDA's Information Series and the guidelines of the material supplier.

Organic contamination shall be removed by degreasing.

Iron contamination shall be removed by pickling and passivation, by the dipping process after degreasing.

All surfaces shall be tested for free iron contamination by the water or the ferroxyl test method.

#### 18.3 Structural, Tube, Pipeline and Contract Coatings

The Manufacturer or Refurbisher shall remove excessive oil, grease or other surface contaminants with a water-soluble solvent degreaser followed by rinsing with clean soft

water before the items are despatched to the Corrosion Protection Contractor.

All corrosion protection systems shall be applied as per SANS ISO 12944-7 "Paints and varnishes — Corrosion protection of steel structures by protective paint systems — Part 7: Execution and supervision of paint work" with the required supervision and quality control, as defined in the said specification.

All relevant SANS ISO 12944-7 Method Statements and Quality Control Procedure (QCP) and Application Procedure Specification (APS), shall be submitted in writing by the Contractor to the Engineer/client for written acceptance and approval. It must be noted that these are the Contractors detailed documents describing procedures, methods, equipment and tools used for coating application

The aforementioned applies to steel, cast iron, aluminium, polymer, stainless steel and/or hot-dipped galvanised steel surfaces.

The contractor shall detail protective coating and repair coatings for all applications and structures, including for any of the contractually required systems detailed above.

The standards detailed below shall also be utilised by the Contractor, to ensure compliance with the specification and/or contract and/or purchase order.

|          |        |                                                                                                                                                                                                                                                                            |
|----------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ASTM     | D4285  | Standard Test Method for Indicating Oil or Water in Compressed Air                                                                                                                                                                                                         |
| EN       | 10290  | Steel tubes and fittings for onshore and offshore pipelines. External liquid applied polyurethane and polyurethane-modified coatings                                                                                                                                       |
| EN       | 10339  | Steel tubes for onshore and offshore water pipelines. Internal liquid applied epoxy linings for corrosion protection                                                                                                                                                       |
| EN       | 15655  | Ductile iron pipes, fittings and accessories. Internal polyurethane lining for pipes and fittings. Requirements and test methods                                                                                                                                           |
| SANS     | 241    | Part 1: Microbiological, physical, aesthetic and chemical determinants                                                                                                                                                                                                     |
| SANS     | 1344   | Medium duty solvent detergent.                                                                                                                                                                                                                                             |
| SANS     | 10064  | The preparation of steel surfaces for coating.                                                                                                                                                                                                                             |
| SANS     | 8501-1 | Preparation of steel substrates before application of paints and related products –visual assessment of surface cleanliness – Part 1: Rust grades and preparation grades of un-coated steel substrates and of steel substrates after overall removal of previous coatings. |
| SANS ISO | 8504-2 | Preparation of steel substrates before application of paints and related products – Surface preparation methods – Part 2: Abrasive blast cleaning.                                                                                                                         |

|             |              |                                                                                                                                                          |
|-------------|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| SANS ISO    | 8503         | Preparation of steel substrates before application of paints and related products – Surface roughness characteristics of blast-cleaned steel substrates. |
| SANS ISO    | 12944-1 to 8 | Paints and varnishes — Corrosion protection of steel structures by protective paint systems —Part 1 to 8                                                 |
| SANS Method | 5770         | Cleanliness of blast-cleaned steel surfaces for painting (freedom of soluble salts).                                                                     |
| SANS Method | 5772         | Profile of blast-cleaned steel surfaces for painting (profile gauge).                                                                                    |
| SANS Method | 5769         | Cleanliness of blast-cleaned steel surfaces for painting (freedom from dust and debris).                                                                 |
| ISO         | 11125        | Preparation of steel substrates before application of paints – metallic blast-cleaning abrasives.                                                        |
| ISO         | 11127        | Preparation of steel substrates before application of paints – non-metallic blast-cleaning abrasives.                                                    |

## 19. GALVANIZING

### 19.1 Steel tubes

Shall be in accordance with clause 7 of EN 10240.

#### 19.1.1 Surface

The surface of the coating shall be continuous, smooth and free from flux residues.

#### 19.1.2 Thickness

The thickness shall comply with the requirements of the coating quality A1, in accordance with clause 8, **Table 1** of EN 10240, as specified below.

#### Minimum local coating thickness requirements for coating quality A1

| Requirements                                                                  | Coating Quality A1 |
|-------------------------------------------------------------------------------|--------------------|
| Minimum local coating thickness on the inside surface except at the weld bead | 55 µm              |
| Minimum local coating thickness on the inside surface at the weld bead        | 25 µm              |
| Minimum local coating thickness on the outside surface                        | 55 µm              |

#### 19.1.3 Adhesion

The coating shall show no evidence of flaking or cracking when tested in accordance with clause 11.4 of EN 10240.

#### 19.1.4 Coating qualities

- (a) Coating qualities shall be A1 for water installations – see sub-clause 8.2 of EN 10240.
- (b) The surface of the coating on the inside shall be as smooth as can be achieved by steam blowing.

### 19.2 Testing

#### 19.2.1 Visual examination

Where a superior aesthetic appearance of hot-dip galvanizing is requested, a bright mirror surface finish shall be achieved by the galvanizer.

#### 19.2.2 Thickness

Thicknesses shall be in accordance with **paragraph 7.1.2** and shall be tested in accordance with sub-clause 6.2 of SANS 121 ISO 1461.

### 19.3 Repair methods

#### 19.3.1 Steel items

The total un-coated areas for renovation by the galvanizer shall not exceed 0,5% of the total surface area of a component. Each un-coated area for renovation shall not exceed 400 mm<sup>2</sup>. If un-coated areas are larger, the item containing such areas shall be re-galvanized.

The repair method shall be approved by the Engineer before repairs are initiated.

Repairs shall be by zinc thermal spray in accordance with SANS ISO 2063 or three component zinc solvent free Epoxy repair system. The repair shall include removal of any scale, cleaning and any necessary pre-treatment to ensure adhesion – Contractor to submit Method Statement and APS for all repairs.

The coating thickness on the renovated areas shall be a minimum of 30 µm more than the local coating thickness specified in **paragraph 7.1.2** for the relevant hot-dip galvanized coating unless otherwise specified by the Engineer. The coating on the renovated areas shall be capable of giving sacrificial protection to the steel to which it is applied.

#### 19.3.2 Steel tubes

- Repairs shall not be allowed on internal surfaces of tubes. Tubes shall be re-galvanized.
- Repairs on external surfaces shall be in accordance with paragraph 7.3.1.

### C3.2.2.5 VALVES

#### BUTTERFLY VALVES

##### 1. GENERAL

##### 1.1 Standards/Specification

Butterfly valves shall be in accordance with **BS EN 593 /SANS 1849/SABS 1849**; failure to conform will lead to disqualification.

##### 1.2 Type

Butterfly valves shall be of the doubled flanged, full-bore and “tight shut off” type with the replaceable resilient seal. Flange drilling according to SANS1123, PN 10, 16 and PN25. For pressures up to 16 bar, the valve will be a double eccentric disc type, and for pressures higher than 16bar a triple eccentric type. Metal seated valve will also be considered. All valves will be supplied complete with matching, uncoated, flanges both ends, bolted to valve complete with Klingerite gaskets. Valves shall be bi-directional sealing.

Gearboxes shall be of the self-locking worm/quadrant type with no backlash.

Operation shall be by means of a pinion shaft driving the quadrant.

Worm shafts shall be fitted with roller bearing thrust bearings to ensure minimal operating effort and smooth rotary action of the input shafts.

End stops shall be of the travelling nut type enabling precise setting of the open/closed positions.

The enclosure shall conform to a minimum of IP67 to prevent the ingress of water and debris into the gearbox housing.

The gearbox to valve mounting flange shall have a groove from the input shaft to the edge of the flange to ensure early detection of any leakage from the valve shaft seals, if the shafts are open to the pipeline medium.

Gearboxes shall be packed with approved water resisting grease to the gearbox supplier's specification.

Gearboxes shall in all instances be sized for fitting of actuators (Hand wheel operated valves

included) on site without any additional modification. Actuator mounting flanges shall conform to ISO 5211. Hand wheel sizes will not exceed:

- 400mm diameter for PN16 valve sizes 300mm to 1000mm and
- 400mm diameter for PN25 for valve sizes 300mm and 800mm and
- 500mm diameter for valve sizes 800mm to 1000mm diameter.

Maximum rim pull, to ensure water tightness in the closed position, on the hand wheel may not exceed 300 N-m.

A fully enclosed spur gearing is required to comply with the aforementioned requirement.

ALL Valves shall be LEFT HAND (counter clockwise) closing.

ALL Valves should be verified by Tests from SABS or other testing authority.

### 1.3 Flow rates

No cavitation in the fully open position shall be accepted. The maximum permissible flow rate at the maximum differential pressure across the valve and the head loss for the specified flow rate shall be stated in the Technical Schedule.

### 1.4 Operation

A butterfly valve shall close under the maximum specified head and flow rate and shall be functional in any position without variation of the blade position or flutter. Normal operation shall however be in either the fully open or fully closed position.

There shall be no interference in the water flow pattern through a valve except for the blade.

The blade shall close with a positive action with no possibility of slamming shut during any stage of the closing operation.

A butterfly valve shall be installed in a position allowing the valve to operate along the horizontal axis. The lower portion of the blade shall open towards the downstream side of the valve i.e. in the direction of flow. All valves shall be fitted with a gearbox complete with hand wheel for Left Hand Closing.

## 2 CONSTRUCTION AND OPERATIONAL REQUIREMENTS

### 2.1 Body

The hubs for the shaft-bearings and the gearbox mounting flange shall form an integral part of the valve body.

The body of the valve, and the gearbox, will be such that no studs are used to fasten the valve body to the pipe section, but bolts and nuts are to be used on all the flanges. An isolating flange with its isolating tubes can be fixed to the valve. A drawing must be provided as proof. If such drawing is not provided, the valve will not be considered.

## 2.2 Blade

The blade shall be a single casting or fabrication of optimum hydrofoil section with a smooth continuous surface. The maximum combined stresses in the blade shall not exceed 20% of the yield stress of the material when the design pressure is applied on any of the two sides.

## 2.3 Seal Retaining Ring/s

The seal retaining ring/s, manufactured from stainless steel material, shall be coated to reduce galvanic corrosion. The recess for the retaining ring/s in the blade or body shall be coated to the specified corrosion protection specification or the seal face shall be assembled with a coat of heat fused epoxy of minimum 500 microns.

## 2.4 Seat and Seal

### 2.4.1 Soft seal butterfly valves PN 16 and 25 Bar or alternatively metal seated triple eccentric butterfly valves.

Preference shall be given to a resilient seal arrangement that is removable, replaceable and adjustable in situ from the down-stream side of the valve, without having to remove the valve from the pipeline.

A continuously moulded music note or tee type resilient seal is required and shall be fixed without the use of glue.

The edge of the seal retaining groove in the blade shall be nickel-chrome deposit welded before machining for an O-ring or music note type seal.

The resilient seal shall have non-weathering, non-sticking, long life properties and shall be compatible with the quality of potable water.

The seat profile shall be smooth and continuous and shall provide adequate "lead in" for the resilient seal to open and close on the stainless steel seat only. The mounting flange of the removable seat in the body shall either be stainless steel deposit welded and machined level with the seat or the seat ring manufactured to cover the seat mounting flange.

The seat and seal shall be of a design preventing them from becoming loose and obviate water seepage under the seals or seats during all conditions of operation and testing.

### 2.4.2 Metal seated triple eccentric butterfly valves PN 25 Bar

High Performance Triple Eccentric Metal Seated Design Manufactured in accordance with BS 5155 Specification. Materials should be compatible with media and pressure requirements as per Clause 3. Valves shall have replaceable laminated seal in the body and a replaceable seat ring on the disc.

## 2.5 Mechanical Stops

To prevent over travel of the valve blade in the open or closed position, all valves shall have adjustable mechanical stops incorporated in the gearbox.

## 2.6 Shafts

Shafts shall either be continuous or of a stub-shaft design configuration. Stub shafts shall extend into the blade hubs for a distance of at least 1.5 shaft diameters and shall not protrude from the hubs i.e. exposing the shaft.

Shafts shall be attached to the blade by means of keys, dowel pins, taper pins or any combination of the three. The connection shall be designed to transmit shaft torque equivalent to at least 75% of the torsional strength of the shaft. Dowel and taper pins shall be mechanically secured.

The idle shaft cover shall be manufactured from stainless steel and secured with stainless steel fasteners.

## 2.7 Bearings

Self-lubricating sleeve type bearings (bronze backed, Zinc free or PTFE (Polytetrafluoroethylene) backed self-lubricating or bushes shall be fitted in the hubs of the valve body. The bearing length will be a minimum of 1,5x shaft diameter.

Each valve shall be fitted with at least one adjustable thrust bearing or spacer disc set to hold the blade securely concentric with the body or seat if so required.

The valve stem shall be provided with two O ring seals on the shaft to protect the bearing from water seeping from the valve inside.

## 3. VALVE MATERIAL SPECIFICATION

Valve components, unless otherwise specified in the Project Specification, shall be constructed of the material specified in the following tables.

### TEST REQUIREMENTS

| SIZE DN     | PRESSURE RATING<br>(kPa) | HYDRAULIC TEST PRESSURE (kPa) |       |
|-------------|--------------------------|-------------------------------|-------|
|             |                          | STRUCTURAL                    | SEAT  |
| 300 – 1 000 | 1 600                    | 2 400                         | 1 760 |
| 300 – 1 000 | 2 500                    | 3 750                         | 2 750 |

| MATERIAL SPECIFICATION                |                                                                           |                                                                                                               |
|---------------------------------------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| COMPONENT                             | MATERIAL TYPE                                                             | MATERIAL SPECIFICATION                                                                                        |
| BODY                                  | SG (Spheroidal Graphite)<br>IRON<br>CAST STEEL                            | BS 2789 Gr 420/ SABS 936 SG 42<br>ASTM A216 WCB<br>BS 1504-161 Gr 480/ SABS 1465 Part 1<br>SANS 1431 Gr 300WA |
| DISC                                  | SG IRON<br>CAST STEEL<br>MILD STEEL                                       | BS 2789 Gr 420/ SABS 936 SG 42<br>ASTM A216 WCB<br>BS 1504-161 Gr 480/ SABS 1465 Part 1<br>SANS 1431 Gr 300WA |
| BODY SEAT (PN16)                      | NICKLE-CHROME                                                             |                                                                                                               |
| BODY SEAL for PN16 and PN25           | STAINLESS STEEL                                                           | BS 970, SS Gr 316 LAMINATED                                                                                   |
| BLADE / SEAL (PN16)                   | ELASTOMER                                                                 | EPDM 750 A                                                                                                    |
| BLADE SEAT RING (PN16 – 25)           | STAINLESS STEEL                                                           | SS Gr 304                                                                                                     |
| SEAL RETAINING RING                   | STAINLESS STEEL                                                           | BS 970 Part 4, Gr 304 S15                                                                                     |
| SHAFTS                                | STAINLESS STEEL                                                           | BS 970 Part 4, Gr 431 S29                                                                                     |
| SHAFT BEARINGS/BUSHES                 | PHOSPHOR BRONZE<br>SLEEVE TYPE ZINC FREE<br>PTFE BACKED/ SELF LUBRICATING | BS 1400 PB1C (Cu, Sn10, P)<br>BRONZE BACKED                                                                   |
| SHAFT SEALS                           | RADIAL LIP SEAL /CUP SEAL / O-RING SEAL<br>ELASTOMER                      | NITRILE / VITON<br><br>SIMRIT NBR                                                                             |
| IDLE SHAFT COVER                      | STAINLESS STEEL                                                           | BS 970 Part 4, Gr 304 S15                                                                                     |
| IDLE SHAFT THRUST BEARING/SPACER DISC | PHOSPHOR BRONZE                                                           | BS 1400 PB1C (Cu, Sn10, P)<br>(for vertical installations)                                                    |
| EXTERNAL FASTENERS                    | STEEL (HOT DIP GALVANIZED)<br>STAINLESS STEEL                             | SANS 1700<br><br>ASTM A193 Gr B8M, ASTM A439 Gr D2                                                            |
| INTERNAL FASTENERS                    | STAINLESS STEEL                                                           | ASTM A193 Gr B8M, ASTM A439 Gr D2                                                                             |

#### 4. CORROSION PROTECTION

Damage to the corrosion protection or during testing or normal operation will not be acceptable. Valve body and closures shall be heat fused epoxy coated to a minimum of 500 microns internally and externally. Valves shall be packed and transported that no damage to the coating is possible. Any visible damage to the valve at delivery will give the client authority to reject the complete delivery of all valves

## **5. COMPLIANCE TO SPECIFICATIONS**

*If the City of Tshwane suspects that a valve does not comply with the specifications, the contractor will appoint a registered inspector which is acceptable to the City to perform checks to ensure compliance to the specifications. The cost of this inspection will be for the appointed supplier of the valve.*

## **AIR RELEASE AND VACUUM CONTROL VALVES**

### **1. GENERAL**

#### **1.1 Standards/Specification**

Air release and vacuum control valves shall be in accordance with DIN – DVGW examination certificate, failure to conform will lead to disqualification.

### **2. TYPE**

Air valves shall not exhibit the characteristics of dynamic closure in exhaust and vacuum mode. The valves shall be of the triple acting type, firstly allowing large volume air intake under vacuum conditions, secondly large volume of air discharge during filling with an anti-shock surge alleviating mechanism to prevent pipeline damage under controlled filling or surge conditions, and thirdly shall have an efficient small orifice mechanism to allow the exhausting of dis-entrained air under normal pipeline operation to prevent buildup of air in the pipeline

The large intake and exhaust orifice of air valves shall be equal to the nominal size of the valve e.g. a 200mm valve shall have a 200mm inlet and outlet orifice. The valve shall incorporate an integral anti-shock (non-slam) orifice mechanism which shall operate automatically to limit transient pressure rise or water hammer induced by closure. An inherent feature of the valve design must be to ensure that the ball or float does not close before all the air has been released.

All air valves shall be hydraulically drop tight when full of water and under pressures of between 1 metre (10 kPa) to 1,5 times the maximum operating pressure of the valve.

Valves required to isolate air valves for maintenance shall comply with the Valve Material Specification for the specific category of valve specified.

### **3. CONSTRUCTION AND OPERATIONAL REQUIREMENTS**

#### **3.1 Body**

The valve body shall be flanged and be of a compact single chamber design. The ball or float(s) shall be easily accessible for maintenance purposes.

#### **3.2 Float**

The float guides shall be stainless steel designed to have sufficient clearance to ensure free operation and prevent any abrasion when subjected to frequent operation.

Cylindrical floats shall be manufactured from stainless steel. Floats shall not be able to adhere to the orifice sealing arrangement nor be affected by deposits on the float surface.

Floats shall not distort or suffer mechanical damage in any form when subjected to a structural strength test or conditions of frequent use.

### 3.3 Draining facility

Provision shall be made for the drainage of a valve, by means of a 6mm stainless steel ball valve and stainless steel nipple, prior to removal or servicing and for the fitting of pressure gauges for testing purposes.

The stainless steel nipple shall extend through the body to cover all the threads.

### 3.4 Weather covers

All air valves shall be supplied with robust, easily removable screens that will allow free discharge or intake of air but shall exclude the ingress of objects that may cause damage or malfunction of the valves.

Screens shall be manufactured from stainless steel mesh.

## 4. CORROSION PROTECTION

Damage to the corrosion protection or during testing or normal operation will not be acceptable. Valve body and closures shall be heat fused epoxy coated to a minimum of 500 microns internally and externally. Valves shall be packed and transported that no damage to the coating is possible. Any visible damage to the valve at delivery will give the client authority to reject the complete delivery of all valves

### 4.1 Valve material specification

Valve components shall be constructed of the material specified in the following tables unless otherwise specified in the Project Specification.

#### ***Cylinder Float Type (DN 25-200)***

| SIZE DN<br>(mm) | PRESSURE RATING<br>(kPa) | HYDRAULIC TEST PRESSURE<br>(kPa) |                 |
|-----------------|--------------------------|----------------------------------|-----------------|
| 25 - 200        | 1000/1600 / 2500         | STRUCTURAL                       | SEAT            |
|                 |                          | 1500/2400 / 3750                 | 1500/2400 /3750 |

### Material specification

| COMPONENT           | MATERIAL TYPE                 | MATERIAL SPECIFICATION                 |
|---------------------|-------------------------------|----------------------------------------|
| BODY/CLOSURE        | SG (Spheroidal Graphite) IRON | BS 2789 Gr 420/12, GGG 40              |
| BODY / CLOSURE SEAL |                               | EPDM                                   |
| FLOATS              | STAINLESS STEEL               | STAINLESS STEEL BS 970 PARTY GRADE 316 |
| EXTERNAL FASTENERS  | STAINLESS STEEL CAP SCREWS    | ASTM A193 GR B8M, ASTM A439 GR D2      |
| FLOAT GUIDE         | STAINLESS STEEL               | STAINLESS STEEL BS970 PARTY GRADE 316  |

### Float type (DN 50-200)

| SIZE DN (mm) | PRESSURE RATING (kPa) | HYDRAULIC TEST PRESSURE (kPa) |                |
|--------------|-----------------------|-------------------------------|----------------|
| 50 - 200     | 1000/1600 / 2500      | STRUCTURAL                    | SEAT           |
|              |                       | 1500/2400 / 3750              | 1500/2400/3750 |

## 5. COMPLIANCE TO SPECIFICATIONS

*If the City of Tshwane suspects that a valve does not comply with the specifications, the contractor will appoint a registered inspector which is acceptable to the City to perform checks to ensure compliance to the specifications. The cost of this inspection will be for the appointed supplier of the valve.*

## RESILIENT SEAL VALVES

### 1. GENERAL

#### 1.1 Type

All valves shall be doubled flanged and of the resilient seal gate type, the gate of which shall be completely clear of the waterway in the fully open position. The gate valve shall be of the non-rising spindle type, fitted either with a hand wheel or cap top (type will be specified in the Schedule of Quantities). The valve shall be capable of withstanding the nominal pressure (PN) and specified test pressures from both sides. The gate shall operate satisfactorily under the specified conditions and shall be Left Hand closing.

#### 1.2 Specifications

The valve shall be manufactured in accordance to **SANS 664** and carry the SABS mark or be JASWIC listed; failure to conform will lead to disqualification. Flange drilling shall be according to SANS 1123, PN10, PN16 and PN25. The manufacturer/supplier shall have the SANS 3000 cycle test done and provide certified copies to verify that the product passed the test.

PN25 valves shall have raised face flanges.

#### 1.4 Body

The body shall be of rigid design to minimise distortion under pressure.

#### 1.5 Operation

The gate valve shall be able to open and close satisfactorily under the specified flow rate and pressure.

#### 1.6 Stem and thrust bearing

Two friction washers (sizes 50mm – 200mm) and thrust ball bearings (350mm – 600mm) shall be incorporated on the thrust collar to ensure smooth spindle operation as well as to reduce opening and closing torques.

The stem thrust collar shall bear against a ball thrust bearing.

#### 1.7 Corrosion protection

Damage to the corrosion protection or the rubber-coated gate during testing or normal operation will not be acceptable. Valve body and closures shall be heat fused epoxy coated to a minimum of 500 microns internally and externally. Valves shall be packed and transported that no damage to the coating is possible. Any visible damage to the valve at delivery will give the client authority to reject the complete delivery of all valves.

## **2 CONSTRUCTION AND OPERATIONAL REQUIREMENTS**

### **2.1 Resilient seal gate valves**

#### **Body, guides and shoes**

The gate shall have optimally placed guides of wear resistant plastic so as to reduce the torques as well as reduce wear between the rubber and the coating on the body.

The valve body shall incorporate a straight unobstructed body passage without pockets and shall have inclined seats and prominent gate guides to eliminate deposits in the valve body.

The guides shall be as deep and as long as possible, but not protruding into the flow path to offer support in all gate positions.

The plastic antifriction shoes shall accurately fit the body guide profile to allow smooth operation of the gate with minimal shudder.

#### **Gate**

The gate shall be completely encapsulated in rubber and accurately moulded to ensure drop tightness over the valve pressure range. The rubber coated gate shall be designed to offer an equal distribution of sealing pressure in all directions with a capacity to accept foreign matter up to 1mm in particle size. Documentation to prove that the rubber used for encapsulation complies with international health standards will be supplied and submitted with the tender documents, including a toxicity report with regards to toxins, taste and odour, i.e. potable water certificate.

The gate shall be a left-hand closing type.

For valves larger than 100mm the gate nut shall be a replaceable item.

#### **Stem**

A corrosion resistant stem seal arrangement shall include a scraper ring to prevent the ingress of foreign matter. A stem thrust collar shall be installed between anti-friction materials to ensure low operating forces. The stem seal arrangement shall be capable of being replaced under pressure.

#### **Bonnet: Bolts and Gaskets**

The bonnet S/S (stainless steel) cap screws shall be entirely sunk into the body casing, sealed and protected by reusable caps. Bolts will be stainless steel protected to standards in the material specification.

The valve shall have a preformed NBR (nitrile butadiene rubber) rubber gasket, O ring type, set in a recess between the Bonnet and Body. The gasket must fully encircle each bolt.

## Spindle

The manufacturing of the spindle will be a cold rolled thread stainless steel type, with minimum diameter:

| Valve size           | 80mm– 110mm | 150mm– 160mm | 200mm | 250mm– 600mm |
|----------------------|-------------|--------------|-------|--------------|
| Min Spindle diameter | 25mm        | 28mm         | 32mm  | 34mm         |

## 2.2 Material

Valve components shall be constructed of the material specified in the following tables unless otherwise specified in the Project specification. Material certificates will be provided on delivery of the valves.

### **RESILIENT SEAL GATE VALVE (DN 50-600)**

#### **TEST REQUIREMENTS**

| SIZE DN  | PRESSURE RATING<br>(kPa) | HYDRAULIC TEST PRESSURE (kPa) |       |
|----------|--------------------------|-------------------------------|-------|
|          |                          | STRUCTURAL                    | SEAT  |
| 50 – 600 | 1 000                    | 1 500                         | 1 100 |
|          | 1 600                    | 2 400                         | 1 750 |
|          | 2 500                    | 3 750                         | 2 750 |

Hydro pressure test certificates must be provided with tender documents and on delivery of valves.

| MATERIAL SPECIFICATION |                      |                                                                     |
|------------------------|----------------------|---------------------------------------------------------------------|
| COMPONENT              | MATERIAL TYPE        | MATERIAL SPECIFICATION                                              |
| BODY                   | Ductile Iron         | SANS 1034, Gr 250WA                                                 |
| GATE                   | Ductile Iron, COATED | SANS 1034, Gr 250WA, Vulcanized EPDM ozone stabilized, UV resistant |
| BONNET                 | Ductile Iron         | SANS 1034, Gr 250WA                                                 |
| SPINDLE                | STAINLESS STEEL      | EN 10254-4, X17CrNi16-2, Cold Rolled Thread                         |
| GATE NUT               | BRONZE               | EN 12165, CW614N                                                    |

| MATERIAL SPECIFICATION       |                                                                  |                                                                 |
|------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------|
| COMPONENT                    | MATERIAL TYPE                                                    | MATERIAL SPECIFICATION                                          |
| STEM BUSH                    | PLASTIC                                                          |                                                                 |
| BUSH / STEM/<br>STUFFING BOX | O RING                                                           | NITRILE / VITON                                                 |
| PROFILE /<br>SCRAPER RING    | O RING                                                           | NITRILE / VITON                                                 |
| FRICTION RING                | PLASTIC                                                          |                                                                 |
| HAND WHEEL                   | SG IRON                                                          | SANS 1034, Gr 250WA                                             |
| EXTERNAL<br>FASTENERS        | STEEL (HOT DIP<br>GALVANIZED)<br>STAINLESS STEEL<br>HIGH TENSILE | SANS 1700<br><br>ASTM A193 Gr B8M, ASTM A439 Gr D2<br>Grade 8.8 |

## TILTING/SWING DISC NON-RETURN VALVES

### 1 GENERAL

#### 1.1 Standards/Specification

Tilting/swing disc non-return valves shall be in accordance with **SABS 1551-2/SANS 1551-2/BS EN 12334** failure to conform will lead to disqualification.

#### 1.2 Type

A non-return valve shall be double flanged (drilling according to SANS 1123, PN 10, PN 16 and PN 25) for horizontal and vertical installation.

The valve shall offer minimum hydraulic resistance, not be subject to disc flutter and give a quick non-slam closure on reversal of flow. Preference shall be given to designs which allow inspection and or removal of doors, discs and seals without removal of the valve assembly from the line.

### 2 CONSTRUCTION AND OPERATIONAL REQUIREMENTS

#### 2.1 Body

The design of the body and body seals shall be such that they are free from pockets which may cause eddies or accumulate debris. Special care shall be taken that foreign objects, like bolts, cannot lodge in pockets on the downstream side of body seats and thereby prevent doors from closing fully.

Access openings and covers shall be of adequate design and the creation of stress risers shall be prevented. One flange of a flanged valve shall be clearly marked with a single set of machined notches (at least 3mm wide, 3mm deep across the width of the flange). For wafer type valves, the width and depth of the notch shall be identical to that of the flanged valves.

#### 2.2 Doors and discs

The doors and discs shall be cast as a unit with integral cast hinge lugs allowing free door or disc operation. Their travel shall however be restricted by the provision of substantial stops fitted with rubber facings to prevent wear due to metal contact. The rubber facings shall be vulcanised onto the metal and secured by corrosion resistant countersunk screws. The area of contact on the body shall be stainless steel 304L deposit welded.

The doors or discs shall have continuous stainless steel hinge shafts which shall be supported at their ends with bearings.

Shaft holes shall be covered with bolted stainless steel cover plates.

## 2.3 Sealing faces

Body and door and disc sealing faces shall be deposit welded with stainless steel or aluminium bronze. Corrosion protection of the contact area between steel, ductile iron and stainless steel shall be in accordance with Standard Specification DWS 9900: Corrosion Protection.

## 2.4 Bearings

Main bearings shall be external. Preference shall be given to a valve with bearings that are accessible without emptying or removal of the valve body from the line.

Bearings shall be designed to take the unbalanced thrust on doors or discs in the structural test.

Bearings shall offer a long life and retain a low coefficient of friction. Bearings shall not become tight during service or due to ageing.

Bearings shall preferably be self-lubricated.

The Tenderer shall provide full particulars of the type and construction of the bearings at tendering stage.

## 2.5 Materials

Valve components shall be constructed of the material specified in the following tables unless otherwise specified in the Project specification.

## 2.6 Corrosion Protection

Damage to the corrosion protection or during testing or normal operation will not be acceptable. Valve body and closures shall be heat fused epoxy coated to a minimum of 500 microns internally and externally. Valves shall be packed and transported that no damage to the coating is possible. Any visible damage to the valve at delivery will give the client authority to reject the complete delivery of all valves.

### ***TILTING DISC NON-RETURN valve (DN 150-1 600)***

#### **TEST REQUIREMENTS**

| SIZE DN     | PRESSURE RATING<br>(kPa) | HYDRAULIC TEST PRESSURE (kPa) |       |
|-------------|--------------------------|-------------------------------|-------|
|             |                          | STRUCTURAL                    | SEAT  |
| 250 – 1 600 | 1 000                    | 1 500                         | 1 000 |
| 200 – 1 400 | 1 600                    | 2 400                         | 1 600 |
| 150 – 600   | 2 500                    | 3 750                         | 2 500 |

## MATERIAL SPECIFICATION

| COMPONENT                      | MATERIAL TYPE                       | MATERIAL SPECIFICATION                                                                       |
|--------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------|
| BODY                           | MILD STEEL<br>SG IRON<br>CAST STEEL | SANS 1431 Gr 300WA<br>BS 2789 Gr 420/12, SANS 932<br>SG 32<br>BS 1504 -161, SANS 1465 Part 1 |
| BODY SEAT                      | STAINLESS STEEL<br>(DEPOSIT WELDED) | BS 970 Part 4 Gr 304 S15                                                                     |
| VALVE DISC                     | CAST STEEL<br>SG IRON               | BS 1504 –161, SANS 1465 Part 1<br>BS 2789 Gr 420/12, SANS 932<br>SG 42                       |
| DISC SEAT                      | STAINLESS STEEL<br>(DEPOSIT WELDED) | BS 970 Part 4 Gr 316 S16                                                                     |
| BEARING BUSHES                 | PHOSPHOR BRONZE                     | BS 1400 PB1C (Cu, Sn10, P)                                                                   |
| DOOR OR DISC SHAFTS            | STAINLESS STEEL                     | BS 970 Part 4 Gr 431 S29                                                                     |
| SHAFT KEY                      | KEY STEEL                           | DIN 6885 / BS 4235                                                                           |
| END COVER SEAL                 | O RING                              | NITRILE / VITON                                                                              |
| DRIVE SHAFT CUP SEAL           | O RING                              | NITRILE / VITON                                                                              |
| COUNTERWEIGHT                  | SG IRON                             | BS 2789 Gr 420/12, SANS 936<br>SG 42                                                         |
| LEVER                          | MILD STEEL                          | SANS 1431 Gr 300WA                                                                           |
| GLAND                          | SG IRON<br>STAINLESS STEEL          | BS 2789 Gr 420/12, SANS 932<br>SG 32<br>BS 970 Part 4 Gr 304 S15                             |
| DISC OPEN STOP PIN             | STAINLESS STEEL                     | BS 970 Part 4 Gr EN3                                                                         |
| COVER PLATES                   | STAINLESS STEEL                     | BS 970 Part 4 Gr 316 S16                                                                     |
| INDICATOR AND INDICATOR PLATES | STAINLESS STEEL                     | BS 970 Part 4 Gr 304 S15                                                                     |
| EXTERNAL FASTENERS             | STEEL<br>(HOT DIP<br>GALVANIZED)    | SABS 1700                                                                                    |
| INTERNAL FASTENERS             | STAINLESS STEEL                     | ASTM A193 Gr B8M, ASTM A439<br>Gr D2                                                         |

### SWING TYPE NON-RETURN valve (DN 50-400)

#### TEST REQUIREMENTS

| SIZE DN  | PRESSURE RATING<br>(kPa) | HYDRAULIC TEST PRESSURE (kPa) |       |
|----------|--------------------------|-------------------------------|-------|
|          |                          | STRUCTURAL                    | SEAT  |
| 50 – 400 | 1 000                    | 1 500                         | 1 000 |
|          | 1 600                    | 2 400                         | 1 600 |
|          | 2 500                    | 3 750                         | 2 500 |

#### MATERIAL SPECIFICATION

| COMPONENT                          | MATERIAL TYPE                      | MATERIAL SPECIFICATION            |
|------------------------------------|------------------------------------|-----------------------------------|
| BODY                               | SG IRON                            | BS 2789 Gr 420/12, SANS 932 SG 32 |
| COVER                              | SG IRON                            | BS 2789 Gr 420/12, SANS 932 SG 32 |
| HINGE                              | SG IRON                            | BS 2789 Gr 420/12, SANS 932 SG 42 |
| SHAFTS                             | STAINLESS STEEL                    | BS 970 Part 4 Gr 431 S29          |
| STOPPER                            | ELASTOMER                          | NITRILE / VITON                   |
| BODY SEAT                          | STAINLESS STEEL (DEPOSIT WELDED)   | BS 970 Part 4 Gr 316 S16          |
| DISC SEAT                          | BRONZE (GUNMETAL) (DEPOSIT WELDED) | BS 1400 Gr LG2                    |
| COVER SEAL                         | O RING                             | NITRILE / VITON                   |
| BEARING HOUSING (lever side) SEALS | U PACKING                          | NITRILE / VITON                   |
| BEARING HOUSINGS                   | SG IRON                            | BS 2789 Gr 420/12, SANS 936 SG 42 |
| BEARING BUSHES                     | PHOSPHOR BRONZE                    | BS 1400 PB1C (Cu, Sn10, P)        |
| KEYS                               | KEYSTEEL                           | DIN 6885                          |
| LEVERS (from 500NB)                | MILD STEEL                         | SANS 1431 Gr 300WA                |
| COUNTERWEIGHTS (from 500NB)        | SG IRON                            | BS 2789 Gr 420/12, SABS 936 SG 42 |
| COVER PLATES                       | STAINLESS STEEL                    | BS 970 Part 4 Gr 316 S16          |

#### MATERIAL SPECIFICATION

| COMPONENT                      | MATERIAL TYPE                 | MATERIAL SPECIFICATION            |
|--------------------------------|-------------------------------|-----------------------------------|
| INDICATOR AND INDICATOR PLATES | STAINLESS STEEL               | BS 970 Part 4 Gr 304 S15          |
| EXTERNAL FASTENERS             | STEEL<br>(HOT DIP GALVANISED) | SABS 1700                         |
| INTERNAL FASTENERS             | STAINLESS STEEL               | ASTM A193 Gr B8M, ASTM A439 Gr D2 |

## CONTROL VALVES

### 1. GENERAL

#### 1.1 Standards/Specifications

Control valves shall be in accordance with **BS EN 1074-1** and **BS EN 1074-5/ WRAS** and **NSF** compliance standard for control valves, failure to conform will lead to disqualification. Only control valves supplied with free sizing software shall be considered.

#### 1.2 Type

The valve shall be a self-acting, hydraulically operated, diaphragm actuated, globe type design.

#### 1.3 Function

The valve shall be hydraulically operated, single diaphragm actuated, globe pattern. The valve shall consist of three major components: the body with seat installed the cover with bearing installed, and the diaphragm assembly. The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating pressure from line pressure. Packing glands and/or stuffing boxes are not permitted and there shall be no pistons operating the main valve or pilot controls. Ductile iron is standard, other materials shall be available. No fabrication or welding shall be used in the manufacturing process.

### 2. CONSTRUCTION AND OPERATIONAL REQUIREMENTS

#### 2.1 Body and Actuator / Main Valve

The valve shall consist of three major components such as the body, cover, and the diaphragm assembly. The diaphragm assembly shall be the only moving component, separating the operating pressure from the line pressure.

The actuator assembly is utilised and is removable from the body. The actuator must include minimum an upper control chamber and might include a lower control chamber. The diaphragm assembly must be centre guided. The body must provide a seat area without obstructions.

To ensure proper alignment of the valve stem, the valve body and cover shall be permitted. No "pinned" covers to the valve body shall be permitted. All necessary repairs and/or modifications other than replacement of the main valve body shall be possible without removing the valve from the pipeline. Only full ported valves will be considered.

#### 2.2 Seat and Sealing Disc

The seat will be manufactured of stainless steel, be raised and replaceable in line and on site.

The valve shall contain a resilient, synthetic rubber disc, with a rectangular cross-section supported on all four sides by a disc retainer and disc guide. No O-ring type seals (circular, square

or quad type) shall be permitted as the sealing surface. The disc guide shall be of the contoured type to permit smooth transition of flow and shall hold the disc firmly, preventing the possibility of being dislodged. The disc retainer shall be of a sturdy one-piece design. It shall have straight edge sides and a radius at the top edge to prevent excessive diaphragm wear as the diaphragm flexes across this surface.

The valve seat in 150mm and smaller size valves shall be threaded into the body. Valve seat in 200mm and larger size valves shall be retained by flat head machine screws for ease of maintenance. The seat shall be of the solid, one-piece design and shall have a minimum of a five degree taper on the seating surface for positive drip-tight shut-off. Pressed-in bearings and/or multi-piece seats shall not be permitted.

### 2.3 Diaphragm

The flexible, non-wicking diaphragm shall consist of nylon fabric bonded with synthetic rubber compatible with the operating fluid. The centre hole for the main valve stem must be sealed by vulcanization. The diaphragm must withstand a Mullins Burst Test of a minimum of 41 bar per layer of nylon fabric and shall be cycle tested 100,000 times to ensure longevity (test certificate to be submitted with tender). The diaphragm shall not be used as the seating surface, and shall be fully supported in the valve body and cover by machined surfaces, either in the fully opened or fully closed positions.

### 2.4 Functions

The valve will perform the following functions, dependent on the pilot system:

- (i) Pressure Reducing
- (ii) Pressure Relief / Sustaining
- (iii) Level Control with Float Pilot
- (iv) Level Control with Altitude Pilot
- (v) Pump Control
- (vi) Surge Anticipating, and
- (vii) Flow Control
- (viii) Basic main valve hytrol without any pilot and/or control system

### 2.5 Pilot Valves

Pilot valves will be supplied complete as per specification with all required isolation ball valves, strainers, fixed restriction orifices, needle valves, piping, connectors (stainless steel) as per the standard drawings available in the supplier's technical brochure to obtain the function of the valve.

### 2.6 Valve face to face lengths acceptable

|        |                 |
|--------|-----------------|
| 100 mm | 381 mm / 320 mm |
| 150 mm | 508 mm / 415 mm |
| 200 mm | 645 mm / 500 mm |
| 250 mm | 756 mm/ 605 mm  |

|        |                 |
|--------|-----------------|
| 300 mm | 864 mm/ 725 mm  |
| 400 mm | 1051 mm/ 990 mm |

### 3. VALVE MATERIAL SPECIFICATION

Valve components shall be constructed of the material specified in the following tables, unless otherwise specified in the Project Specification:

| Size DN mm | Press Rating kPa | Test Pressure kPa |
|------------|------------------|-------------------|
| 40-600 mm  | 1600/2500/4000   | 2400/3750/6000    |

| Component |                                                          | Material Type                       | Material Specification                                                                 |
|-----------|----------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------|
| 1         | Main Valve Body & Cover                                  | Ductile Iron                        | SABS 936 Grade 42                                                                      |
| 2         | Diaphragm                                                | Reinforced Rubber                   | EPDM                                                                                   |
| 3         | Stem<br>Seat<br>Disc Guide<br>Cover Nuts, Bolts & Washes | Stainless Steel                     | 316 Stainless Steel<br>316 Stainless Steel<br>SABS 936 Grade 42<br>316 Stainless Steel |
| 4         | Pilots                                                   | Bronze with Stainless Steel<br>Trim | ASTM B-62                                                                              |
| 5         | Anti-Cavitation Trim/V Part                              | Stainless Steel                     | BS 970 Part 4<br>Gr 316 S16                                                            |

### 4. CORROSION PROTECTION

Damage to the corrosion protection or during testing or normal operation will not be acceptable. Valve body and closures shall be heat fused epoxy coated to 500 microns internally and externally. Valves shall be packed and transported that no damage to the coating is possible. Any visible damage to the valve at delivery will give the client authority to reject the complete delivery of all valves

### 5. VALVE REDUCTION RATIO

The valve shall be capable of differential pressures of up to 20 Bar, as long as a back pressure of 1.5 Bar is available.

The valve must be able when required to withstand a pressure reduction of up to 85% of the incoming pressure, i.e. 3:1 reduction, without cavitation. This shall be achieved by a modification / installation of the disk on the valve, and not any further modifications. This modification must be a standard to the valve proposed and be available as a later ad on to the valve ordered.

Due to the increased demands required by water networks and the fact that control valves are subjected to higher differential pressures than what normal engineering designs allow for, valves

offered that are retro-fittable with cavitation devices that can withstand differential pressures in ratios of 21:1 will be considered.

## **6 COMPLIANCE TO SPECIFICATIONS**

*If the City of Tshwane suspects that a valve does not comply with the specifications, the contractor will appoint a registered inspector which is acceptable to the City to perform checks to ensure compliance to the specifications. The cost of this inspection will be for the appointed supplier of the valve.*

### 3.2.2.6 DEPARTMENTAL COLOUR GUIDE

#### 1. CHAMBERS WITHIN A RESERVOIR SITE

| Items                  | Colour        | SANS 1091 Code |
|------------------------|---------------|----------------|
| <b>a) Pipes</b>        |               |                |
| High Pressure          | Signal Red    | A11            |
| Low Pressure           | Flag Blue     | F04            |
| <b>b) Valves</b>       |               |                |
| Control Valves         | Flag Blue     | F04            |
| Isolating Valves       | Silver        |                |
| Air Valves             | Silver        |                |
| <b>c) Handrails</b>    |               |                |
| Handrails – vertical   | Black         |                |
| Handrails – horizontal | Golden yellow | G49            |
| <b>d) Floors</b>       |               |                |
| Above NGL              | Emerald green | E14            |
| Below NGL              | None          |                |

#### 2. CHAMBERS OUTSIDE RESERVOIR SITE

| Items                      | Colour     | SANS 1091 Code |
|----------------------------|------------|----------------|
| a) Isolating Valves        | Silver     |                |
| b) Pipes - High Pressure   | Signal Red | A11            |
| - Low Pressure             | Flag blue  | F04            |
| c) Manhole covers          | Silver     |                |
| d) Ladders Stainless Steel | None       |                |
| e) Air valves              | Silver     |                |
| f) Control valves          | Flag blue  | F04            |

#### 3. PUMPING STATIONS

| Items                      | Colour        | SANS 1091 Code |
|----------------------------|---------------|----------------|
| a) Pump                    | Flag blue     | F04            |
| b) Motor                   | Emerald Green | E14            |
| c) Fan and Coupling guards | Light Orange  | B26            |
| d) Valves:                 |               |                |
| – Reflux Valves            | Silver        |                |
| – Isolating Valves         | Silver        |                |
| – Air Valves               | Silver        |                |
| e) Pipes:                  |               |                |
| – Low Pressure             | Arctic Blue   | F29            |
| – High Pressure            | Signal Red    | A11            |

| Items                         | Colour        | SANS 1091 Code |
|-------------------------------|---------------|----------------|
| f) Handrails:                 |               |                |
| – Handrails – vertical        | Black         |                |
| – Handrails – horizontal      | Golden yellow | G49            |
| g) Floors:                    |               |                |
| – Concrete                    | Emerald Green | E14            |
| – Steel                       | Black         |                |
| h) Doors                      | WPD Brown     |                |
| i) Base plates                | Black         |                |
| j) Overhead travelling cranes | Golden yellow | B49            |

#### 4. MECHANICAL AND GENERAL

| Items                                                            | Colour                           | SANS 1091 Code |
|------------------------------------------------------------------|----------------------------------|----------------|
| Structural steel, gates                                          | Light grey                       | G29            |
| Hydraulic power pack                                             | Strong blue                      | F11            |
| Hydraulic oil                                                    | Salmon pink                      | A40            |
| Hazardous objects / areas (restricted headroom, crane hook, etc) | Golden yellow with black Chevron | B49*           |
| Hand wheels and levers                                           | Golden yellow                    | B49            |
| Fire protection equipment                                        | Signal red                       | A11*           |
| Control panels                                                   | Eau de nil                       | H43            |

#### 5. ELECTRICAL

| Items                                                    | Colour           | SANS 1091 Code |
|----------------------------------------------------------|------------------|----------------|
| Low voltage panels - indoor                              | Light orange     | B26            |
| - outdoor                                                | Light orange     | B26            |
| Medium voltage panels - indoor                           | Admiral grey     | G12            |
| - outdoor                                                | Admiral grey     | G12            |
| Panel accessories (gland, plates, back plates, interior) | White            |                |
| UPS equipment                                            | Light orange     | B26            |
| Transformers                                             | Light stone      | C37            |
| LV distribution kiosks, mini subs                        | Light stone      | C37            |
| Standby electrical equipment (permanently powered)       | Signal red       | A11            |
| General outdoor                                          | Light grey green | H40            |
| All equipment - interior                                 | White            |                |

### **C3.2.2.7 SEWER INFRASTRUCTURE**

#### **(i) uPVC Pipes**

Class 34 uPVC pipes, SANS 791: ranging from 110mmØ to 200mmØ

#### **(ii) Bedding**

Class B Bedding for flexible pipes

#### **(iii) Cleaning Eyes (Lamp Poles)**

Construction of cleaning eyes (Lamp poles) (DWG 7515-S208): ranging from 1.5m depth up to 3m depth

#### **(iv) Manholes**

Concrete sewer manholes with ND of 1250mm for sewers 315 mm in diameter and smaller: ranging from 1.5m depth up to 3m depth

#### **(v) Manhole Covers and Frames**

- SANS 558 Type 4 circular frame (LI)
- Precast concrete cover with type 4 CI frame

### **C3.2.2.8 PLANT & EQUIPMENT**

- Tractor Backhoe Loaders (TLBs)
- Excavators
- Tipper Trucks
- Walk-behind Vibrating Drum Rollers
- Compaction Rammers
- Plate Compactor
- Horizontal Directional Drilling (HDD) Equipment
- CCTV inspection equipment
- Dewatering Equipment: (Pumps)
- Jetting and Vacuum Trucks
- Pipe Welding and Cutting Equipment:
- Safety Equipment, Personal Protective Equipment (PPE), Barricades and Shoring
- Concrete Mixers

#### C3.2.4: LIST OF DRAWINGS

| DRAWING DESCRIPTION                                                           | DRAWING NUMBER |
|-------------------------------------------------------------------------------|----------------|
| <b>List Of Drawings</b>                                                       | COT-ME6P-000   |
| 160mm Rising Main from Node W5 to W1 (SMH1): Layout Plan                      | COT-ME6P-001   |
| 200mm Gravity Main from Node SMH1 To SMH14: Layout Plan                       | COT-ME6P-002   |
| 160mm Rising Main from Ch 0.000 To Ch 228.109 (W5 to W1 (SMH1)): Long Section | COT-ME6P-003   |
| 200mm Gravity Main from CH0.000 To CH611.400 (SMH1 To SMH12): Long Section    | COT-ME6P-004   |
| 200mm Gravity Main from CH611.400 To CH711.119 (SMH12 To SMH14): Long Section | COT-ME6P-005   |
| Pump Station Site Layout                                                      | COT-ME6P-006   |
| Plan On Concrete Slab Layout                                                  | COT-ME6P-007   |
| Platform Layout and Sections                                                  | COT-ME6P-008   |
| Sections                                                                      | COT-ME6P-009   |
| Concrete Slabs Reinforcement Layout                                           | COT-ME6P-010   |
| Wall Elevations                                                               | COT-ME6P-011   |
| Wall Elevations Reinforcement                                                 | COT-ME6P-012   |
| Boundary Fence Layout                                                         | COT-ME6P-013   |
| Layout Indicating De-Watering System Plan, Sections and Details               | COT-ME6P-014   |
| Elevations                                                                    | COT-ME6P-015   |
| Craw Beam Layout                                                              | COT-ME6P-016   |
| Typical Details of Vertical Ladder                                            | COT-ME6P-017   |

#### NOTES:

1. FOR THE POSITION OF SERVICES WITHIN THE ROAD RESERVE REFER TO THE LATEST VERSION OF THE DRAWINGS OBTAINABLE FROM THE ROADS AND STORMWATER DIVISION
2. FOR WATER AND SEWER STANDARD DETAILS REFER TO THE LATEST VERSION OF THE DRAWINGS OBTAINABLE FROM THE WATER AND SEWER DIVISION

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE  
CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING  
AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED  
STANDS AT MAMELODI X6 PHOMOLONG**

**C3.3        PROCUREMENT**

## **C3.3 PROCUREMENT**

### **C.3.3.1 PREFERENTIAL PROCUREMENT PROCEDURES**

#### **C3.3.1.1 Requirements**

##### **C3.3.1.1.1 Employment of unskilled and semi-skilled labour in Labour Intensive Construction works**

1. Requirements for the sourcing and engagement of labour
  - 1.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.
  - 1.2 The EPWP Ministerial Determination, as revised from time to time, sets out a minimum wage and minimum conditions of employment and Contractors must comply with its requirements.
  - 1.3 Tasks by the Contractor must be such that:
    - (a) the average worker completes 5 tasks per week in 40 hours or less; and
    - (b) the weakest worker completes 5 tasks per week in 55 hours or less.
  - 1.4 The Contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 1.3.
  - 1.5 The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:
    - (a) where the head of the household has less than a primary school education;
    - (b) that have less than one full time person earning an income;
    - (c) where subsistence agriculture is the source of income;
    - (d) those who are not in receipt of any social security pension income.
  - 1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:
    - (a) 55% women;
    - (b) 55% youth who are between the ages of 16 and 35; and
    - (c) 2% persons with disabilities.

#### C3.3.1.1.2 Appointment of Community Liaison Officer

1. A community liaison officer (CLO) will be appointed in terms of the Policy Framework for the Recruitment of EPWP and the Code of Good Practice to appoint Community Liaison Officers.
2. The relevant Ward Councillor shall in cooperation with the Office of the Speaker and the Expanded Public Works Programme (EPWP) Division, facilitate an initial public meeting for the community and stakeholders to enable them to nominate for the Project Steering Committee (PSC).
3. After the election of the PSC at the same meeting, residents and stakeholders in attendance are to vote for a pool of three (3) potential CLO's coming from the community concerned.
4. In an event that the PSC is not constituted by public meeting, or it cannot proceed with its work as contemplated by Section 6.1.3.5 of the Policy Framework for the Recruitment of EPWP, the appointed PSC should nominate potential CLO's.
5. It is from this pool that the Contractor after interviewing the three nominees, and consultation with the PSC, appoints the CLO.
6. Provision for the payment of the CLO has been made in the Pricing Data and will, be in terms of the salary scale Task Level 5
7. The successful tenderer shall enter into an employment agreement with the appointed community liaison office (CLO)
8. The duties or functions of the CLO can be summarised as follows:
  - Liaising with project manager
  - Liaising with community on detail construction activities of the project
  - Attending community meetings
  - Arranging special meetings
  - Facilitation of community disputes

#### C3.3.1.2 Resource standard pertaining to targeted procurement

The Contractor shall deliver the following deliverables in terms of the relevant SANS 1914 and the associated specification data:

##### C3.3.1.2.1 Provide business opportunities for targeted enterprises in terms of **SANS 1914-4**

#### 1. General

Targeted enterprises shall be engaged in the performance of the contract in accordance with the requirements of SANS 1914-4 as amended in 2

#### 2. Amendments to SANS 1914-4

- 2.1 Replace the existing definitions with the following:  
**contract participation goal (CPG)**

value of supplies, services and works for which the contractor contracts targeted enterprises exclusive of any value added tax or sales tax which the law requires the employer to pay to the contractor, expressed as a percentage of the contract amount associated with the targeting strategy that is identified in the specification data.

2.2 Add the following definitions:

**contract amount**

**1) targeting strategy, A**

financial value of the contract at the time of the award of the contract, exclusive of all allowances and any value added tax or sales tax which the law requires the employer to pay to the contractor.

**2) targeting strategy B**

financial value of the contract upon completion of all contractual obligations, exclusive of any value added tax or sales tax which the law requires the employer to pay to the contractor.

**targeting strategy, A**

a strategy which:

- a) links the granting of a preference by the employer in the evaluation of tender offers in return for the tendering of a contract participation goal or an undertaking to attain a specified contract participation goal at the time that tenders are evaluated; or
- b) requires a contractor to achieve a minimum specified goal in the performance of a contract; or
- c) involves both a) and b)

**targeting strategy B**

a strategy which:

- a) links the payment of an incentive bonus to a contractor for the attainment of a specified contract participation goal; or
- b) requires the contractor to record and report on the quantum of work generated for targeted labour

2.3 Replace clauses 3.11 and 3.12 with the following:

**3.1.1** The contractor shall engage targeted enterprises directly or indirectly in the performance of the contract to the extent that the total monetary value of such engagements exclusive of any value added tax or sales tax required by law, is sufficient to achieve the contract participation goal provided for in the specification data.

**3.1.2** The contractor shall, in the case of targeting strategy A, submit details of his plan

to achieve the contract participation goal to the employer's representative on the contract participation goal implementation plan form contained in annex C, within five working days of being instructed to do so. If no such instructions are given, these plans shall be submitted before the submission of the first claim for payment.

2.4 Replace 3.2.2 with the following:

**3.2.2** Contractors shall submit completed targeted enterprise declaration affidavits and, where targeting strategy A applies, letters of undertaking to act as sub-consultants, sub-contractors suppliers, manufacturers or service providers (see annex D), in respect of each and every targeted enterprise and targeted partner whose contribution shall be counted towards the contract participation goal. These documents shall, unless otherwise stated in the specification data, be submitted to the employer's representative before the submission of the first claim for payment.

2.5 Replace 4.1 with the following:

**4.1** The contractor shall enter into written contractual agreements with all the targeted enterprises and targeted partners cited in the contract participation goal implementation plan and shall, as soon as is practicable, furnish the employer's representative with copies of such agreements and the written acceptances thereof. The contract to be performed by the targeted enterprises and targeted partners shall, in the case of targeting strategy A, thereafter neither be reduced in scope, nor terminated without the prior written approval of the employer's representative, which shall not be unreasonably withheld or delayed.

2.6 Replace 4.2.1 with the following:

**4.2.1** Where targeting strategy A applies and in the event that, through no fault of the contractor, a contracted targeted enterprise is found to be:

- a) unable to perform, or to perform on time;
- b) unable to produce acceptable work;
- c) unwilling to perform work required; or
- d) not fit to perform the service;

The contractor shall notify the employer's representative of the apparent necessity to reduce or terminate such a targeted enterprise's contract, citing the reasons therefore.

2.7 Replace 4.3 with the following:

Where, in the case of targeting strategy A, an enterprise under contract was initially considered to be a targeted enterprise but is later discovered not to be so, or is found not to be creditable towards contract participation goals, the employer may consider a partial waiver of the contractor's obligations towards the achievement of the contract

participation goal in respect of such a targeted enterprise, should the contractor satisfactorily demonstrate that he was justified in believing the enterprise to be a targeted enterprise and that eligibility standards were not violated.

2.8 Replace 6 with the following:

In the event that, and where targeting strategy A applies, the contractor fails to substantiate that any failure to achieve the contract participation goal was due to

- a) quantitative underruns,
- b) the elimination of items contracted to targeted enterprises, or
- c) any other reason beyond the contractor's control which may be acceptable to the employer, the sanctions provided for in the contract shall apply.

2.9 Delete “net amount” in definitions and replace “net amount” with “contract amount” wherever it appears in the text.

| Clause                                                           | Specification Data                                                                                                                                                                           |                                                                                                           |
|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| The specification data associated with SANS 1914-5 is as follows |                                                                                                                                                                                              |                                                                                                           |
| 2.7                                                              | The employer’s representative is:                                                                                                                                                            | Nevhutalu Consulting Engineers                                                                            |
|                                                                  | Target area:                                                                                                                                                                                 |                                                                                                           |
|                                                                  | Target Area 1                                                                                                                                                                                | The ward/wards in which the work package is to be performed                                               |
|                                                                  | Target Area 2                                                                                                                                                                                | The ward/wards directly adjoining the ward/wards in which the work package is to be performed.            |
|                                                                  | Target Area 3                                                                                                                                                                                | The region within which the ward/wards in which the work package is to be performed resides               |
|                                                                  | Target Area 4                                                                                                                                                                                | The City of Tshwane Municipal area                                                                        |
| 2.17                                                             | Targeted enterprise is                                                                                                                                                                       | Will be specified for each work package.                                                                  |
|                                                                  | The targeting strategy is                                                                                                                                                                    | Strategy A b)                                                                                             |
|                                                                  | The contract participation goal is                                                                                                                                                           | The min. goal is 10% and the maximum goal is 20% (The combined goal for the contract will not exceed 30%) |
|                                                                  | The contract participation goal may only be achieved by subcontracting work to one or more targeted enterprises to perform commercially useful functions in the performance of the contract. |                                                                                                           |
| Clause                                                           | Specification Data                                                                                                                                                                           |                                                                                                           |
| 2.9                                                              | The following weightings shall apply:                                                                                                                                                        |                                                                                                           |
|                                                                  | Target Area 1                                                                                                                                                                                | 1.2                                                                                                       |

|   |                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|---|----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>Target Area 2</b> | 1.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|   | <b>Target Area 3</b> | 0.8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|   | <b>Target Area 4</b> | 0.6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 6 | <b>Sanctions</b>     | <p>In the event that the Contractor fails to substantiate that any failure to achieve the Contract Participation Goal relating to the granting of preference was due to quantitative under runs, the elimination of items, or any other reason beyond the Contractor's control which may be acceptable to the Employer, it shall be liable to pay the Employer a financial penalty in the following manner:</p> $P = 0.15 \times \frac{(D - D_o)}{100} \times N_A$ <p>Where</p> <p><math>D</math> = required Contract Participation Goal percentage</p> <p><math>D_o</math> = the Contract Participation Goal which the Employer's representative based on the credits passed, certifies as being achieved upon completion of the work package</p> <p><math>N_A</math> = Net Amount</p> <p><math>P</math> = Rand value of penalty payable</p> |

### C3.3.2 SCOPE OF MANDATORY SUBCONTRACT WORK

#### C3.3.2.1 Scope of mandatory subcontract works

The contractor is to identify and present to the Engineer the works to be subcontracted. The contractor can however add to this scope at his discretion or if he needs such services from the local subcontractors. The following shall be subcontracted to the local subcontractors:

- Kerbing
- Construction of manholes
- Construction of brickwork related work;
- Supply and erection of fence and gate;
- Construction of segmented block paving;
- Construction of concrete pavements;
- Construction of edge restraints;
- Construction of subsoil drains;
- Replacement of bitumen surfacing;

### **C3.3.3 PREFERRED SUBCONTRACTORS/SUPPLIERS**

Local emerging contractors must be Black Enterprises. A black enterprise (BE) is defined as a company or economic activity that is owned by black persons and where there is substantial management control by Black People. Ownership refers to economic interest, whilst management refers to the membership of any board or similar governing body of the enterprise. The Broad-Based Black Economic Empowerment Act No. 53 of 2014, principles must apply to BE's.

Enterprises must comply with the following:

- Business must be registered within the CoT boundaries,
- Owners must reside within the CoT,
- Owners or business address must be in Region 6. Other Regions within the COT will only be considered if no suitable candidates are available in Region 6.

### **C3.3.4 SUBCONTRACTING PROCEDURES**

The contractor shall advertise and call for competitive quotations in respect of each portion of the works that are required to be subcontracted in terms of the contract in accordance with the relevant provision of the latest edition of the CIDB Standard for Uniformity in Construction Procurement. The Contract Data in the associated procurement documents shall be based on the City of Tshwane standards and any other relevant documentation of subcontracting with minimal project specific variations and amendments that do not change their intended usage.

The Employer together with the Contractor shall evaluate the quotations received in accordance with the provision of the Standard Conditions of tender. The evaluation panel shall comprise equal representatives from the Employer and from the Contractor.

The Contractor shall without delay enter into contract with the successful tendering subcontractor based on their accepted tender submission.

The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

- Note:**
- 1) The CIDB Best Practice Guideline D1, *Subcontracting Arrangements*, provides Guidance on the selection of a suitable form of subcontracts.
  - 3) Provision in the Pricing Data should be made for provisional sums for portions of the works that are to be subcontracted in this manner.

### **C3.3.5 EVALUATION CRITERIA**

The bids submitted by the prospective local subcontracting companies will be evaluated by the Main Contractor and the Engineering representative.

CITY OF TSHWANE

HUMAN SETTLEMENTS DEPARTMENT

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STANDS AT MAMELODI X6 PHOMOLONG**

**C3.4 CONSTRUCTION**

## **C3.4 CONSTRUCTION**

### **C3.4.1 Works Specifications**

The applicable "Standard Specifications" shall be the document "Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005", issued by the Executive Director: Water and Sanitation of the City of Tshwane, read together with the Particular Specifications.

Tenderers, Contractors and Subcontractors shall obtain their own copies of the document "Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005", for tendering purposes and for use for the duration of the Contract from the Procurement Advice Centre, C de Wet Centre, 175 E'skia Mphahlele Drive, Pretoria West and shall bear all expenses in this regard.

The Standard Specifications have been written to cover all types of municipal civil engineering works and it may therefore cover work not applicable to this contract.

The Particular Specifications together with the Drawings and Bill of Quantities clearly indicate the sections of the Standard Specifications which apply to this contract.

**Section C3.6 covers references to the Particular Specifications in the Standard Specifications as well as variations and additions to the Standard Specifications.**

Section C3.7 covers corrections and amendments to the Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005

### **C3.4.2 Plant and materials**

All plant and material to be supplied by the Contractor.

### **C3.4.3 Construction equipment**

All construction equipment to be supplied by the Contractor.

### **C3.4.4 Contractor's employees**

#### **C3.4.4.1 Minimum employment Conditions for Conventional Construction Works**

Contractors shall comply with the Basic Conditions of Employment Act (Act No 75 of 1997).

As a determination has not been made in terms of the aforesaid act for the building sector, the minimum employment conditions which will apply to this Contract shall be guided by the Amendment of Sectoral Determination 2: Civil Engineering Sector published in the Government Gazette dated 4th September 2012, as and when amended from time to time.

Contractors shall also take in considerations the clauses of the Government Gazette 39293 of 16 October 2015 regarding Bargaining Council for Civil Engineering Industry: Extension of Conditions of Employment amending collective agreements to non-parties.

The following minimum conditions shall apply to this Contract and Contractors shall include such conditions in employment contracts.

#### **C3.4.4.1.1 Employment contracts**

The Contractor shall enter into an employment contract with every one of his/her employees, including short-term contracts i.e. contracts in which employment commencement and employment termination dates are specified. Short-term employment contracts will also apply an employee employed for only one day.

#### **C3.4.4.1.2 Normal working hours**

Normal working hours are from 07:00 to 17:00 from Monday to Friday. A tea break is taken from 09:00 to 09:15 and lunch from 12:30 to 13:00.

Actual hours to work and be paid for is 9 hours per day. If a lunch break of one (1) hour is taken then the normal working day will be as follow:

Morning work sessions from 07:00 to 12:00, lunch break from 12:00 to 13:00, and afternoon sessions from 13:00 to 17:00.

#### **C3.4.4.1.3 Minimum wages**

Minimum wages shall be according to the Government Gazetted rates for the Civil Engineering Sector for Gauteng Province ([Regulation Gazette No 9360 Vol. 542](#)). For a full day's work, the hourly rate shall be multiplied by 9. Normal 5-day week hours of work shall be 45 hours and the wage calculated according to the applicable hourly rate.

Overtime pay shall be 1.5 times the ordinary wage.

An employee shall be paid monthly.

Wages should be increased by CPI excluding owners' equivalent rent (eoe) plus two percentage point for the second and third years of the determination. The CPI to be used is the one that is published by StatsSA six weeks prior to the scheduled increment date. Below are the recommendations of the Department regarding new minimum wages levels:

**Table 1: Minimum wages per hour for all employees in the Civil Engineering Sector.**

| Task Grade | Hourly Rate from 1 September 2021 adjusted by 7.5% or CPI whichever is the greater | Hourly Rate from 1 September 2021 to August 2023 adjusted by 7.5% or CPI whichever is the greater | Hourly Rate from 1 September 2023 to August 2024 adjusted by 7.5% or CPI whichever is the greater |
|------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 1          | R 39.82                                                                            | R 41.72                                                                                           | R 44,85                                                                                           |
| 2          | R 40.75                                                                            | R 42.70                                                                                           | R 45,90                                                                                           |
| 3          | R 41.88                                                                            | R 43.89                                                                                           | R 47,18                                                                                           |
| 4          | R 43.44                                                                            | R 45.53                                                                                           | R 48,94                                                                                           |
| 5          | R 49.16                                                                            | R 51.56                                                                                           | R 55,43                                                                                           |
| 6          | R 55.80                                                                            | R 58.56                                                                                           | R 62.95                                                                                           |
| 7          | R 63.92                                                                            | R 67.06                                                                                           | R 72.09                                                                                           |

| Task Grade | Hourly Rate from 1 September 2021 adjusted by 7.5% or CPI whichever is the greater | Hourly Rate from 1 September 2021 to August 2023 adjusted by 7.5% or CPI whichever is the greater | Hourly Rate from 1 September 2023 to August 2024 adjusted by 7.5% or CPI whichever is the greater |
|------------|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| 8          | R 6671.                                                                            | R 75.19                                                                                           | R 80.83                                                                                           |
| 9          | R 81.00                                                                            | R 84.98                                                                                           | R 91.35                                                                                           |

#### **C3.4.4.1.4 Short time (excluding short time due to inclement weather)**

If for reasons, which may be ascribed to the employee, e.g. arriving late for work or taking an afternoon off, the hours not worked shall be deducted from the daily wage calculation.

#### **C3.4.4.1.5 Short time resulting from inclement weather**

- i. If the Contractor informs his/her employees that no work will be done the following day due to inclement weather, no payment will be due to the employee for such a day.
- ii. If the Contractor has not informed his/her employees that no work will be done due to inclement weather and no work or less than four (4) hours of work is possible during a day, the Contractor must pay the employee for four (4) hours of work. If more than four (4) hours of work is done, the Contractor shall pay the employee for the number of hours worked.

#### **C3.4.4.1.6 Vacation leave**

If an employee has been in full time employment for more than four (4) months, he/she shall be entitled to 1 day's paid leave for every seventeen (17) days the employee worked or was entitled to payment.

#### **C3.4.4.1.7 Family responsibility leave**

If an employee has been in full time employment for more than four (4) months, he/she shall be entitled to three days paid leave in a leave cycle of thirty-six (36) months of employment:

- i. When the employee's child is born;
- ii. When the employee's child is sick;
- iii. In the event of death of the employee's spouse or life partner, parent, grandparent, child or grandchild.

The employee shall provide the required proof to the Contractor of the event, failing which the leave shall be unpaid leave

#### **C3.4.4.1.8 Maternity leave**

At least four (4) months unpaid leave.

#### **C3.4.4.1.9 Sick leave**

The employee shall be entitled to one (1) day's paid sick leave of normal wages for every

twenty-six (26) days worked.

If an employee is absent for three (3) or more consecutive days, the employee shall provide a sick certificate from a registered medical practitioner to qualify for sick leave payment. If such certificate is not provided, no sick leave payment will be due to the employee.

#### **C3.4.8.1.10 Piece work**

Irrespective of the quantity of work done under a piece work system during a working week, the employee shall be entitled to a minimum of a week's wages determined as if no piece work applied.

The Contractor or employee may terminate an employment contract by giving notice of termination of not less than:

- i. On short period contracts i.e. a contract which states from which date work employment commences and on which day employment terminates, the terms of the employment contract shall apply;
- ii. One week if employee has been employed for four (4) weeks or less, unless it is a short-term project;
- iii. Two (2) weeks if employee has been employed for more than four (4) weeks but not more than one (1) year;
- iv. Four (4) weeks if employee has been employed for more than one year.

#### **C3.4.4.2 EMPLOYMENT CONDITIONS FOR LABOUR INTENSIVE WORKS AND CONSTRUCTION**

The Ministerial Determination 4, Expanded Public Works Programme (revised 2012) issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour as reproduced below, shall apply to works described in scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers. The Ministerial Determination must be read in conjunction with the Code of Good Practises for the Expanded Public Works Programme as published in Government Notice N° R64 of 25 January 2002,

This clause contains the standard terms and conditions for workers employed in elementary occupations on an Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of an EPWP.

##### **C3.4.4.2.1 Terminology**

- (a) "department" means any department of the State, implementing agent or contractor;
- (c) "employer" means any department, implementing agency or contractor that hires workers to work in elementary occupations on an EPWP;
- (d) "workers" means any person working in an elementary occupation on an EPWP;
- (e) "elementary occupation" means any occupation involving unskilled or semi-skilled

work;

- (f) “management” means any person employed by a department or implementing agency to administer or execute an EPWP’
- (g) “task” means a fixed quantity of work;
- (h) “task-based work” means work in which a worker is paid a fixed rate for performing a task;
- (i) “task-rated worker” means a worker paid on the basis of the number of tasks completed;
- (j) “time-rated worker” means a worker paid on the basis of the length of time worked.

#### **C3.4.4.2.2 Terms of Work**

- i. Workers on an EPWP are employed on a temporary basis or contract basis.

#### **C3.4.4.2.3 Normal Hours of Work**

- i. An employer may not set tasks or hours of work that require a worker to work:
  - (a) more than forty hours in any week;
  - (b) on more than five days in any week; and
  - (c) for more than eight hours on any day.
- ii. An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.
- iii. A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 40-hour week) to that worker.

#### **C3.4.4.2.4 Meal Breaks**

- i. A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- ii. An employer and worker may agree on longer meal breaks.
- iii. A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- iv. A worker is not entitled to payment for the period of a meal break. However, a worker who is paid on the basis of time worked must be paid if the worker is required to work or to be available for work during the meal break.

#### **C3.4.4.2.5 Special Conditions for Security Guards**

- i. A security guard may work up to 55 hours per week and up to eleven hours per day.
- ii. A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

#### **C3.4.4.2.6 Daily Rest Period**

Every worker is entitled to a daily rest period of at least twelve consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

#### **C3.4.4.2.7 Weekly Rest Period**

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

#### **C3.4.4.2.8 Work on Sundays and Public Holidays**

- i. A worker may only work on a Sunday or public holiday to perform emergency or security work.
- ii. Work on Sundays is paid at the ordinary rate of pay.
- iii. A task-rated worker who works on a public holiday must be paid –
  - a. the worker's daily task rate, if the worker works for less than four hours;
  - b. double the worker's daily task rate, if the worker works for more than four hours.
- iv. A time-rated worker who works on public holiday must be paid –
  - (a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday;
  - (b) double the worker's daily rate of pay, if the worker works of more than four hours on the public holiday.

#### **C3.4.4.2.9 Sick Leave**

- i. Only workers who work more than 24 hours per month have the right to claim sick-pay in terms of this clause.
- ii. A worker who is unable to work on account of illness or injury is entitled to claim one day's sick leave for every full month that the worker has worked in terms of a contract.

- iii. A worker may accumulate a maximum of twelve days' sick leave in a year.
- iv. Accumulated sick-leave may not be transferred from one contract to another contract.
- v. An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- vi. An employer must pay a time-rated worker the worker's daily rate for a day's sick leave.
- vii. An employer must pay a worker sick pay on the worker's usual payday.
- viii. Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
  - a. absent from work for more than two consecutive days; or
  - b. absent from work on more than two occasions in any eight-week period.
- ix. A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- x. A worker is not entitled to paid sick-leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Disease Act.

#### **C3.4.4.2.10 Maternity Leave**

- i. A worker may take up to four consecutive month's unpaid maternity leave.
- ii. A worker is not entitled to any payment or employment-related benefits during maternity leave.
- iii. A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- iv. A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- v. A worker may begin maternity leave –
  - (a) four weeks before the expected date of birth; or
  - (b) on an earlier date –
    - if a medical practitioner, midwife or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
    - if agreed to between employer and worker; or
  - (c) on a later date, if a medical practitioner, midwife or certified nurse has certified that

the worker is able to continue to work without endangering her health.

- vi. A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.
- vii. A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

#### **C3.4.4.2.11 Family Responsibility Leave**

- i. Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances –
  - (a) when the employee's child is born;
  - (b) when the employee's child is sick;
  - (c) in the event of a death of –
    - the employee's spouse or life partner;
    - the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild or sibling.

#### **C3.4.4.2.12 Statement of Conditions**

- i. An employer must give a worker a statement containing the following details at the start of employment –
  - a. the employer's name and address and the name of the EPWP;
  - b. the tasks or job that the worker is to perform; and
  - c. the period for which the worker is hired or, if this is not certain, the expected duration of the contract;
  - d. the worker's rate of pay and how this is to be calculated;
  - e. the training that the worker will receive during the EPWP.
- ii. An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- iii. An employer must supply each worker with a copy of these conditions of employment.

#### **C3.4.4.2.13 Keeping Records**

- i. Every employer must keep a written record of at least the following –
  - a. the worker's name and position;
  - b. copy of an acceptable worker identification;
  - c. in the case of a task-rated worker, the number of tasks completed by the worker;
  - d. in the case of a time-rated worker, the time worked by the worker;
  - e. payments made to each worker.

- ii. The employer must keep this record for a period of at least three years after the completion of the EPWP.

#### **C3.4.4.2.14 Payment for the Labour-Intensive Component of the Works**

Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

- i. An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- ii. A worker may not be paid less than the minimum EPWP wage rate of R431.01 per day or per task. This will be adjusted annually on the 1st of November in line with inflation (available CPI as provided by StatsSA six (6) weeks before implementation).
- iii. A task-rated worker will only be paid for tasks that have been completed.
- iv. An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- v. A time-rated worker will be paid at the end of each month.
- vi. Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- vii. Payment in cash or by cheque must take place –
  - a. at the workplace or at a place agreed to by the worker;
  - b. during the worker's working hours or within fifteen minutes of the start or finish of work;
  - c. in a sealed envelope which becomes the property of the worker.
- viii. An employer must give a worker the following information in writing –
  - a. the period for which payment is made;
  - b. the numbers of tasks completed or hours worked;
  - c. the worker's earnings;
  - d. any money deducted from the payment;
  - e. the actual amount paid to the worker.
- ix. If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.
- x. If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

#### **C3.4.4.2.15 Deductions**

- i. An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- ii. An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- iii. An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the time period and other requirements specified in the agreement law, court order or arbitration award concerned.
- iv. An employer may not require or allow a worker to –
  - a. repay any payment except an overpayment previously made by the employer by mistake;
  - b. state that the worker received a greater amount of money than the employer actually paid to the worker; or
  - c. pay the employer or any other person for having been employed.

#### **C3.4.4.2.16 Health and Safety**

- i. Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- ii. A worker must –
  - a. work in a way that does not endanger his/her health and safety or that of any other person;
  - b. obey any health and safety instruction;
  - c. obey all health and safety rules of the EPWP;
  - d. use any personal protective equipment or clothing issued by the employer;
  - e. report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

#### **C3.4.4.2.17 Compensation for Injuries and Diseases**

- i. It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- ii. A worker must report any work-related injury or occupational disease to their employer or manager.
- iii. The employer must report the accident or disease to the Compensation Commissioner.
- iv. An employer must pay a worker who is unable to work because of an injury caused

by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

#### **C3.4.4.2.18 Termination**

- i. The employer may terminate the employment of a worker for good cause after following a fair procedure.
- ii. A worker will not receive severance pay on termination.
- iii. A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the manager the employer in advance to allow the employer to find a replacement.
- iv. A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available of the balance for the 24-month period.
- v. A worker who does not attend required training events, without good reason will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

#### **C3.4.4.2.19 Certificate of Service**

On the termination of employment, a worker is entitled to a certificate stating –

- a. the worker's full name;
- b. the name and address of the employer;
- c. the EPWP on which the worker worked;
- d. the work performed by the worker;
- e. any training received by the worker as part of the SPWP;
- f. the period for which the worker worked on the SPWP;
- g. any other information agreed on by the employer and worker.

#### **C3.4.4.3 LABOUR INTENSIVE COMPETENCIES OF SUPERVISORY AND MANAGEMENT STAFF**

Established contractors shall only engage supervisory and management staff in labour intensive works who have either completed, or for the period 1 April 2004 to 30 June 2005, are registered for training towards, the skills programme outlined in Table 1.

Emerging contractors shall have personally completed, or for the period 1 April 2004 to 30 June 2005 be registered on a skills programme for the NQF level 2 unit standard. All other site supervisory staff in the employ of emerging contractors must have completed, or for the period 1 April to 2004 to 30 June 2005 be registered on a skills programme for, the NQF level 2 unit standards or NQF level 4 unit standards.

**TABLE 1: SKILLS PROGRAMME FOR SUPERVISORY AND MANAGEMENT STAFF**

| Personnel                                                                                           | NQF level | Unit standard titles                                                                              | Skills programme description                       |
|-----------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Team leader/ supervisor                                                                             | 4         | Apply Labour Intensive Construction Systems and Techniques to Work Activities                     | This unit standard must be completed, and          |
|                                                                                                     |           | Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation          | any one of these 3 unit standards                  |
|                                                                                                     |           | Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services |                                                    |
|                                                                                                     |           | Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures            |                                                    |
| Foreman/ supervisor                                                                                 | 4         | Implement labour intensive Construction Systems and Techniques                                    | This unit standard must be completed, and          |
|                                                                                                     |           | Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation          | any one of these 3 unit standards                  |
|                                                                                                     |           | Use Labour Intensive Construction Methods to Construct and Maintain Water and Sanitation Services |                                                    |
|                                                                                                     |           | Use Labour Intensive Construction Methods to Construct, Repair and Maintain Structures            |                                                    |
| Site Agent/ Manager (i.e. the contractor's most senior representative that is resident on the site. | 5         | Manage Labour Intensive Construction Processes                                                    | Skills Programme against this single unit standard |

Details of these skills programmes may be obtained from the CETA ETQA manager (e-mail: [Gerard@ceta.co.za](mailto:Gerard@ceta.co.za), tel: 011 265 5900)

#### **C3.4.4.4. EMPLOYMENT OF UNSKILLED AND SEMI-SKILLED WORKERS IN LABOUR-INTENSIVE WORKS**

##### **C3.4.4.4.1 Requirements for the Sourcing and Engagement of Labour**

- i. Unskilled and semi-skilled labour require for the execution of all labour intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour – Part 5, 1st edition, 2002.
- ii. Tasks established by the contractor must such that:
  - a. the average worker completes 5 tasks per week in 40 hours or less; and
  - b. the weakest worker completes 5 tasks per week in 55 hours or less.
- iii. The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 6.1.3.
- iv. The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in

construction and / or who come from households:

- a. where the head of the household has less than a primary school education;
  - b. that have less than one full time person earning an income;
  - c. where subsistence agriculture is the source of income;
  - d. those who are not in receipt of any social security pension income.
- v. The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:
- a. 60 % women;
  - b. 20 % youth who are between the ages of 18 and 35; and
  - c. 2 % on persons with disabilities.

#### **C3.4.4.2 Specific Provisions Pertaining to SANS 1914-5**

i. Definitions

Targeted labour: Unemployment persons who are employed as local labour on the project.

ii. Contract participation goals

- a) there is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.
- b) The wages and allowances used to calculate the contract participation goal shall, with respect to both time-related and task rated workers, comprise all wages paid and any training allowance paid in respect of agreed training programmes.

iii. Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

iv. Variations to SANS 1914-5

- a. The definition for net amount shall be amended as follows:  
Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the contractor.
- b. The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities and the number of formal training provided to targeted labour.

#### **C3.4.4.3 Training of Targeted Labour**

- i. The contractor shall provide all the necessary CETA Accredited training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety.
- ii. The cost of the formal training of targeted labour, shall be measured and paid for in the schedule of quantities of this contract document.

- iii. The contractor shall do nothing to dissuade targeted labour from participating in training programmes and shall take all reasonable steps to ensure that each beneficiary is provided with two days of formal training for every 22 days worked.
- iv. An allowance equal to 100 % of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of (iii) above.
- v. This training should take place as close to the project site as practically possible. The CoT will ensure that training arrangements for participants are in place and appointment of the training provider facilitated in time.

Proof of compliance with the requirements of (ii) to (iv) must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

#### **C3.4.4.5 COMMUNITY LIAISON OFFICER**

**C3.4.4.5.1** The successful tenderer shall enter into an agreement with the Ward Councillor/Ward Committee whereby the Ward Councillor shall provide to the Contractor the following if necessary:

- a) A Community Liaison Officer (CLO) for liaison with the recipient community, who as part of his/her duties will also act as a Labour Desk Officer (LDO) for labour recruitment.

**C3.4.4.5.2** The CLO shall attend all site and other meetings concerning the project.

**C3.4.4.5.3** The CLO will be remunerated according to the entry level salary of Administrative Officer (B1-level monthly notch) in the city of Tshwane.  
CoT will provide the Contractor with the figures accordingly.

##### Community Strategy

The CLO shall be available full time on site when contractor is active. Furthermore, it will be required of him to liaise any pertinent communication to the community. He/she shall attend all site and technical meetings as well as steering committee meetings as well as steering committee meetings happen after hours.

**C3.4.4.5.4** Only one CLO shall be appointed per project. If the project spans over more than one Ward, the relevant Ward Councillors shall agree on one CLO to be appointed by the Contractor. Should no agreement be found as envisaged, the relevant Project Manager together with the Executive Director: Integrated Community Development, or their nominees, will interview prospective appointees and in their discretion appoint such CLO.

Notwithstanding the above, if the vastness of the project requires the use of more than one CLO, this will be permitted provided that the total monthly sum paid to all CLO's shall not exceed the amount allowed for in paragraph 5.3.

**C3.4.4.5.5** Should the Contractor experience any difficulties with the community, these difficulties shall immediately be brought to the attention of the Department/Project Manager who shall

arrange a meeting with the relevant Ward Councillor(s) and the CLO to resolve such difficulties.

**C3.4.4.5.5** The main Contractor shall ensure that any Sub-Contractor he may appoint shall adhere to these conditions but also subject to the provisos applicable to the duration of such sub-contract.

**C3.4.4.5.6** Should any of the above conditions be less favourable than any Bargaining Council Agreement or Act applicable to the Contractor, the more favourable condition will apply.

#### **C3.4.5 EXISTING SERVICES**

Existing services consist of an existing reservoir pipelines, overhead electrical reticulation and nominal stormwater drainage structures.

#### **C3.4.6 Site establishment**

##### **C3.4.6.1 Contractor's Camp site**

The Contractor shall provide a suitable site for his camp and for accommodating the work force. The choice of the site for the establishment of the camp, offices and the layout thereof, shall be approved.

The camp site shall be cleared and grubbed and properly fenced with a security fence around the perimeter. The Contractor is to provide his own security at the camp or on the site if required, at his own expense.

After completion of the contract, the Contractor shall remove all his temporary buildings, plant and equipment. The site shall be made good and be left in a neat and tidy condition before a certificate of completion shall be issued.

##### **C3.4.6.2 Water Supply**

The Contractor shall make his own arrangement for potable and construction water. It shall be the responsibility of the contractor to apply for a water connection and water meter at CoT for his site camp. The contractor shall be responsible for payment of all water used. Water quality shall be verified before use in concrete is allowed.

##### **C3.4.6.3 Power Supply**

The Contractor shall make his own arrangements.

##### **C3.4.6.4 Ablution Facilities**

The Contractor shall, at each construction area, provide sufficient portable chemical latrine units. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the approval of the engineer. No separate payment shall be made for this requirement and the costs thereof shall be deemed to be included in the rates billed for the contractor's time-related obligations.

#### **C3.4.6.5 Cellular Telephone**

It is a requirement of the contract that the contractor shall equip his site agent(s) with a cellular telephone to allow for effective communication between the contractor's supervisory personnel and the engineer's supervisory staff. All the applicable contact details must be made available to the Employer as well as the staff on site. All costs associated with the provision of cellular telephones for the contractor's personnel shall be deemed to be included in rates billed for time-related charges.

#### **C3.4.6.6 Site Facilities required by the Engineer**

One office for site meetings for 10 – 12 people.

Two carports for the engineers' exclusive use, with solid sheeting, not shade cover.

An ablution unit for his exclusive use.

The engineer does not require a separate office for his personnel.

#### **C3.4.6.7 Storage and laboratory facilities**

The Engineer will order the Contractor to provide as needed.

#### **C3.4.6.8 Other facilities and services**

None.

#### **C3.4.6.9 Vehicles and equipment**

The Engineer will order the Contractor to provide as needed.

#### **C3.4.6.10 Advertising rights**

Not applicable.

#### **C3.4.6.11 Notice boards**

Two notice boards will be supplied by the Contractor which will be erected at the construction site as per instruction of the Engineer.

#### **C3.4.7 Site usage**

Not applicable.

#### **C3.4.8 Permits and way leaves**

The Engineer will be responsible for the initial application of permits and wayleaves after which the contractor will be responsible for maintaining and renewing of permits and wayleaves.

**C3.4.9 Alterations, additions, extensions and modifications to existing works**

To be carried out with the instruction from the Engineer.

**C3.4.10 Inspection of adjoining properties**

Adjacent buildings and properties will be inspected before commencing with the works that have the potential to damage surrounding buildings and property on the instruction of the Engineer and according to his requirements.

**C3.4.11 Water for construction purposes**

No natural water from rivers, streams, boreholes, pans, dams or irrigation canals shall be used for concrete or stabilised layers. Only drinking quality purified water shall be used. The Contractor must make adequate provision in his tender for all negotiations and procurement of water for construction activities and all related costs will be deemed to be included in his tendered rates.

**C3.4.12 Survey control and setting out of the works**

Survey controls requirements and the setting out of the works will be determined by the Engineer and will be site specific.

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENTT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE  
CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING  
AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED  
STANDS AT MAMELODI X6 PHOMOLONG**

**C3.5        MANAGEMENT**

## **C3.5 MANAGEMENT**

### **1. Construction Programme**

The Contractor shall submit, within the period stated in the Contract Data, a suitable and realistic construction programme for the consideration of the Engineer.

The programme shall be in the form of a Gantt chart and shall include the following details:

- A work breakdown structure, identifying the major activity groups.
- For each activity group, further details shall be provided with regard to the scheduled start and end dates of individual activities.
- The linkages between activities shall be clearly indicated and the logical network upon which the programme is based shall be separately submitted to the engineer if requested. Any constraints shall be classified as being time-related or resource-related.
- The critical path(s) shall be clearly indicated and floats on non-critical activities shall be shown.
- The Contractor shall indicate the working hours per day, night, week and month allowed for in the programme.
- Where relevant the Contractor shall state the production rates for key activities, e.g. earthworks, etc.

Together with the programme as detailed above the contractor shall submit to the engineer a cash flow projection, indicating projected monthly invoice amounts. The cash flow projection shall be updated at monthly intervals to reflect actual payments to date and anticipated further payments.

The programme will be reviewed at the monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity that has fallen behind. The updated programme shall be submitted to the Engineer at least two days prior to the monthly meetings.

If the programme has to be revised by reason of the Contractor falling behind his programme, he shall produce a revised programme showing how he intends to regain lost time in order to ensure completion of the Works within the time for completion as defined in Clause 4.2 of the General Conditions of Contract or any granted extension of time. Any proposal to increase the tempo of work must be accompanied by positive steps to increase production by providing more labour and plant on site, or by using the available labour and plant in a more efficient manner.

Failure on the part of the Contractor to submit the programme or to work according to the programme, or revised programmes, shall be sufficient reason for the Engineer to take steps as provided in Clause 9.2 of the General Conditions of Contract.

The approval by the Engineer of any programme shall have no contractual significance other than that the Engineer will be satisfied that the work is carried out according to such programme and that the Contractor undertakes to carry out the work in accordance with the programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme if required by circumstances. The Contractor is also referred to Clause 5.6 of the General Conditions of Contract when drawing up his programme.

## **2. Sequence of the works**

The Contractor shall supply the proposed sequence of the works.

## **3. Accommodation of traffic**

The following contain the Employer's general requirements for accommodating the traffic during construction:

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.

Failure to maintain road signs, warning signs, etc, in a good condition shall constitute ample reason for the engineer to bring the works to a stop until the road signs, etc, have been repaired to his satisfaction.

The contractor may not commence constructional activities 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 Volume 2 Chapter 13.

The contractor shall submit proposals in connection with directional signs to the engineer for approval prior to construction.

Sufficient signage shall be provided, erected and relocated as necessary by the contractor to reroute traffic onto the deviations.

#### 4. Extension of time on account of abnormal rainfall

Extension of time due to abnormal rainfall shall be determined by means of Method 1 using the rainfall records below.

##### RAINFALL ANALYSIS FOR: PRETORIA UNIVERSITY PROEFPLAAS : PERIOD 2018 to 2022

Date: 2023/04/20

Data for the Average Calculation is not used if:

- There are more than five consecutive days of accumulation
- The data for certain days in the month is not available
- The accumulation period occurred at the end of the month

Data for the Frequency calculation is not used if:

- The data for certain days in the month is not available
- The accumulation period occurred at the end of the month

| Month | Average Monthly Rainfall (mm) | Standard Deviation | Average Number of Rain Days per Month | Number of Months | Average number of days of Rain |            |             |             |               |          | Maximum 24-hour Rainfall (mm) | Date of Maximum 24-hour Rainfall |
|-------|-------------------------------|--------------------|---------------------------------------|------------------|--------------------------------|------------|-------------|-------------|---------------|----------|-------------------------------|----------------------------------|
|       |                               |                    |                                       |                  | 1 - 5 mm                       | 5.1 - 10mm | 10.1 - 20mm | 20.1 - 50mm | 50.1 - 100 mm | > 100 mm |                               |                                  |
| JAN   | 146.2                         | 53.8               | 14.7                                  | 3.0              | 3.3                            | 2.3        | 2.0         | 1.7         | 0.7           | 0.0      | 85.4                          | 2021/01/10                       |
| FEB   | 112.9                         | 18.6               | 15.0                                  | 3.0              | 6.3                            | 2.0        | 2.0         | 0.7         | 0.3           | 0.0      | 82.4                          | 2022/02/04                       |
| MAR   | 120.0                         | 68.8               | 10.8                                  | 4.0              | 2.8                            | 1.0        | 2.5         | 0.8         | 0.3           | 0.3      | 132.4                         | 2018/03/22                       |
| APR   | 98.1                          | 41.6               | 9.8                                   | 5.0              | 2.0                            | 1.2        | 1.6         | 1.2         | 0.4           | 0.0      | 76.0                          | 2018/04/11                       |
| MAY   | 6.6                           | 7.3                | 2.3                                   | 3.0              | 1.0                            | 0.0        | 0.3         | 0.0         | 0.0           | 0.0      | 15.0                          | 2022/05/20                       |
| JUN   | 5.6                           | 8.9                | 1.3                                   | 4.0              | 0.5                            | 0.0        | 0.3         | 0.0         | 0.0           | 0.0      | 18.0                          | 2022/06/24                       |
| JUL   | 0.4                           | 0.4                | 0.6                                   | 5.0              | 0.0                            | 0.0        | 0.0         | 0.0         | 0.0           | 0.0      | 0.8                           | 2018/07/10                       |
| AUG   | 0.4                           | 0.4                | 1.0                                   | 2.0              | 0.0                            | 0.0        | 0.0         | 0.0         | 0.0           | 0.0      | 0.6                           | 2018/08/24                       |
| SEP   | 18.4                          | 20.3               | 3.3                                   | 4.0              | 0.8                            | 0.5        | 0.3         | 0.3         | 0.0           | 0.0      | 36.0                          | 2021/09/30                       |
| OCT   | 67.4                          | 15.8               | 9.0                                   | 2.0              | 2.5                            | 1.0        | 1.5         | 1.0         | 0.0           | 0.0      | 52.0                          | 2018/10/13                       |
| NOV   | 158.2                         | 0.0                | 17.0                                  | 1.0              | 3.0                            | 3.0        | 7.0         | 1.0         | 0.0           | 0.0      | 62.0                          | 2020/11/20                       |
| DEC   | 121.4                         | 0.0                | 11.0                                  | 1.0              | 3.0                            | 2.0        | 2.0         | 2.0         | 0.0           | 0.0      | 96.8                          | 2019/12/09                       |
| YR    | 855.6                         |                    | 8.0                                   | 37               | 25                             | 13         | 20          | 9           | 2             | 0        |                               |                                  |

#### 5. Community participation

Community participation for the appointment of the PSC will be as per Section 6.1.3.1 of the Expanded Public Works Recruitment Framework, in the Office of the Speaker, in consultation with ward councillors, is responsible to hold public meetings to elect a project steering committee once a development project is to commence within a ward.

The functions of the PSC will be to:

- Assist in monitoring the project.
- Ensure that the community aid the contractor to ensure that he can execute the contract in accordance with the specifications and within time.
- Encourage the community to participate in the Labour-Intensive construction.
- Identify skills, skilled personnel and suppliers in the towns.

The PSC will not have the power to:

- Give any instructions to the contractor, except through the engineer.

- Become involved in the daily operations of the contractor or interfere with the contract works.

A monthly meeting will be held with the PSC to discuss relevant matters. The site agent and resident engineer will attend the meetings. The contractor will have to report on progress, deviations from the programme, financial matters community related aspects, general problems and co-operation at the meeting. The PSC members will not receive any remuneration for attending, and they must provide their own transport.

The committee, which may be chaired by the Ward Councilors, shall consist of representatives of:

- (a) The Ward Councilors(s)
- (b) The Client
- (c) The Engineer
- (d) The Contractor
- (e) The CLO(s)
- (f) Members of Ward Committees nominated by Ward Councilors(s)
- (g) Local Security Company

- The Community Liaison Officer shall manage the labour desk and will have regular meetings with the Contractor where all construction and labour matters will be addressed. Some of the role players will only attend these meetings on an ad hoc basis as needed.
- The Local Security Company shall be responsible for the safekeeping of all plant, materials, construction equipment and all personnel employed on the project, 24 hour a day, seven days a week from site handover to project completion.
- The following aspects will have to be clarified by the labour desk before any person is engaged in construction work:
  - Contract of Employment
  - Type of Work
  - Duration of appointment
  - Workman's Compensation
  - Tax deduction
  - Insurance (UIF)
  - Wages and bonus and overtime regulations
  - Production pay-rate per unit of production
  - Working hours
  - Start and end times of a daily shift
  - Lunch breaks
  - Company policy regarding:
    - Rain time
    - No work no pay

- Disciplinary policy
  - Grievance policy
  - o Method of payment and intervals
  - o Safety equipment where applicable
- The appointment of any local labour under this project will be the responsibility of the main contractor. All employee/employer issues will be ruled by the statutory labour relations' regulations as well as per the relevant contractual clauses.

## **6. Construction management service requirements**

The Contractor shall appoint a Construction Manager whose duties will be to provide construction management and materials management services to the Local Emerging Contractors in line with the employer's objective as stated in Clause 3.1.1, Description of Work.

### **6.1 General**

The construction manager shall, in order to achieve the employer's objectives stated in Clause 3.1.1, Description of Work,

- a) comply with agreements made with the employer and the local community, if any, monitor and report on project expenditure and costs and construction progress, and co-ordinate site activities,
- b) advise, assist and train the supported contractor on the job in terms of the contract between the employer and the supported contractor and, if so required in the specification data, arrange for the supply of certain items of equipment and the supply and delivery to site of materials,
- c) remain impartial in his dealings with the employer and the supported contractor,
- d) engage, on behalf of and with the approval of the employer, specialist contractors to execute parts of the works and coordinate the work of supported contractors and the specialist contractors,
- e) cooperate with other professional service providers appointed by the employer,
- f) visit the site at appropriate intervals during the various stages of construction in order to confirm that the supported contractor is making satisfactory progress, that he shows technical competence in the execution of all aspects of the works and generally fulfils all contractual obligations,
- g) provide continuous support to the supported contractor in order to ensure that the employer's objectives are achieved,
- h) operate within any structured framework developed by the employer to enable interim payments to be made to supported contractors within relatively short time frames,
- i) provide site facilities for the employer and his agents, as provided for in the specification data,

- j) ensure the economic and efficient use of all plant and, to this end, maintain adequate records of plant usage,
- k) maintain detailed records of all costs relating to the construction of the works including those relating to the provision of construction management services, and report to the employer at intervals not exceeding one month on the financial status of the contract, and
- l) assist supported contractors in registering with a public body, if required, in terms of the specification data.

## **6.2 Construction stage requirements**

### **6.2.1 General**

Following the award of the contract to the supported contractor, the construction manager shall, as a minimum,

- a) attend site and coordination meetings conducted by the employer and his agents,
- b) arrange weekly or fortnightly site progress meetings with the supported contractor and record and distribute the minutes thereof,
- c) liaise with the employer at coordination meetings at regular, agreed intervals and keep him fully informed regarding all aspects of the supported contractors' contracts,
- d) confirm insurance arrangements, notify insurers of all claims and ensure that all insurance policies are maintained,
- e) bring to the attention of the employer without delay any deficiencies in materials or in work performed by the supported contractor and follow up corrective actions which might be prescribed,
- f) inspect all exposed services, report in writing any damage to the employer and, subject to the approval of the employer, take the necessary action to have the damage repaired,
- g) implement and monitor approved security arrangements and recommend and implement changes which might be necessary, where required by the employer in terms of the specification data, arrange for the supply and erection of suitable name boards,
- h) maintain and update the assets register,
- i) monitor the progress of the supported contractor and submit monthly progress reports to the employer which provide information relating to,
  - progress in relation to the programme,
  - costs incurred in respect of materials, labour, plant, transport, specialist contractors and construction management services,
  - the actual cash flow compared with the predicted cash flow,
  - expected savings or excess expenditure,
  - site meetings,
  - details of plant hired, including standing-time charges, breakdowns and reasons for the use thereof, and

- details regarding the theft of materials issued to site,
- j) coordinate and monitor the activities of the supported contractor and others involved in the works,
- k) maintain all necessary site records and documentation including those pertaining to personnel on site, equipment, progress, deliveries of materials to supported contractors, variations to their respective contracts, quantities of work executed, etc.,
- l) ensure that the supported contractor implements a systematic testing programme,
- m) review and monitor the supported contractor's quality control systems,
- n) establish and maintain a list of defects and ensure that these are remedied,
- o) brief supported contractors on health and safety requirements, and
- p) verify claims for payment to supported contractors and other parties in accordance with the provisions of the contract.
- q) Provide a full-time **site agent**

#### **6.2.2 6.2.2 Advice and assistance to the supported contractor**

The construction manager shall, as a minimum,

- a) process and resolve supported contractors' queries regarding the interpretation of drawings, specifications and contractual matters pertaining to their respective contracts,
- b) motivate and guide supported contractors and, where necessary, recommend measures to expedite their progress,
- c) assist supported contractors with
  - the preparation and updating of a realistic and achievable programme,
  - the setting out of the works,
  - the management, administration and employment of their work forces,
  - the performance of their contracts,
  - all registrations required in terms of legislation and all applicable taxes and levies,
  - the preparation of payment certificates,
  - the handing over of the works to the employer upon completion, and
  - liaison with external organizations and the local community with regard to the works, and
- d) advise the supported contractor on safety measures which shall be implemented in order to comply with safety legislation.

#### **6.2.3 Training**

The construction manager shall, as a minimum,

- a) teach the supported contractors how to assess and order materials required for incorporation into the works,
- b) train, advise and guide supported contractors both in-house and on the job with regard to the following aspects of the contract:
  - the basic work techniques required to perform the contract;
  - the need to develop communication skills;
  - what is expected of a supported contractor;
  - health and safety requirements;
  - the need to execute appropriate tasks correctly the first time;
  - how to submit claims for payments;
  - how to control and motivate their work-forces;
  - the necessity for planning;
  - how to prepare and use construction programmes;
  - the relationship between tender pricing, productivity and profit; and
  - payment procedures for payments required in terms of the law, including all applicable taxes and levies, and
- c) act generally as a mentor to the supported contractor and facilitate, when appropriate, training of the supported contractor by other organizations.

#### **6.2.4 Tools and equipment**

The construction manager shall, as a minimum,

- a) advise supported contractors regarding their hand-tool requirements and assist them with the procurement thereof,
- b) arrange for the timeous supply and cost-effective use of items of equipment and plant required for the execution of the works which supported contractors are not, in terms of their contracts, required to provide,
- c) arrange for the supply of calibrated testing equipment to supported contractors, as required, and ensure that tests are properly carried out and the results forwarded to the relevant parties that require such information, and
- d) arrange for the supply of all fuel and power required for the operation of power-driven equipment and tools.

#### **6.2.5 Materials (where materials management services are provided to supported contractors)**

The construction manager shall, where a materials manager has been appointed, as a minimum,

- a) provide the materials manager with a programme of materials requirements, based on the

programmes of supported contractors, at the commencement of their respective contracts and update such programmes as necessary,

- b) review supported contractors' requests for materials, adjust quantities, if necessary, and forward orders timeously to the materials manager,
- c) arrange with the materials manager for the delivery of materials direct to the site, where necessary,
- d) where required, collect materials from the materials manager's store and deliver to the site,
- e) monitor and approve the overnight storage of unused materials on the site by supported contractors or, should such materials not be suitable for overnight storage on site, arrange for their return to the store,
- f) determine appropriate allowances for tolerances and wastage on items where such allowances are not laid down in the supported contractor's scope of work, and
- g) reconcile quantities of materials issued to supported contractors with quantities used in the works and issue a materials reconciliation certificate to supported contractors upon completion of the works.

#### **6.2.6 Post-construction stage requirements**

After the completion of the works associated with supported contractors' contracts, the construction manager shall, as a minimum,

- a) compile a completion report that includes:
  - the final cost of the works in respect of materials, labour, plant, transport, supervision and construction management services;
  - the time of completion relative to the programme;
  - the nature and extent of training received by the supported contractor;
  - details of damage to services and insurance claims;
  - details of the construction manager's staff and organizational structure, equipment purchased for the contract and establishment costs; and
  - details of actual expenditure compared with projected expenditure,
- b) monitor remedial work undertaken during the defects liability period and advise and assist the supported contractor as necessary, and
- c) return, if required, to the employer or dispose of in accordance with the employer's instructions, all items of equipment on the register of assets.

## **7. Materials management service requirements**

### **7.1 General**

The materials manager shall, in order to achieve the employer's objectives,

- a) procure, store and issue materials for incorporation into the works either to the construction manager, who will deliver such materials to the place of work or directly to the supported contractor,
- b) establish a stores facility which is capable, at short notice, of supplying all the materials required for the project in a reliable, efficient and cost-effective manner,
- c) establish and implement management procedures and systems for procuring, storing, issuing and accounting for materials that
  - take cognizance of specific storage requirements for individual materials,
  - comply with the employer's procurement policies and procedures,
  - provide for quality checks upon delivery,
  - provide for the processing and timeous payment of statements for materials supplied and the delivery of materials to site,
  - account for the quantities of materials that are procured, stored and issued to or on behalf of each individual supported contractor,
  - ensure that records are readily auditable and protect the employer against corruption and theft, and
  - allow the employer to be informed monthly as to the status of all aspects of the materials management,
- d) ensure that all possible trade and settlement discounts are obtained and that the most favourable prices are paid for materials, and
- e) ensure that all materials purchased and issued comply fully with the employer's specifications embodied in the scope of work of the supported contractors' contract or in the contract with the employer.

CITY OF TSHWANE

HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONSTRUCTION CONTRACTOR FOR THE CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED STANDS AT MAMELODI X6 PHOMOLONG**

**C3.6 PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS**

**C3.6 PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS**

The following references from, and variations and additions to the Standard Specifications will be valid for this Contract.

The clauses and pay items in this portion of the Particular Specifications are numbered "B" followed by a number corresponding to the number of the relevant clause or pay item in the Standard Specifications. New clauses and pay items not covered by clauses or pay items in the Standard Specifications, if included here, are also designated "B" followed by a number. These numbers follow on the last clause or pay item number used in the relevant section of the Standard Specifications.

**SERIES 0: GENERAL**

**"SECTION 001: GENERAL REQUIREMENTS AND CHARGES**

**B001.01 Preliminary and General Charge**

*Add the following:*

Over and above the normal requirements as specified, provision must be made for a permanent EPWP sign board, in addition to the Contract Name Board. EPWP branding must be part of the sign board. This sign board will remain on site after completion of the contract to indicate that the service provided was done according to the EPWP guidelines. See **Part 7: Additional Documents** for particulars about the EPWP sign board.

**Measurement and Payment:**

**B001.01.02 Preliminary and General Charges**

*Remove the following:*

(c) The Contractor's Establishment on site.

*Change the following:*

|                 |                            |              |
|-----------------|----------------------------|--------------|
| <b>B001.01.</b> | <b>Time related Charge</b> | <b>Month</b> |
|-----------------|----------------------------|--------------|

The unit of measurements shall be in months over the 12 months period.

The tendered rates under subitem 001.01.02 shall represent that part of the contractor's preliminary and general charges which is related to the time required for the completion of all projects within the 18 months period. The number of months payable shall only be the number of months the contractor shall be employed. No time related charges shall be paid to the contractor if the services are not required within the 18 months period.

*Add the following:*

**B001.01.03 The Contractor's establishment on site**

**Number**

The unit of measurement shall be the number of projects on which the Contractor is obligated to establish a site camp.

The tendered rates shall include full compensation for the establishment of a site camp and the charges incurred as per clause 29 of section 001 in the standard specifications for municipal civil engineering works, third edition 2005.

**B001.04.01 Provision and Implementation of Health and Safety File**

**Lump Sum**

The tendered lump sum shall include **health and safety training, provision of personal protective clothing and equipment, provision of safety fences, signs and barricades** and other obligations not specifically covered here.

*Add the following:*

Price the item to allow for all labourers on site to wear the necessary protective clothing including an overall. All labourers must also wear a bright reflected jacket over their overall. On the front of the jacket (coat) the "City of Tshwane" name must appear with the CoT logo. On the back the letters "EPWP" must appear." Local labour to wear orange EPWP overalls.

*Change the following:*

**B001.05 Community Liaison Officer**

**Provisional Sum**

The Provisional Sum shall include full compensation for the appointment of a community liaison officer for the duration of the contract works.

Payments shall be made in monthly instalments for the number of months one or more community liaison officer is employed.

**B001.06. Provision of construction and materials manager**

**Monthly**

The unit of measurement shall be the actual hours spent per month for the provision of one or two competent and experienced construction and materials managers as may be necessary for the duration of the local emerging construction work.

Monthly timesheets shall be submitted illustrating what activities in accordance with C3.5.6 and C3.5.7 have been completed.

**B001.07 Administration of local emerging contractors**

**Lump Sum**

The unit of measurement shall be the number (No) of local emerging contractor(s) that needs to be administrated by the principal contractor as may be necessary for the duration of the local emerging construction work.

**B001.08      Training of targeted labourers      Provisional Sum**

**1.3      Training of targeted labour**

- 1.3.1      The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise workers' health and safety.
- 1.3.2      The project manager, together with the consultant, shall be responsible for providing of the CETA accredited training providers.
- 1.3.3      The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he she is employed for 4 months or more.
- 1.3.4      The contractors shall do nothing to dissuade targeted labour from participating in the above-mentioned training programmes.
- 1.3.5      An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 1.3.4 above. Provision for allowances is included in provisional sum
- 1.3.6      Proof of compliance with the requirements of 1.3.2 to 1.3.6 must be provided by the Contractor to the Employer prior to submission of the final payment certificate.

All labourers on site must wear the necessary protective clothing including an overall. All labourers must also wear a bright reflected jacket over their overall. On the front of the overall the "City of Tshwane" name must appear with the CoT logo on the left hand side and the EPWP sectorial logo must appear on the right. On the back the letters "EPWP" must appear.

**B001.09      Appointment of Local Security Company      Lump Sum**

The lump sum tendered shall include full compensation for the appointment of a local security company for the duration of the project.

Payments shall be made in equal monthly instalments, spread over the tendered completion period, upon proof of payment to the local security company. In the event of the construction period exceeding the tendered completion period and no extension of time been granted, the Contractor shall still pay the local security company the specified remuneration, but shall not be reimbursed there for.

## **SECTION 002: ENGINEER'S ACCOMODATION**

### **Measurement and Payment**

*Change the following:*

|                                                         |               |
|---------------------------------------------------------|---------------|
| <b>B002.01.01 Services for offices and laboratories</b> | <b>Months</b> |
|---------------------------------------------------------|---------------|

Payment of the tendered rate shall be in full compensation for the services specified. Payments will be made in monthly instalments for the number of months the services is required on one or more projects.

|                                                                                        |               |
|----------------------------------------------------------------------------------------|---------------|
| <b>B002.02 Treatment and maintenance of areas surrounding offices and laboratories</b> | <b>Months</b> |
|----------------------------------------------------------------------------------------|---------------|

Payment of the tendered rate shall be in full compensation for the treatment and maintenance of the areas specified. Payments will be made in monthly instalments for the number of months the treatment and maintenance is required on one or more projects.

|                                                       |               |
|-------------------------------------------------------|---------------|
| <b>B002.03 Offices and laboratories accommodation</b> | <b>Months</b> |
|-------------------------------------------------------|---------------|

Payment of the tendered rate shall be in full compensation for the supplying and erecting of the accommodation, fittings, furniture and equipment specified. Payments will be made in monthly instalments for the number of months the services is required on one or more projects.

|                                                             |               |
|-------------------------------------------------------------|---------------|
| <b>B002.04 Provision of survey equipment and assistants</b> | <b>Months</b> |
|-------------------------------------------------------------|---------------|

Payment of the tendered rate shall be in full compensation for the provision and maintenance of survey equipment and the making available at least two survey assistants as specified. Payments will be made in monthly instalments for the number of months the services is required on one or more projects.

## **B SECTION 003: TRAINING AND DEVELOPMENT**

### **SECTION B003: TRAINING & DEVELOPMENT**

#### **B003.01 INTRODUCTION**

#### **B003.02 SELECTED TRAINING PROVIDER / SUBCONTRACTOR**

#### **B003.03 SELECTED SMME DEVELOPMENT AGENT**

#### **B003.04 TRAINING PROVISION: SMMES**

#### **B003.05 TRAINING PROVISION: TECHNICAL SKILLS**

#### **B003.06 TRAINING SCOPE OF WORKS AND DELIVERABLES**

#### **B003.07 SMME DEVELOPMENT AGENT DELIVERABLES**

#### **B003.08 MEASUREMENT AND PAYMENT**

### **INTRODUCTION**

The Training Specification Data has been prepared in line with City of Tshwane Municipality socio-economic responsibilities, Small Business Act No. 102 of 1996, Affirmative Procurement policies as developed by PWD led task team and deliverables as described in the October 2007 edition of the CIDB Specification for Social and Economic Deliverables in Construction Works Contracts (SSED) ([www.cidb.org.za](http://www.cidb.org.za)).

The training targeted as described below; will also assist the contract in implementing labour enhanced construction methods for maximization of employment of unskilled previously disadvantaged individuals.

#### **B003.02 SELECTED TRAINING PROVIDER / SUBCONTRACTOR**

The Engineer shall instruct the Principal Contractor to appoint an accredited training subcontractor to conduct training as detailed under sections B003.04 and B003.05. A service level agreement to be provided by the Engineer or Client will be signed by the Principal Contractor and the Nominated Training Subcontractor. The nominated training subcontractor shall be accredited with CETA (Construction Education Training Authority) & QTCO (Quality Council of Trades and Occupations) and will furnish the Engineer with the following documentation/information:

- Tax Clearance Certificate and Compliance Pin
- Certified Copies of Company Registration Documents and Director's ID Copies
- Certified B-BBEE Verification Certificate/Affidavit
- Valid proof of CETA accreditation letter for the required training
- Accreditation with QTCO
- Proof of Availability of training facilities within the City of Tshwane (training facilities can also be hired if not available)

- Minimum of 3 written testimonials from Previous Clients
- Qualifications and CVs of Key Staff to be used in the project if not the same as those listed on the accreditation letter
- Training Schedule and Methodology and Project Approach incl. how disabled learners will be accommodated
- Letter from the Bank confirming banking details
- Proof of payment of Rates and Taxes (City of Tshwane Municipality) for Company and Directors - Not older than three (3) months
- COIDA Letter of Good Standing
- CSD Registration (National Treasury)

#### **B003.03          SELECTED SMME DEVELOPMENT AGENT / SUBCONTRACTOR**

The Engineer shall instruct the Principal Contractor to appoint an accredited SMME Development subcontractor to conduct SMME Development Services as detailed under sections B003.07. A service level agreement to be provided by the Engineer or Client will be signed by the Principal Contractor and the nominated SMME Development Subcontractor. The nominated SMME Development subcontractor shall be having an ECSA or SACPCMP Registered within their organization and will furnish the Engineer with the following documentation/information:

- Tax Clearance Certificate and Compliance Pin
- Certified Copies of Company Registration Documents and Director's ID Copies
- Certified B-BBEE Verification Certificate/Affidavit
- Engineering Council of South Africa (ECSA) Pr. Tech/ Eng in civil engineering or the South African Council for the Project and Construction Management Professions (SACPCMP) Pr. CPM Registration in civil engineering
- Minimum of 3 written testimonials from Previous Clients
- Qualifications (Civil Engineering B-Tech or BSc or BEng) and CVs of Key Staff (10 years post Qualification) to be used in the project, Engineering Council of South Africa (ECSA) Pr. Tech/ Eng or the South African Council for the Project and Construction Management Professions (SACPCMP) Pr. CPM Registration
- SMME Development Schedule and Methodology and Project Approach incl. how disabled learners will be accommodated
- Letter from the bank confirming bank details
- Proof of payment of Rates and Taxes (City of Tshwane Municipality) for Company and Directors - Not older than three (3) months
- COIDA Letter of Good Standing

- CSD Registration (National Treasury)
- Professional Indemnity of at least R 2,000,000-00

#### **B003.04 TRAINING PROVISION: SMMES**

The provision must be made for SMME Training to benefit local SMMEs. This training must be conducted prior to individual labour commencing work on site.

The Contractor together with the Social Facilitator and Selected Training Subcontractor shall select the appropriate candidates to undergo SMME Development, in preparation for employment on the Project in at least four of the unit standards listed below in accordance with the contractor's operational requirements

The following accredited unit standards may be used to address SMME skills needs, aligned with the contract scope of works:

| <b>US ID No.</b> | <b>US Description</b>                                    |
|------------------|----------------------------------------------------------|
| 9976             | Business and financial management                        |
| 9982             | Comply with legal requirements for construction contract |
| 9981             | Tender for Construction Contracts                        |
| 9985             | Demonstrate, understand and develop entrepreneurship     |
| 8894             | Manage construction Resources                            |
| 9986             | Apply quality principles on a construction site          |
| 9987             | Implement site administration on a construction project  |
| 8962             | Maintain and adapt oral communication                    |
| 8964             | Write and define content                                 |
| 9988             | Apply surveying techniques on a construction contract    |

For a detailed description of the unit standards identified above, kindly refer to the South African Qualifications website [www.saqa.org.za/](http://www.saqa.org.za/) registered qualifications and unit standards, and enter the unit standard number (given in the first column) in the search field.

The Contractor shall be responsible for employing all learners participating in the training, after the individual's completion of the theoretical component of the training. The employment must be aligned to their practical experiential requirement to enhance their competency in their trained area.

#### **B003.05 TRAINING PROVISION: CONSTRUCTION RELATED TECHNICAL SKILLS**

The provision must be made available for Technical Training for non-seconded and second local labour. This training must be conducted prior to individual labour commencing work on site.

The Contractor together with the Social Facilitator and Selected Training Subcontractor shall select the appropriate candidates to undergo Technical Training at a semi-skilled level, in preparation for employment

on the Project in any (as many as possible, budget permitting) of the unit standards listed below aligned with the contractor's operational requirements.

| US ID No. | US Description                                                                                      |
|-----------|-----------------------------------------------------------------------------------------------------|
| 12916     | Batch and mix concrete by volume                                                                    |
| 119056    | Identify, describe and utilise materials in construction                                            |
| 114917    | Apply labour intensive construction methods to construct and maintain water and sanitation services |
| 119064    | Install and maintain basic plumbing components                                                      |
| 119076    | Use and maintain small plant and equipment on a construction site                                   |
| 114917    | Apply labour intensive construction methods to construct and maintain water and sanitation services |
| 116573    | Assemble, tie and fix reinforcing cages                                                             |
| 119067    | Build masonry superstructures using solid units                                                     |
| 119077    | Install control valves                                                                              |
| 116051    | Demonstrate fundamental knowledge of earthworks                                                     |
| 116152    | Demonstrate mechanical awareness and plant appreciation                                             |
| 10252     | Identify, inspect, use, maintain and care for engineering hand tools                                |
| 119059    | Install and maintain a below ground drainage system                                                 |
| 119079    | Install pressure pipes Install pressure pipes                                                       |
| 119075    | Understand and describe basic plumbing principles                                                   |
| 12913     | Mix and apply slurry (By mixer)                                                                     |
| 10255     | Select, use and care for power tools                                                                |
| 14567     | Use a small self-propelled compactor to compact material                                            |
| 12875     | Use and maintain small plant and equipment on a construction site                                   |

For a detailed description of the unit standards identified above, kindly refer to the South African Qualifications website [www.saqa.org.za/](http://www.saqa.org.za/) registered qualifications and unit standards, and enter the unit standard number (given in the first column) in the search field.

The Contractor shall be responsible for employing all learners participating in the training, after the individual's completion of the theoretical component of the training. The employment must be aligned to their practical experiential requirement to enhance their competency in their trained area.

#### **B003.06 TRAINING SCOPE OF WORKS AND DELIVERABLES**

The training scope of works and deliverables by the Selected Training Subcontractor will be as follows:

- Identification of the target group and the candidates together with the Contractor and Social Facilitator.
- Pre-assessment and qualification of candidates
- Code of conduct to be explained and signed to the Learners
- Enrolment of Learners (Registration and Particulars)
- Induction on the first day of Learners
- CETA accredited learning materials will be handed to all Learners on day one of the training.
- Facilitation will be done as referred from learning materials during theory session.
- Learning activities for each specific outcome will be done in class.
- Practicals will be done as per drawing plans and instruction sheets in the learning materials.
- To assess competency in each specific outcome, assessment criteria and finding will be filled to a portfolio of evidence (P.O.E)
- Each learner will compile his/her own P.O.E which will be moderated by Selected Training Subcontractor Quality Assurance Manager.
- On completion of internal moderation all competent Learners will receive Certificate of Completion.
- Provision of a detailed training report

#### **B003.07 SMME DEVELOPMENT AGENT DELIVERABLES**

In order to achieve the goals of this policy and to ensure that the SMMEs are mentored and developed to advance their business whilst delivering a successful project, the SMME Agent is to assist as follows:

The SMME Agent to produce a detailed SMME management and monitoring plan for Employer and Employer's Agent approval within 21 days of appointment by COT.

The SMME Agent shall be responsible to monitor and ensure that local SMME Contractors execute works as per the approved scope, specification and programme. The SMME Agent shall provide the CoT with monthly/bi-weekly (as per Employer's Request) progress reports clearly indicating progress and challenges affecting local SMMEs. The SMME Agent shall hold monthly/bi-weekly production meetings with the local SMME Contractors where minutes are to be kept and signed off by both parties.

The SMME Agent is to assess the skills of the SMME Contractor and provide the relevant support and training where it is necessary in order for the local SMME Contractors to complete the works to programme, budget and specification. The SMME Agent will be expected to provide on-site training to the SMME Contractors that will ensure that the SMME Contractor's staff is suitably trained to execute the works and that they receive sufficient relevant experience on the project.

The SMME Agent will assist the SMME Contractors in all aspects to achieve safety compliance, that will include:

- Assisting the local SMME Contractors with developing their safety files, legal appointments, etc
- Assisting the local SMME Contractors with achieving safety on site.
- Having tool box talks with the local SMME Contractor's employees on a daily basis.
- Providing all safety equipment and signage.
- Providing safety training where necessary.

The SMME Agent will be expected to monitor the local SMME Contractor's works for quality compliance and provide all the necessary support to local SMME Contractors in order to achieve quality requirements. The SMME Agent is to ensure that if the local SMME Contractor's quality of works does not achieve specification the necessary corrective measures are developed and implemented to assist the SMME

Contractors to achieve specification and shall not allow the works to continue until the quality requirements are achieved.

The SMME Agent is to generate monthly reports for the COT that includes the following:

- SMME Contractor resources on the site, i.e. supervisors, labour (as per EPWP reporting requirements), plant, tools and equipment
- SMME Contractor progress of works on site.
- SMME Contractor quality control on site.
- SMME Contractor expenditure on the project versus target expenditure.
- Copies of minutes of the SMME Contractor and Main Contractor progress meetings.
- Concerns and improvements to be made.
- The report shall be signed by both the Main Contractor and the local SMME Contractors

#### **B003.08 MEASUREMENT AND PAYMENT**

##### **Item Unit**

**B003.08.01 Provision of Accredited SMME Training** Provisional Sum

(a) Handling cost and charges for the Contractor on Item B003.01 percentage (%)

The percentage tendered for handling costs and charges shall cover all additional costs for the Contractor over and above the sums paid.

##### **Item Unit**

**B003.08.02 Provision of Accredited Technical Skills Training** Provisional Sum

(a) Handling cost and charges for the Contractor on Item B003.02 percentage (%)

The percentage tendered for handling costs and charges shall cover all additional costs for the Contractor over and above the sums paid.

##### **Item Unit**

**B003.08.03 Provision of SMME Development Agent** Provisional Sum

(a) Handling cost and charges for the Contractor on Item B003.03 percentage (%)

The percentage tendered for handling costs and charges shall cover all additional costs for the Contractor over and above the sums paid.

##### **Item Unit**

**B003.08.04 Provision of Social Facilitator / Community Consultant** Provisional Sum

(a) Handling cost and charges for the Contractor on Item B003.04 percentage (%)

The percentage tendered for handling costs and charges shall cover all additional costs for the Contractor over and above the sums paid.

## **SERIES 1: ANCILLARY WORK**

### **SECTION 103: OVERHAUL**

Amend as follows:

#### **B103.01 Overhaul distance**

**After the first paragraph add the following sub-clause:**

“The free haul distance for the purpose of this project shall be measured to be 15km’.

“Material procured from commercial sources shall not be regarded as overhaul material.”

### **SECTION B107: DAYWORKS**

#### **SCOPE**

#### **GENERAL**

#### **MEASUREMENT AND PAYMENT**

##### **01 SCOPE**

This section covers the listing of Dayworks items in accordance with Conditions of Contract Clause 6.5, for the use in determining payment for work which cannot be quantified in specific units in the schedule of quantities, or work ordered by the Engineer during construction period which was not foreseen at bid stage and for which applicable rate exist in the schedule of quantities.

##### **02 GENERAL**

No Dayworks shall be undertaken unless written authorization has been obtained from the Engineer.

##### **03 MEASUREMENT AND PAYMENT**

| <b>Item</b>                                                      | <b>Unit</b>    |
|------------------------------------------------------------------|----------------|
| <b>B107.01 Labour during normal working hours</b>                |                |
| B107.01.01 Unskilled labour                                      | hour (h)       |
| B107.01.02 Semi-skilled labour                                   | hour (h)       |
| B107.01.03 Skilled labour                                        | hour (h)       |
| <b>B107.02 Extra-over item B107.01 for charges and overheads</b> |                |
| B107.02.01 Unskilled labour                                      | percentage (%) |
| B107.02.02 Semi-skilled labour                                   | percentage (%) |
| B107.02.03 Skilled labour                                        | percentage (%) |

|                |                                            |                |
|----------------|--------------------------------------------|----------------|
| <b>B107.03</b> | <b>Construction Plant</b>                  | hour (h)       |
| B107.03.01     | (Plant type size / capacity indicated)     |                |
| <b>B107.04</b> | <b>Transport of Construction Plant</b>     | kilometre (km) |
| B107.04.01     | (Transport type size / capacity indicated) |                |

The Contractor is also referred to Clause 6.5 of the Conditions of Contract regarding Dayworks.

### **Personnel during normal working hours**

The unit rate for item B107.01 shall be the hour for the labourer. The labour charges to be reimbursed under the Dayworks item B107.01 in the Schedule of Quantities shall be the actual amount of wages paid to labourers, (but no foreman), employed on Dayworks with the authorisation of the Engineer. The labour charges will be paid only for the time that the workmen are actually so employed on Dayworks.

Leave pay, bonuses, subsistence, allowances, employer's contribution to medical schemes and provident funds and the like shall not be included in the above-mentioned labour charges, but will be deemed to be covered by the percentage rate tendered by the Contractor against item B107.02 scheduled for this purpose under Dayworks in the Schedule of Quantities.

The unit rate for item B107.02 shall be the percentage extra over for the labourer. This percentage rate shall also be deemed to allow for the use of small tools, supervision, insurances, overhead expenses, transport of workmen, housing and feeding (if the liability of the contractor), profit and any other expenses in connection with workmen employed on Dayworks and shall also include for everything else covered under the allowance as stated in Clause 6.5 of the Conditions of Contract.

### **Construction Plant**

The unit rate for item B107.03 shall be the hour for the item of plant. The rates tendered for the hire of plant shall be applicable only to plant that the Contractor has on the site and shall be total all-inclusive unit prices which shall include, inter alia for all fuel and lubricants; for the wages of operators, equipment and everything else necessary; for all depreciation, maintenance and repair costs; for overhead expenses, profit and for everything in accordance with Clause 6.5 of the General Conditions of Contract.

The rates shall be paid only for the time that the plant is actually working on the Dayworks as authorised by the Engineer.

### **Transport of Construction Plant**

The unit rate for item B107.04 shall be the hour for the kilometre distance that the vehicle travelled for transporting plant. The billed rate for item B107.04 shall include full compensation for the cost of the vehicle including fuel, maintenance, depreciation and running costs and all costs related to the loading and unloading of the plant onto and off the vehicle.

## **SERIES 2: TRENCHING**

### **SECTION 202: TRENCHING WATER**

#### **B16: Measurements for certificates**

*Add the following new clause:*

“Items under Section 202 will be measured up to a limit of 1km of a section without pressure tests”

#### **Standard Specifications:**

B202.03: Classification of Materials Excavated

*Add the following:*

“All excavations in soft and intermediate material will be measured and paid for under item 202.01 as soft material.”

*Add the following new clauses:*

“B16: Cutting and Removal of premix

“The cutting and removal of premix shall be measured and paid for under item B202.16 in the Schedule of Quantities. Every trench will be cut two times on each side. The measurement for payment will however only be the length of the trench excavated.”

“B17: Hand excavation for trenches inside erven

Trenches are to be 500mm wide and 600mm deep and will be paid under item B202.17. This rate will not be extra over item 202.01”

#### **Measurement and Payment:**

B202.07: Extra over items 202.06 and 202.13 for using backfill obtained -

*Add the following:*

| <b>“Item</b> | <b>Description</b>        | <b>Unit</b>    |
|--------------|---------------------------|----------------|
| B202.07.03   | G5 provided by Contractor | m <sup>3</sup> |

#### **B202.11: Timbering and shoring**

*Replace the payment clause with the following:*

| <b>“Item</b> | <b>Description</b>    | <b>Unit</b> |
|--------------|-----------------------|-------------|
| B202.11      | Timbering and shoring | m           |

The unit of measurement shall be the metre length of tunnel wall or roof or trench wall against which timbering and shoring is required to be left in position permanently on the Engineer’s instructions. Each side of the trench or tunnel shall be measured.

The tendered rate shall include full compensation for leaving the timbering and shoring permanently in position, for ensuring that the timbering and shoring will not be disturbed during backfilling, and that the backfilling is compacted fully around the shoring.”

*Add the following new payment clauses:*

| <b>"Item</b> | <b>Description</b>                     | <b>Unit</b>    |
|--------------|----------------------------------------|----------------|
| B202.16      | Cutting and removal of premix          |                |
|              | .01 Premix thickness up to 100mm       | m <sup>2</sup> |
|              | .02 Premix thickness 101mm up to 200mm | m <sup>2</sup> |
|              | .03 Premix thickness 201mm up to 300mm | m <sup>2</sup> |
|              | .04 Premix thicker than 300mm          | m <sup>2</sup> |

The unit of measure shall be the square meter of premix removed for the specified thickness, measured along the length and width of the final cut on the outside. The tendered rate shall include full compensation for the cutting of the premix twice on both sides of the trench and removing and discarding the removed premix."

*Add the following new payment clauses:*

| <b>"Item</b> | <b>Description</b>                         | <b>Unit</b>    |
|--------------|--------------------------------------------|----------------|
| B202.17      | Hand excavations for trenches inside erven |                |
|              | Trenches 500mm wide and 600mm deep         | m <sup>3</sup> |

The unit of measurement shall be the cubic meter of material excavated and measured in accordance with the dimensions specified.

The tendered rate shall include full compensation for the additional expenses of excavating by means of hand labour instead of traditional trenching equipment

## SECTION 202: TRENCHING SEWER

### Measurement and Payment:

B202.07: Extra over items 202.06 and 202.13 for using backfill obtained -

*Add the following:*

| <b>"Item</b> | <b>Description</b>        | <b>Unit</b>    |
|--------------|---------------------------|----------------|
| B202.07.03   | G5 provided by Contractor | m <sup>3</sup> |

### **B202.11: Timbering and shoring**

*Replace the payment clause with the following:*

| <b>"Item</b> | <b>Description</b>    | <b>Unit</b> |
|--------------|-----------------------|-------------|
| B202.11      | Timbering and shoring | m           |

The unit of measurement shall be the metre length of tunnel wall or roof or trench wall against which timbering and shoring is required to be left in position permanently on the Engineer's instructions. Each side of the trench or tunnel shall be measured.

The tendered rate shall include full compensation for leaving the timbering and shoring permanently in position, for ensuring that the timbering and shoring will not be disturbed during backfilling, and that the backfilling is compacted fully around the shoring."

### **B202.16 Cutting and removal of premix**

*Add the following new payment clauses:*

| <b>"Item</b> | <b>Description</b>                     | <b>Unit</b>    |
|--------------|----------------------------------------|----------------|
| B202.16      | Cutting and removal of premix          |                |
|              | .01 Premix thickness up to 100mm       | m <sup>2</sup> |
|              | .02 Premix thickness 101mm up to 200mm | m <sup>2</sup> |
|              | .03 Premix thickness 201mm up to 300mm | m <sup>2</sup> |
|              | .04 Premix thicker than 300mm          | m <sup>2</sup> |

The unit of measure shall be the square meter of premix removed for the specified thickness, measured along the length and width of the final cut on the outside. The tendered rate shall include full compensation for the cutting of the premix twice on both sides of the trench and removing and discarding the removed premix. "

| <b>B202.17</b> | <b>Services that adjoin a trench</b> | <b>Unit</b> |
|----------------|--------------------------------------|-------------|
|                |                                      | No          |

(Parallel to or at an angle between centre-lines in plan of less than 45°)

In a case where a trench of specified width

1. runs parallel to or at an angle (in plan) of less than 45° to an existing service, and
2. is such that the nearer side of the bottom of the trench lies at least partly between a vertical plane and a plane that lies at an angle of 45° below the horizontal, both planes passing through the axis of the service;

3. The length of service within the minimum base width of the trench, determined in accordance with 5.2, will be measured for payment under this item and the remaining length, the side of the existence of such service, will be measured for shoring.

The rate for an item scheduled in terms of B202.16 and B202.17 above shall cover the additional cost of:

- i) Care in excavation necessitated by the presence of such service in or across the trench;
- ii) Protecting and maintaining such service in operation by means of temporary supports of shoring, as necessary;
- iii) Delays and disruption of the progress of the work due to the existence of the service; and
- iv) Repairs necessitated by damage caused by the Contractor.

|                |                                         |                    |
|----------------|-----------------------------------------|--------------------|
| <b>B202.18</b> | <b>Services that intersect a trench</b> | <b>Unit<br/>No</b> |
|----------------|-----------------------------------------|--------------------|

Except where water pipes are to be recovered, existing water pipes, sewers, stormwater pipes, concrete lined channels and drains, box culverts, electric cables, ducts, kerbs, channels, erf connections and various sizes of pipes and services that intersect a trench of specified width require various degrees of care, whether or not their presence is known before they are uncovered, and will be measured separately. The unit refers to one service, but services that are grouped that they can be contained within a horizontal dimension of 200mm measured at right angles to the axis of the services will be measured as one unit.

|                |                                                                                         |                    |
|----------------|-----------------------------------------------------------------------------------------|--------------------|
| <b>B202.19</b> | <b>Hand excavation for trenches inside erven.<br/>Trench 750mm wide and 1500mm deep</b> | <b>Unit<br/>m³</b> |
|----------------|-----------------------------------------------------------------------------------------|--------------------|

Hand excavations for trenches inside erven.

The unit of measurement shall be the cubic meter of material excavated and measured in accordance with the dimensions specified.

The tendered rate shall include full compensation for the additional expenses of excavating by means of hand labour instead of traditional trenching equipment.

**SERIES 3:           SEWERS**

**SECTION 302:       SEWER CONSTRUCTION** **Unit**

**B302.09           Supply, handle, store if necessary and construct pre-cast Concrete sewer manholes with ND of 1250mm according to drawings.** **No**

**Replace the paragraph**       The unit of measurement for the construction of manholes shall be the number of each **first** type of manhole constructed (irrespective of the angles of deflection, where these apply) for different pipe diameter ranges and different depths, complete, as shown on detail drawings and as specified. The depth of the manhole shall be measured from the top of the manhole cover to the invert channel in the centre of the manhole.

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE  
CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING  
AND SEWER LINK CONNECTION TO CONNECT 1051 RETICULATED  
STANDS AT MAMELODI X6 PHOMOLONG**

**C3.7       SOCIO-ECONOMIC PLAN AND COMMUNITY PARTICIPATION  
AND UPLIFTMENT THROUGH PROJECTS**

## **SOCIO-ECONOMIC PLAN AND COMMUNITY PARTICIPATION AND UPLIFTMENT THROUGH PROJECTS**

### **1. SOCIO-ECONOMIC PLAN**

- 1.1 The successful tenderer shall provide an economic plan which will include the job creation plan (i.e. skills required and the number for each skill). The job creation plan where applicable should include interns.
- 1.2 The successful tenderer shall provide details of all training to be provided, through on-site, accredited training and formal training for employees at all levels, to ensure that they enhance their competence, and are able to provide the required operation and maintenance skills across the various process streams. This shall also include SHEQ training.
- 1.3 The successful tenderer shall also detail the capacity building and skills transfer initiatives to be implemented so that the City can manage the facility on contract completion, in a seamless and sustainable manner.

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE  
CONSTRUCTION OF A PUMP STATION, BULK SEWER UPGRADING  
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STANDS AT MAMELODI X6 PHOMOLONG**

**C3.8 REFERENCES TO THE SCOPE OF WORKS IN TERMS OF  
THE OCCUPATIONAL HEALTH AND SAFETY ACT AND  
REGULATIONS: HEALTH AND SAFETY SPECIFICATION**

## REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS: HEALTH AND SAFETY SPECIFICATION

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## **C3.8 REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE OCCUPATIONAL HEALTH AND SAFETY ACT AND REGULATIONS: HEALTH AND SAFETY SPECIFICATION**

### **1. SCOPE**

#### **1.1 Scope of Specification**

This specification covers the principles, duties, responsibilities, liabilities, and requirements applicable in respect of health and safety in the workplace on construction work.

This document constitutes the Employers' Health and Safety Specification as defined in Section 5(1)(b) of the Construction Regulations, 2014 of the Occupational Health and Safety Act (Act 85 of 1993).

This specification applies to tunneling although the minimum requirements for tunneling are contained in the Mines Health and Safety Act. This specification however does not apply to underground construction at this point in time as covered by the Mines Health and Safety Act, 1996 (Act 29 of 1996) as amended.

#### **1.2 Philosophy contingencies**

Some of the terms and requirements of the Occupational Health and Safety Act and its Regulations may be novel to Contractors. This specification has therefore been prepared as an instructive guideline without being prescriptive, constraining the competitive advantage or interfering with the legal obligations of the responding parties.

The Health and Safety Plan required in terms Section 7(1)(a) of Construction Regulation 2014 as well as this specification may also be novel to Contractors. This specification has therefore been prepared in such a way to allow Contractors to employ the services of specialist consultants for the preparation and implementation of the same during the construction of the Works.

Health and safety can only be assured on construction works if all stakeholders buy into the Health and Safety plan and when the health and safety of all is an integrated line accountability of all management staff and workers on site. The management systems that are provided for in this specification is to enable the performance statistics of health and safety to be regularly captured, the intention of these systems is not to achieve health and safety by policing the conduct of the Contractor's employees but rather to ensure legal and regulatory compliance.

In addition to ensuring health and safety, the intention of the management system is rather to commercially exploit the benefit of doing things right the first time that goes hand in hand with the highest standard of health and safety performance. Accidents and injuries never pay. The loss of production and the cost of injuries, however, relatively infrequent they may be, far outweigh the effort required to maintain the highest standard of health and safety on any construction project.

The specification accordingly provides for:

- a) Independent periodic audits to ensure an unbiased pursuit of health and safety,
- b) Follow-up audits to ensure the implementation of prescribed remedial actions,
- c) The review of the efficiency and effectiveness of the Contractor's Health and Safety Plan,
- d) The preparation of regular reports of inspections and accidents to enable the tracking of changes in health and safety performance,
- e) The monitoring of conditions on a continuously pro-active basis to ensure that hazards are without delay identified, assessed and remedied should it threaten the health and safety of persons and property,
- f) Ad hoc inspections to ensure that health and safety is pursued with dedication and not out of intimidation or coercion, and
- g) Development of all aspects of the Contractor's Health and Safety Plan.

The fundamental intention of this specification is that the preservation of health and safety will become a core value of all involved during the construction of the Works.

This Specification does not require the preparation of an unduly extensive or complex risk assessment. The Contractor should rather prepare a risk assessment which takes the size of the project, the size of the Contractor's organization, the conditions of the workplace and the nature, complexity and significance of the hazards likely to be encountered during the execution of the Works into account. All risk assessments must be done in accordance with Section 9 of Construction Regulation 2014.

### **1.3 Consultant OHS Inspector**

Candice Projects & Safety Concern will be representing the client/client's agent as their Occupational Health and safety agent in accordance with Section 5(6) of the Construction Regulations of 2014.

## **2. INTERPRETATIONS**

### **2.1 Supporting specifications**

Where this specification is required for a project, the following legislation, regulations, and specifications (as amended) shall, inter alia, form part of the contract document:

- a) Occupational Health and Safety Act, (Act 85 of 1993), and all regulations associated with the scope of works which shall include, but shall not be limited to the following:
  - Construction Regulations, 2014.
  - Regulations for Hazardous Biological Agents, 2001 read with COVID-19 OHS Directives issued under the Disaster Management Act (Act 57 of 2002).
  - General Safety Regulations, 1986.
  - General Administrative Regulations, 2003,
  - Driven Machinery Regulations, 2015,
  - Electrical Installation Regulations, 2009,
  - Electrical Machinery Regulations, 2011,
  - Environmental Regulations for Workplaces, 1987.

- Facilities Regulations, 2004.
  - Noise-Induced Hearing Loss Regulations, 2003
- b) Clauses 4.5.2, 4.6, 4.7 and 4.8 of the Contract Data.
- c) Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005, of City of Tshwane Metropolitan Municipality.

## **2.2 Application**

This specification contains specific clauses of various regulations that are applicable to the scope of work under the provisions of the Occupational Health and Safety Act, (Act 85 of 1993) and its Regulations, in particular the Construction Regulations, 2014 promulgated on 07 February 2014 in terms of Section 43 of the OHS Act.

## **2.3 Definitions**

In the Contract (as defined in clause 1. (1)(e) of the Conditions of Contract) the following words and expressions shall have the meanings hereby assigned to them except where the context otherwise requires:

- (a) "Assistant Construction Supervisor" means a competent person appointed in accordance with Section 8(8) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (b) "Batch Plant/Bulk Mixing Plant Supervisor" means a competent person appointed in accordance with Section 20(1) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (c) "Construction Health and Safety Officer" means a competent person appointed in accordance with Section 8(5) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (d) "Construction Supervisor" means a competent person appointed on a full-time basis in accordance with Section 8(7) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (e) "Construction Vehicles & Mobile Plant Operator" means a competent person appointed in accordance with Section 23(1)(d) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (f) "Contractor" means the natural or juristic person or partnership whose tender has been accepted by or on behalf of the Employer and, who is defined as the Principal Contractor in Section 5(1)(k) of the Construction Regulations, 2014.
- (g) "Demolition Work Supervisor" means a competent person appointed in accordance with Section 14(1) of the Construction Regulations, 2014, in writing by the Contractor with written notification to the Engineer.
- (h) "Employer's Designer" means the natural or juristic person or partnership named in the Appendix to Tender or any other natural or juristic person or partnership appointed from time to time by the Employer for the design of the portion of the Permanent Works which the Employer is responsible to design in terms of this Contract.

- (i) "Contractor's Designer" means the natural or juristic person or partnership appointed from time to time by the Contractor and notified in writing to the Engineer and Employer for the design of the portion of the Permanent Works which the Contractor is responsible to design in terms of this Contract, and for the design of the Temporary Works.
- (j) "Electrical Temporary Installation Inspector" means a competent person appointed in accordance with Section 24(d) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (k) "Employer" means the natural or juristic person or partnership for whom the Works are to be executed, who is named as the Employer in the Conditions of Contract and who is known as the "Client", in the Occupational Health and Safety Act, 1993 and its regulations.
- (l) "Engineer" means the natural or juristic person or partnership named as the "Employer's Agent" in the Conditions of Contract (clause 1.1.1.16) and appointed by the Employer to act as the Engineer in terms of this Contract.
- (m) "Engineer's Representative" means the person appointed by the Engineer in terms of Clause 1.1.1.17 of the Conditions of Contract.
- (n) "Excavation Work Supervisor" means a competent person appointed in accordance with Section 13(1) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (o) "Explosive Powered Tools Issuer" means a competent person appointed in accordance with Section 21(2)(g)(i) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (p) "Fall Protection Developer" means a competent person appointed in accordance with Section 10(1)(a) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (q) "Fire Extinguisher Inspector" means a competent person appointed in accordance with Section 29(h) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (r) "Temporary Works Designer" means a competent person appointed in accordance with Section 12(1) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (s) "Temporary Works Supervisor" means a competent person appointed in accordance with Section 12(2) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (t) "Hazard" means any object, action or condition that can potentially harm the health and safety of persons or property.
- (u) "Hazard Identification" means the identification and documenting of existing or expected hazards.
- (v) "Health and Safety Consultant" means the natural or juristic person or partnership appointed by the Contractor to assist in any matters related to health and safety on the construction site.
- (w) "Health and Safety Plan" means a documented plan, prepared by the Contractor, of work procedures to mitigate, reduce or control hazards identified.
- (x) "Health and Safety Specification" means a documented specification of all health and safety requirements and criteria to mitigate, reduce or control hazards identified.
- (y) "Health and Safety Representative" means the person/s designated in accordance with Section 17 of the Occupational Health and Safety Act.

- (z) "Ladder Inspector" means a competent person appointed in accordance with Section 13A (1) of the General Safety Regulations, in writing by the Contractor, with written notification to the Engineer.
- (aa) "Material Hoist Inspector" means a competent person appointed in accordance with Section 19(8)(a) of the Construction Regulations, 2014 in writing by the Contractor, with written notification to the Engineer.
- (bb) "Method Statement" means a document detailing the key activities to mitigate, reduce or control hazards identified.
- (cc) "Professional Engineer" means any person employed from time to time by either the Employer or Contractor who holds registration as either a Professional Engineer or Professional Certificated Engineer under the Engineering Profession Act, 2000 (Act No. 46 of 2000).
- (dd) "Professional Technologist" means any person employed from time to time by either the Employer or Contractor who holds registration as a Professional Technologist under the Engineering Profession Act, 2000 (Act No. 46 of 2000).
- (ee) "Risk" means the likely occurrence and impact of a hazard.
- (ff) "Risk Assessment" means a program carried out to identify and evaluate the likely occurrence and impact of all hazards.
- (gg) "Risk Assessor" means a competent person appointed in accordance with Section 9(1) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (hh) "Safety Agent" means a competent natural or juristic person or partnership named in the Appendix to Tender or any other person appointed from time to time by the Employer and notified in writing to the Contractor to act on behalf of the Employer for the purposes of this specification.
- (ii) "Scaffolding Supervisor" means a competent person appointed in accordance with Section 16(2) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (jj) "Stacking Supervisor" means a competent person appointed in accordance with Section 28(a) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.
- (kk) "Subcontractor" means the natural or juristic person or partnership who is appointed by the Contractor with prior consent of the Engineer to execute certain tasks associated with the Works and who is also an employer as defined in section 1 of the Occupational Health and Safety Act.
- (ll) "Suspended Platforms Supervisor" means a competent person appointed in accordance with Section 17(1) of the Construction Regulations, 2014, in writing by the Contractor, with written notification to the Engineer.

## **2.4 Duties, responsibilities, and liabilities**

### **2.4.1 Principal Parties**

This section covers the duties, responsibilities, and liabilities of the following principal parties:

- Employer
- Employer's Safety Agent

- Contractor
- Subcontractor
- Employer's Designer
- Contractor's Designer

The duties and responsibilities of the various principal parties are briefly summarized below (the numbers indicated correspond to the applicable regulation number in the Construction Regulations, 2014). The intention of the summary is not to replace the Regulations but is included for indicative purposes. The liabilities of each party are also shown.

a) Employer

In addition to the duties, responsibilities and liabilities specified in the Conditions of Contract, the Employer shall have the following duties and responsibilities to ensure compliance with the Construction Regulations, 2014:

5.(1) A client must –

- prepare a baseline risk assessment for an intended construction work project;
- prepare a suitable, sufficiently documented and coherent site-specific health and safety specification for the intended construction work based on the baseline risk assessment contemplated in paragraph (a);
- provide the designer with the health and safety specification contemplated in paragraph (b);
- ensure that the designer takes the prepared health and safety specification into consideration during the design stage;
- ensure that the designer carries out all responsibilities contemplated in regulation 6;
- include the health and safety specification in the tender documents;
- ensure that potential principal contractors submitting tenders have made adequate provision for the cost of health and safety measures;
- ensure that the principal contractor to be appointed has the necessary competencies and resources to carry out the construction work safely;
- take reasonable steps to ensure co-operation between all contractors appointed by the client to enable each of those contractors to comply with these Regulations;
- ensure before any work commences on a site that every principal contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993 (Act No. 130 of 1993);
- appoint every principal contractor in writing for the project or part thereof on the construction site;
- discuss and negotiate with the principal contractor the contents of the principal contractor's health and safety plan contemplated in regulation 7(1), and must thereafter finally approve that plan for implementation;
- ensure that a copy of the principal contractor's health and safety plan is available on request to an employee, inspector or contractor;

- (n) take reasonable steps to ensure that each contractor's health and safety plan contemplated in regulation 7(1)(a) is implemented and maintained;
- (o) ensure that periodic health and safety audits and document verification are conducted at intervals mutually agreed upon between the principal contractor and any contractor, but at least once every 30 days;
- (p) ensure that a copy of the health and safety audit report contemplated in paragraph (o) is provided to the principal contractor within seven days after the audit;
- (q) stop any contractor from executing a construction activity which poses a threat to the health and safety of persons which is not in accordance with the client's health and safety specifications and the principal contractor's health and safety plan for the site;
- (r) where changes are brought about to the design or construction work, make sufficient health and safety information and appropriate resources available to the principal contractor to execute the work safely; and
- (s) ensure that the health and safety file contemplated in regulation 7(1)(b) is kept and maintained by the principal contractor.

In terms of Clause 4.6 of the Contract Data, the Contractor accepts sole liability as mandatory for due compliance in accordance with Section 37(2) of the Occupational Health and Safety Act, (Act 85 of 1993) and all regulations associated with the scope of work for which the contractor have been appointed. The Employer will be responsible for the duties imposed on the Employer in terms of the OHS Act and relevant regulations.

b) Employer's Safety Agent

Where the Employer decides to appoint an agent in accordance with either Section 5(5) or Section 5(6) of the Construction Regulations, 2014, the duties and responsibilities as imposed by these regulations upon the Employer shall as far as reasonably practicable apply to his Safety Agent.

c) Contractor

In addition to the duties, responsibilities and liabilities specified in the Conditions of Contract, the Contractor shall have the following duties and responsibilities to ensure compliance with the Construction Regulations, 2014:

Only some sections of the Construction Regulations 2014 have been highlighted here but it does not mean that the Contractor does not have to comply with the sections not highlighted here.

- 4(1) Notify the provincial director in writing (Annexure 2 or similar form) 7 days prior to the commencement of the intended construction works. Ensure that a copy of the notification letter is kept on site for inspection on request as well as proof of its receipt by the Department of Labour.
- 7(1)(a) Prepare a Health and Safety Plan which includes a COVID-19 Response Plan, based on the Employer's health and safety specifications.

- 7(1)(a) Implement the Health and Safety Plan from the Commencement Date until completion of the Works.
- 7(1)(b) Open and keep on site a health and safety file which must include all documentation required by the OHS Act and the associated regulations as well as the Employers health and safety specifications, which shall be made available on request of an Inspector, the employer or employers' agent.
- 7(4) Ensure co-operation between all contractors to enable each to comply with the provisions of Construction Regulations.
- 7(1)(c)(i) Provide any Tenderer or Sub-Contractor with copies of the Employer's health and safety specifications.
- 7(1)(c)(v) Appoint each Sub-Contractor in writing for their part of the project.
- 7(1)(c)(vi) Ensure that each Subcontractor's Health and Safety Management Plan is implemented and maintained on their portion of the Works.
- 7(1)(c)(vii) Ensure that periodic site audits and document verification is done at regular intervals as agreed between Principal Contractor and Sub-Contractor not exceeding 30 days in between.
- 7(1)(c)(viii) Stop any Sub-Contractor from executing Works, not in accordance with, the Employers Health and Specifications and/or the Principal Contractors Health and Safety Plan or which poses a threat to the health and safety of persons.
- 7(1)(c)(ix) Ensure that sufficient health and safety information and appropriate resources are made available where applicable, to the Sub-Contractor when changes are brought about to the design of the Works.
- 7(1)(c)(iv) Ensure that his Sub-Contractor is registered and in good standing with the compensation fund or with a licensed compensation insurer prior to the commencement of the Works.
- 7(1)(c)(ii) Ensure that his Tenderers have made provision in their tenders for the cost of health and safety measures during the construction of the Works in line with the requirements of the Employers Health and Safety Specification and his Health and Safety Management Plan.
- 7(1)(c)(x) Discuss and negotiate the contents of his Sub-Contractor's Health and Safety Plan, to ensure compliance with the Employer's Health and Safety Specification and consistent with the Contractors Health and Safety Management Plan.
- 7(2)(a) Approve his Sub-Contractor's Health and Safety Plan for implementation and to keep records of all such approvals on site for auditing purposes.
- 7(2)(a) On request, make available a copy of his and his Sub-Contractor's Health and Safety Plan to an employee, inspector, contractor, the Employer or the Employer's Safety Agent.
- 7(2)(b) Open and keep on site a health and safety file which must include all documentation required by the OHS Act and the associated regulations as well as the Employers health and safety specifications and the Principal Contractors Health and Safety Plan, which shall be made available on request of an Inspector, the employer or employers' agent and the Principal Contractor or its agent.
- 7(e) Hand over a consolidated health and safety file to the employer upon completion of the Works.

- 7(f) Ensure that a comprehensive and updated list of all his Sub-Contractors (including their respective sub-contracting agreements) are included in the health and safety files.
- 7(c)(iii) Satisfy himself on the competencies and resources of the Sub-Contractor he intends appointing.
- 7(5) Ensure that all employees undergo health and safety induction prior to permitting each employee access to the Works. The Contractor shall ensure that proof of such is available on site for auditing purposes.
- 7(6) Ensure that all visitors undergo health and safety induction and are provided with the necessary personal protective equipment. The Contractor shall ensure that proof of such is available on site for auditing purposes.
- 7(7) Ensure that every employee is in possession and carries at all times his proof of health and safety induction training.
- 8(5) The Contractor shall after due consideration of the complexity, size and potential hazards and associated risks as well as controls towards the mitigation of risks, appoint a safety officer in writing. The contractor shall submit a detailed CV of the envisaged Safety Officer appointment for final acceptance thereof by the Employer or his Safety Agent.
- 8(6) Satisfy himself with the competencies and resources of the construction safety officer he intends appointing.
- 8(7) Appoint a construction supervisor.
- 8(8) Appoint assistant construction supervisors if required by an inspector.
- 8(10) Appoint individual construction supervisors for individual construction sites.
- 9(1) Perform a risk assessment prior to the commencement of any construction work.
- 9(2) Analyze ergonomic related hazards and address the same in the risk assessment.
- 9(3) Ensure that all employees are informed, instructed and trained regarding any hazard and the related work procedures before any work commences. The contractor shall ensure that proof of such is available on site for auditing purposes.
- 9(4) Ensure that all Subcontractors are informed regarding any hazard as stipulated in the risk assessment. Further that Subcontractors conduct their own risk assessments as and when required
- 9(5) Consult with the health and safety committee on the development, monitoring and review of the risk assessment.
- 9(6) On request, make available copies of the risk assessments.
- 11(1)(a) Prevent the uncontrolled collapse of any structure which may become unstable due to the carrying out of construction work.
- 11(1)(b) Ensure that no structure is loaded in an unsafe manner.
- 11(1)(c) Ensure that all construction drawings are on site and available on request by an inspector, contractors, Employer, the Employer's Safety Agent or employee.

In terms of Clause 4.6 of the Contract Data, it shall be deemed that the parties to this Contract have agreed in writing in terms of Section 37(2) of the Occupational Health and Safety Act, 1993 that the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 and all its regulations, including the Constructions Regulations, 2014, for which he is liable as mandatory.

d) Sub-Contractor

To ensure compliance with the Construction Regulations, the Subcontractor shall:

- 7(2)(a) Demonstrate a Health and Safety Plan based on the Employer's health and safety specification.
- 7(2)(a) Apply his Health and Safety Plan from the Commencement Date and until completion of the Works.
- 7(2)(c) Satisfy himself on the competencies and resources of any Sub-Contractor he intends appointing.
- 7(2)(e) Provide the Contractor with any information which might affect the health and safety of any person or which might justify a review of the Health and Safety Plan.

In addition to the above items, the Sub-Contractor shall, to ensure compliance with all regulations associated with the scope of work for which he was appointed.

e) Duties of Designer (Employer's Designer or Contractor's Designer)

To ensure compliance with the Construction Regulations, 2014, the Designer (as defined in Section 6 of the Construction Regulations, 2014) shall:

- 6(1)(c)(i) Make available to the Employer all relevant information affecting the pricing of the Works.
- 6(1)(c)(iii) Ensure that information relating to geo-sciences, designs loads, and the methods and sequencing of construction processes are made available to the Contractor in a report.
- 6(1)(d) Inform the Client/Employer of any hazards relating to the Works.
- 6(1)(d) Make available all information required for the safe execution of the Works.
- 6(1)(e) Not include dangerous procedures or hazardous materials in the structure's design which could be avoided.
- 6(1)(f) Make provision in the design of the Works for hazards likely to be encountered during its subsequent maintenance.
- 6(1)(g) Carry out inspections of the construction work during the construction period to ensure compliance with the designs.
- 6(1)(h) Stop any contractor from executing works not in accordance with the designs.
- 6(1)(i) Conduct a final inspection of the completed Works prior to its commissioning.
- 6(1)(i) Issue a completion certificate to the Contractor subsequent to a successful final inspection.
- 6(1)(j) Ensure that cognizance is taken of ergonomic design principles in order to minimize related hazards.

The Employer's Designer shall only accept responsibility to comply with the Construction Regulations, 2014 for that portion of the Permanent Works which the Employer is responsible to design in terms of the Contract.

The Contractor's Designer shall accept sole responsibility and liability to comply with the Construction Regulations, 2014 for that portion of the Permanent Works for which the Contractor is responsible to design in terms of the Contract as well as the design of the Temporary Works.

#### 2.4.2 Secondary Parties

This section covers the duties, responsibilities, and liabilities of the following secondary parties:

- Construction Manager
- Construction Health and Safety Officer
- Contractor's Employees
- Fall Protection Developer
- Health and Safety Consultant
- Health and Safety Representative
- Risk Assessor

##### a) Construction Manager CR 8(1)

The Principal Contractor shall appoint in writing a full-time competent person as the Construction Manager for the intended project, with the duty of managing all the construction work on a single site, including the duty of ensuring that all occupational health and safety requirements are adhered to. In the absence of the Construction Manager an alternate person (assistant Construction Manager) shall be appointed under Section 8(2) of the construction Regulations 2014.

##### b) Construction Health and Safety Officer CR 8(5)

The Principal Contractor must appoint a Construction Health and Safety Officer with proof of registration with the statutory body approved by the chief inspector SACPCMP and the appointed person must be available full time on site.

Principal Contractor must appoint a Construction Health and Safety Officer with proof of registration with the statutory body approved by the chief inspector SACPCMP and the appointed person must be available full time on site.

The Contractor is responsible for the development of the position outcomes descriptors for the Construction Health and Safety Officer. This documentation shall be available on site for auditing purposes.

The Construction Health and Safety Officer shall if given an opportunity, provide an input into the Contractor's Health and Safety Plan in terms of CR 8 for the management and supervision of construction work.

c) Contractor's Employees

All employees will be responsible for safety on the construction site and the workplace as prescribed in Section 14 of the Occupational Health and Safety Act, (Act 85 of 1993) which is briefly summarized as follows:

- Take reasonable care for the health and safety of himself and of other persons who may be affected by his acts,
- Co-operate with his employer with regards to health and safety to ensure that his employer complies with requirements imposed on him,
- Obey the health and safety rules and procedures laid down by his employer,
- Report any unsafe or unhealthy situation to his employer or to the health and safety representative for his workplace,
- Immediately report any incident including near miss incidents, in which he was involved, or which has caused an injury to himself or others, and
- Assist in inquiries and incident investigations.

No employee shall intentionally or recklessly interfere with, damage or misuse anything which is in the interest of health and safety.

d) Fall Protection Developer CR 10(1)(a)

The Fall Protection Developer will be responsible for the preparation and maintenance of a fall protection plan to be implemented by the Contractor, in such a manner to ensure compliance with Section 10 of the Construction Regulations, 2014.

e) Health and Safety Consultant CR 5(6)

The Health and Safety Consultant shall assist the Contractor in any health and safety matters on the Works for which he is appointed.

f) Health and Safety Representative Section 17 of the OHS Act

The Health and Safety Representative shall fulfill the duties as set out in Section 17 of the Occupational Health and Safety Act, (Act 85 of 1993). A health and safety representative shall not incur any civil liability by reason of the fact only that he failed to do anything which he may do or is required to do in terms of the Act.

g) Risk Assessor CR 9(1)

The Risk Assessor shall facilitate the risk assessment process of the Contractor or Sub-Contractor. The Risk Assessor shall be responsible for the compilation and implementation of a management plan towards the continuous mitigation of identified risks to as low as is reasonably practicable. All risks shall be managed in accordance with Section 9 of the Construction Regulations 2014.

#### 2.4.3 Supervisors, Inspectors and Issuers

This section covers the duties, responsibilities and liabilities of the following Supervisors, Inspectors, and Issuers likely to be found on the Works:

a) Construction Supervisor CR 8(7)

The Construction Supervisor shall be responsible for supervising the construction work inclusive of the implementation and maintenance of safe work practices on the construction site.

b) Construction Vehicle & Mobile Plant Inspector CR 23(1)

The Construction Vehicle and Mobile Plant Inspector will ensure the safety of all construction vehicles and plant in such a manner to ensure compliance with Section 23 of the Construction Regulations, 2014. The inspector will also be responsible for the regular inspection of all vehicles and plant and the recording of his findings. The Contractor shall ensure that proof of such is available on site for auditing purposes.

c) Demolition Work Supervisor CR 14(1)

The Demolition Work Supervisor will supervise and control all demolition work on the Works in such a matter to ensure compliance with Section 14 of the Construction Regulations, 2014. The supervisor will be responsible for all administration related to the demolition works. The Contractor shall ensure that proof of such is available on site for auditing purposes.

d) Electrical Temporary Installation Inspector CR 24(d)

The Electrical Temporary Installation Inspector will control all temporary electrical installations on the Works to ensure compliance with Section 24 of the Construction Regulations, 2014, the Electrical Installations Regulations, 1992 and SANS 0142. The Contractor shall ensure that proof of such is available on site for auditing purposes.

e) Excavation Work Supervisor CR 13(1)(a)

The Excavation Work Supervisor will supervise all excavation work on the Works in such a matter to ensure compliance with Section 13 of the Construction Regulations, 2014 and shall ensure that every excavation is inspected:

- On a daily basis before each shift,
- After every blasting operation,
- After an unexpected fall of ground,
- After substantial damage to supports, and
- After rains.

The Contractor shall ensure that proof of such is available on site for auditing purposes.

f) Explosive Power Tools Issuer CR 21(2)(g)(i)

The Explosives Power Tools issuer will control the issuing and collection of explosive tools, cartridges and nails or studs to ensure compliance with Section 21 of the Construction Regulations, 2014. The Contractor shall ensure that proof of such is available on site for auditing purposes.

g) Fire Extinguisher Inspector CR 29(h)

The Fire Extinguisher Inspector will be responsible for the operation and inspection of all firefighting equipment on the Works to ensure compliance with Section 29 of the Construction Regulations, 2014. The Contractor shall ensure that proof of such inspections is available on site for auditing purposes.

h) Ladder Inspector GSR 13A (1)

The Ladder Inspector will be responsible for the regular inspection and recording of his/her findings of all ladders on the Works and to ensure compliance with Section 13A of the General Safety Regulations. The Contractor shall ensure that proof of such is available on site for auditing purposes.

i) Material Hoist Inspector CR 19(8)(a)

The Material Hoist Inspector will be responsible for the daily inspection of material hoists or similar machinery and to ensure Works to ensure compliance with Section 19 of the Construction Regulations, 2014. The inspector must have experience pertaining to the erection and maintenance of all hoists on the Works. The inspector must be able to determine the serviceability of the entire material hoist including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices. The Contractor shall ensure that proof of such is available on site for auditing purposes.

j) Scaffolding Supervisor CR 16(1)

The Scaffold Supervisor will be required to supervise all scaffolding work operations carried out on the Works and to ensure compliance with Section 16 of the Construction Regulations, 2014 as well as ensure compliance with applicable SANS 10085-1:2014 Standards. The Contractor shall ensure that proof of such is available on site for auditing purposes.

k) Stacking and Storage Supervisor CR 28(a)

The Stacking Supervisor shall supervise the stacking and storage of all articles on site and shall be responsible to ensure compliance with Section 28 of the Construction Regulations, 2014.

l) Suspended Platform Supervisor CR 17(1)

The Suspended Platform Supervisor will supervise all suspended platform work operations carried out on the Works and to ensure compliance with Section 17 of the Construction Regulations, 2014. The supervisor will also see to it that all suspended platform erectors,

operators, and inspectors are competent to carry out their work. The Contractor shall ensure that proof of such is available on site for auditing purposes.

### **3. GENERAL REQUIREMENTS OF HEALTH AND SAFETY PLAN & COVID-19 RESPONSE PLAN**

#### **3.1 Outline of COVID-19 Response Plan**

It will be expected from the Contractor to include in his safety plan a COVID-19 Response Plan on how to accomplish the requirements relating to the Construction Regulations, 2014, Regulations for Hazardous Biological Agents read with COVID-19 OHS Directives issued under the Disaster Management Act (Act 57 of 2002) and related incorporated standards and regulations.

The following aspects must be covered in the Contractors COVID-19 Response Plan:

- The appointment of a COVID-19 Compliance Officer.
- The duties of the COVID-19 Compliance Officer.
- Strategies to prevent the spreading of COVID-19.
- Risk Assessments on high-risk areas, activities and employees.
- Develop Policies on:
  - COVID-19
  - Social Distancing
  - Protection of Vulnerable Employees
  - Medical Surveillance Policy
  - Transport Policy on Company Provided Transport as well as Public Transport (Protection of other commuters)
- Develop Procedures for:
  - Access Control and Screening Procedures for Employees and Visitors
  - Contact Tracing (Assisting the Department of Health)
  - Protection of vulnerable employees.
  - Reporting of positive cases.
  - Procedures following positive cases.
  - Resumption of work after positive cases.
  - Medical Surveillance of employees.
  - Hygiene in the Workplace
  - Social Distancing
  - Engineering methods (providing protective barriers)
  - Safe Work Procedures (where social distancing cannot be established)
  - Staggered work hours, tea times, lunch times etc.
- Awareness Programs focusing of providing critical information, safety tips, hygiene protocols, social distancing, the use of protective equipment etc.

Contractors should describe how their safety management systems will work and what control procedures they plan on using to ensure safety on the construction site

The following generic aspects should be covered in their safety plan

- What administrative procedures the Contractor envisages to use in the implementation and maintenance of the safety plan with reference to the construction site
- How continuous assessment of the safety plan will be assessed and implemented with respect to construction site
- What control systems the Contractor envisages to implement on site to support his safety program
- How the Contractor will ensure that he adheres to the construction regulations in respect of competent persons for appointments
- What external resources the Contractor envisages on using to ensure successful implementation and sustainability of the safety plan
- What training to employees the Contractor envisages and how he would go about to execute it?
- The Contractor should indicate which competent persons he plans on employing

During the tendering phase it will be expected from the tenderer to briefly explain how the abovementioned will be accomplished.

Once a successful tenderer has been appointed, the Contractor shall supply a detailed Health and Safety Plan for review by the Employer, prior to site mobilization, to ensure compliance with the Construction Regulations, 2014. Mobilization shall be dependent upon the acceptance of the Contractor's Health and Safety Management Plan by the Employer. The Contractor's Health and Safety Plan should include, but not be limited to, those sections indicated in Section 3.2 of this specification.

### **3.2 Outline of Health and Safety Plan**

The Contractor's Health and Safety Plan prepared in accordance with this specification shall consist of at least the following sections and sub-sections:

1. Aim and Scope of Plan,
2. COVID-19 Response Plan,
3. Scope of Work
  - a. Main Construction Work,
  - b. Excavations,
    - i. Demarcation of excavations,
    - ii. Access and Egress,
    - iii. Shoring,
    - iv. Inspections,
    - v. Public Access,
  - c. Bulk Earthworks,
    - i. Clearing and Grubbing,
    - ii. Stockpiling,
    - iii. Borrow pits,
    - iv. Transporting,
    - v. Environmental Management Plan

- d. Temporary Works,
    - i. Formworks,
    - ii. Support Works,
  - e. Road Works,
    - i. Traffic Accommodation Plan
- 4. Location of the Works
- 5. Risk Management,
  - a. Alternative Forms of Risk Assessment,
  - b. Methodology of Risk Assessment,
  - c. Elements of Risk Assessment,
    - i. Scope of assessment,
    - ii. Risks Identified,
    - iii. Risk Analysis,
    - iv. Risk Evaluation,
    - v. Risk Treatment,
    - vi. Monitoring and reviewing,
- 6. Incident Management,
  - a. Incident Management Procedures,
  - b. Reporting of Incidents,
  - c. Incident and Accident Investigations,
- 7. Resources,
  - a. Health and Safety Staffing Organogram,
  - b. Supervisors, Inspectors, and Issuers,
  - c. Employees,
  - d. Sub-Contractors inclusive of their scope of work and their core resources,
  - e. Training,
  - f. Plant,
  - g. Vehicles,
  - h. Equipment
- 8. Medical Fitness of Employees
  - a. Entry Medical
  - b. Medical Surveillance of employees
  - c. Exit Medicals
- 9. Employee Facilities,
  - a. Facilities Management
  - b. Hygiene
- 10. Materials,
  - a. Temporary Materials
  - b. Permanent Materials
- 11. Categories of Work
- 12. Implementation of Health and Safety Plan,
  - a. Administrative systems,
  - b. Training,
  - c. Reporting,
  - d. Monitoring,
  - e. Inspections,

13. Auditing,
  - a. Internal audits,
  - b. Follow-up audits,
14. Financial Aspects,

#### **4. COVID-19 RESPONSE PLAN**

This section of the specification provides guidelines for the Contractor in preparation of their COVID-19 Response Plan:

In accordance with the COVID-19 Directives every employer must appoint a person who is part of management as a COVID-19 Compliance Officer.

The duties of the COVID-19 Compliance Officer must for part of the COVID-19 Response Plan. The duties must include:

- Developing of strategies to prevent the spreading of COVID-19 in the workplace.
- Conduct Risk Assessments on high-risk areas, activities and employees.
- Develop Policies on:
  - COVID-19
  - Social Distancing
  - Protection of Vulnerable Employees
  - Medical Surveillance Policy
  - Transport Policy on Company Provided Transport as well as Public Transport (Protection of other commuters)
- Develop Procedures for:
  - Access Control and Screening Procedures for Employees and Visitors
  - Contact Tracing (Assisting the Department of Health)
  - Protection of vulnerable employees.
  - Reporting of positive cases.
  - Procedures following positive cases.
  - Resumption of work after positive cases.
  - Medical Surveillance of employees.
  - Hygiene in the Workplace
  - Social Distancing
  - Engineering methods (providing protective barriers)
  - Safe Work Procedures (where social distancing cannot be established)
  - Staggered work hours, tea times, lunch times etc.
- Implement awareness programs focusing of providing critical information, safety tips, hygiene protocols, social distancing, the use of protective equipment etc.

## **5. SCOPE OF WORK:**

The scope of work must highlight all construction activities as well as associated works on the project.

Under each of the construction activities and associated works the contractor must provide a clear description of how the activities shall be managed.

Where management plans are required the contractor to provide a brief description of the plan, the purpose of the plan as well as the implementation process and shall attached to the health and safety a copy of the relevant management plan. E.g., Traffic Accommodation Plan etc.

## **6. LOCATION OF THE WORKS**

Under this section the contractor must provide all the information pertaining to exactly where the project is situated.

The contractor must also make reference to the size of the project, site boundaries, reference beacons or landmarks as well as any area that shall be used outside of the site boundaries which shall be used as site camps, site offices, stockpiles and spill sites, borrow pits, laydown areas as well as areas used to provide early warning systems e.g., Road Closures

## **7 RISK MANAGEMENT**

### **7.1 General**

This section of the specification provides guidelines for the Contractor in preparation of risk assessments in order to ensure compliance with Section 9 of the Construction Regulations, 2014. This section highlights the principles related to the preparation of suitable and sufficient risk assessments. Contractor Staff intending to prepare risk assessments should be trained and suitably experienced in the application envisaged.

A suitable and sufficient risk assessment is an assessment which:

- Accounts for risks that are likely to arise during the construction of the Works,
- Enables the development and implementation of systems to manage the risks,
- Remains valid for a reasonable period of time,
- Provides a basis for training of employees, and
- Improves working procedures and introduce long term controls.

The requirements of the Construction Regulations, 2014, will not be satisfied by a single risk assessment exercise that holds good for all time. The risk assessment process on the Works is an ongoing process.

The objectives of risk assessments are to:

- Identify the risks that are mostly in need of reduction,

- Identify the various options for achieving such reduction,
- Identify the risks that require careful ongoing management, and
- Identify the nature of the required ongoing attention.

## **7.2 Forms of Risk Assessment**

In order to ensure compliance with the Construction Regulations, 2014, the Contractor will be required to carry out the following three forms of risk assessment:

### **7.2.1 *Baseline or datum risk assessments***

The Contractor will be required carry out a risk assessment before the commencement of construction activities on the Works. This “baseline” or “datum” risk assessment will form part of the Contractor’s Health and Safety Plan. The risks and hazards to which persons, plant, vehicles and facilities may be exposed during the construction of the Works should be identified and evaluated. Measures to reduce or control these risks or hazards should be defined during this assessment. The effectiveness of the measures defined, and the baseline risk assessment prepared shall be monitored and reviewed from time to time to ensure that it remains relevant and accurate.

### **7.2.2 *Issue based risk assessments***

The Contractor will be required to carry out separate risk assessments during construction of the Works when methods and procedures are varied, for example when:

- Designs are amended,
- New machines are introduced,
- Plant is periodically cleaned and maintained,
- Plant is started-up or shut-down,
- Systems of work change or operations alter,
- Incidents or near-misses occur, or
- Technological developments invalidate prior risk assessments.

### **7.2.3 *Continuous risk assessments***

The Occupational Health and Safety Act specifically requires that employers shall provide and maintain working environments that are safe and without risk to health. The general awareness of hazards needs to be raised as work ethic to maintain a safe and risk-free environment on an ongoing basis. This is achieved by continuous risk assessments, the most important form of risk assessment that takes place as an integral part of day-to-day management. Examples of continuous risk assessments include:

- Regular inspections and audits,
- Maintaining general hazard awareness,
- Pre-work risk assessment,
- Daily Safety Task Instructions (DSTI’s),

- Planned Task Observations,
- Post Task Observations,
- SLAM Reports (Stop, Look, Assess, Manage)

### **7.3 Methodology for the Preparation of Risk Assessments**

The Contractor shall in the preparation of his risk assessments, follow the following general principles:

- Employ a team of suitably qualified individuals with appropriately varied and relevant experience in risk assessment,
- The appointed risk assessor shall lead the risk assessment,
- Provide the team with background data, scope of work, potential hazards and underlying causes, and
- Where necessary employ experts for complex risk assessments and aspects of risk assessments that require experiential judgment,
- Institute an ongoing system of identifying aspects of the work that require risk assessment, and
- Conduct risk assessments in workshops of the team or by individual members of the team under guidance of the leader as appropriate to the situation.

### **7.4 Elements of a Risk Assessment**

#### **7.4.1 General**

The process of carrying out a risk assessment consists of a number of well-defined steps. These steps improve decision-making by providing a greater understanding of the risks and their impacts. The main steps or elements of the risk assessment process are as follows:

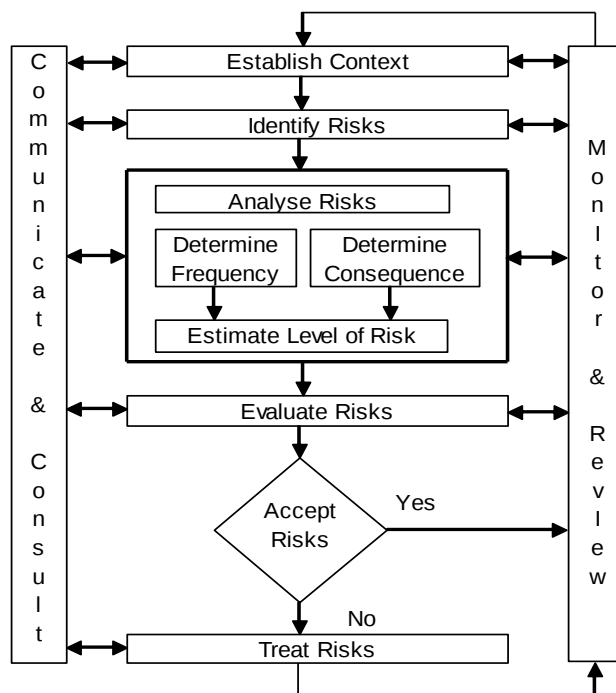
- 1) Consider scope and nature of risks involved, determine purpose and physical and legal bounds of assessment and define risk evaluating criteria,
- 2) Systematically identify risks,
- 3) Analyze risks with regard to causes, likelihood of occurrence and possible consequences against the background of existing controls and its effectiveness,
- 4) Evaluate risks in terms of pre-established criteria to determine need and priority for attention,
- 5) Treat risks through a process of risk elimination, substitution, controlling risk at source, risk mitigation such as training and as far as risk remains, provide personal protective equipment (PPE),
- 6) The mitigation methods must focus the 4 T's of risk management.
  - a. Terminate the risk entirely at the source through engineering controls.
  - b. Treat the risk through a combination of engineering controls and Safe Work Procedures.
  - c. Transfer the risk to someone (company) more suited to handle the specific types of risks.
  - d. Tolerate the risk depending on the type of risk as well as the residual risk factor only after the implementation of engineering controls and/or safe work procedures and the use of personal protective equipment.

Bear in mind that Personal Protective Equipment (PPE) shall only be identified as a last resort in the mitigation of risks.

- 7) Monitor and review progress and performance in terms of management system, and
- 8) Communicate and consult.

The following sections 4.4.2 to 4.4.7 deal with items (2) to (7) above. These items form the continuing process of the risk assessment as indicated in Figure 1, below.

The following sections 4.4.2 to 4.4.7 deal with items (2) to (7) above. These items form the continuing process of the risk assessment as indicated in Figure 1, below.



**Figure 1: Risk Management Process**

The Contractor shall ensure that the risk assessment compiled as part of his Health and Safety Plan contains at least these items.

#### 7.4.2 Risk Identification

The Contractor should regard this step of the risk assessment as the most important. Subsequent analysis and evaluation of risks and the development of risk control measures are wasted if the risks or hazards on the Works are not carefully identified.

The Contractor should bear the following principles in mind when identifying the risks:

- i) Systematically address all risks or hazards on the Works,
- ii) Review all aspects of the work, but consider only those that have a potential to cause harm,

- iii) Rank the risks identified in order of importance and then use appropriately advanced techniques to deal with major risks,
- iv) Deal mainly with major risks and don't obscure these with unimportant information, especially minor risks,
- v) Address what actually happens in the workplace during the work activity
- vi) Consider all persons that may be affected,
- vii) Highlight those groups and individuals who may particularly be at risk, and
- viii) Review the adequacy and effectiveness of existing safety controls and measures

#### 7.4.3 Risk Analysis

In this step, the Contractor will be required to analyze the risks identified by determining each risks frequency and magnitude or severity of the consequence of the risk or hazard.

The frequency of occurrence of a hazard may be expressed as the number of times that it may occur in a year, decade, lifetime, century, or longer period, according to comparative human experience. The magnitude of the likely consequence of a hazard may be expressed in terms of the degree of incapacitation, number of people or costs involved. The frequency of occurrence of a hazard and the magnitude of its consequence may be compounded as the risk that it poses as shown in the "risk matrix" in Figure 2 below.

| Frequency of Occurrence of Hazard                                 | Severity of Consequences of Potential Hazard |                      |                         |                                |            |               |
|-------------------------------------------------------------------|----------------------------------------------|----------------------|-------------------------|--------------------------------|------------|---------------|
|                                                                   | 1 Medically treatable injury                 | 1 Compensable injury | 10 Compensable injuries | 1 Permanently disabling injury | 1 Fatality | 10 Fatalities |
| Frequent; 1 or more occurrences per year                          | Medium                                       | High                 | Very high               | Severe                         | Severe     | Severe        |
| Several times during a career; 0.1 occurrences per year           | Medium-low                                   | Medium               | High                    | Very high                      | Severe     | Severe        |
| Unlikely, but possible during a career; 0.01 occurrences per year | Low                                          | Medium-low           | Medium                  | High                           | Very high  | Severe        |
| Very unlikely during a career; 0.001 occurrences per year         | Low                                          | Low                  | Medium-low              | Medium                         | High       | Very high     |
| Barely credible; 0.0001 occurrences per year                      | Low                                          | Low                  | Low                     | Medium-low                     | Medium     | High          |

**Figure 2: Compounded Risk Matrix**

The columns in the table represent the likely consequence of the hazard and the rows, the frequency of occurrence. The scales for both quantities represent consistent progressions, able they qualitative. The risks evidently range from low to severe. Note that diagonals in the matrix represent the risks of the identified hazards, taking the effectiveness of controls into consideration.

The table represents a typical risk matrix that need not necessarily be adopted by the Contractor. The Contractor may use an alternative risk matrix provided that it is approved as part of his Health and Safety Plan.

The Contractor must describe in full the method of risk evaluation as well as provide and describe the Risk Formula used to determine the risk factor

#### **7.4.4 Risk Evaluation**

In this step the Contractor will be required to compare the assessed risk with similar risks previously experienced for the purpose of deciding how to treat the risk. A useful systematic approach for this purpose is as follows:

- If the assessed risk exceeds similar risks that have occurred in the past and that are considered to be unacceptable, the assessed risk will require treatment depending upon its magnitude as discussed in Section 4.4.5, or
- If the assessed risk exceeds similar historical risks that are acceptable, treatment of the assessed risk will depend on the extent by which it exceeds the historical risks, or
- If the assessed risk is less than historical risks that are unacceptable, treatment of the assessed risk will depend on the extent by which it is less than the historical risks, or
- If the assessed risk is less than historical risks that are acceptable, the assessed risk would also be acceptable and would not require any treatment.

#### **7.4.5 Risk Treatment**

In this step, the Contractor will select and implement appropriate measures for dealing with risk. Typically measures comprise the following:

- Elimination by changing designs, procedures, management methods, etc, applicable to high frequency–high consequence risks, or
- Reduction by changing designs, procedures, management methods, etc, applicable to high frequency–high consequence risks, or
- Minimization by changing designs, procedures, management methods, etc, applicable to high frequency–low consequence risks, or
- Transfer or share whole or part of the risk to another party by insurance, contractual arrangements or organizational structures, applicable to low frequency–high consequence risks, or
- Control to ensure that risks do not increase, applicable to low frequency–high consequence risks, or
- Retention together with provision of monitoring and personal protective equipment, applicable to low frequency–low consequence residual risks after reduction, or
- Acceptance without particular action other than provision of personal protective equipment, applicable to low frequency–low consequence risks.

The following principles enable the optimum treatment to be determined:

- Avoid risks altogether, if possible, by using different approaches, substances or methods of work,
- Combat risks at source rather than by adopting secondary measures,
- Adapt work to the individual rather than the individual to the work, that is, in the design consider the people and their attributes that will operate the system
- Take advantage of technological and technical progress,
- Risk prevention measures must be part of a coherent policy and approach to safety management that involves performance measurement, goal setting, feedback, and analysis,
- Give preference to measures that protect the whole work force,
- Ensure that those for whom protection is provided understand what they need to do to make sure that the protection works, and
- Ensure that measures to control risks are an accepted part of an active health and safety culture supported by all levels of the organization; single risk reduction initiatives invariably fail.

#### *7.4.6 Reporting and Recording*

The Contractor shall ensure that the risk assessment process is recorded in the form of a report and included in his Health and Safety Plan. The report should be easily accessible to the Contractor's employees, their representatives, to inspectors, the Employer or his Safety Agent and the Engineer. The essential contents of the report should be as follows:

- Objectives and expected outcomes,
- Description of the Works under assessment,
- Summary of context of study
- Composition of risk assessment team, (including qualifications and relevant experience),
- Approach used to systematically identify risks,
- Identified risks (ranked in order of priority),
- Method adopted for assessing frequencies and consequences of risks,
- Consequences (ranked in order of magnitude),
- Identification of individuals and groups who may be affected by major hazards and risk and who may especially be at risk,
- Basis for defining safety standards to be achieved,
- Contractor's resources devoted to risk assessment,
- Actions proposed to reduce unacceptably high risks,
- Review effectiveness of existing safety measures to control risks, and
- Implementation program of selected treatments (including controls to manage unacceptably high risks).

#### *7.4.7 Monitoring and Review*

It is necessary to monitor risks, the effectiveness of the risk treatment plan and the strategies and management system set up to control implementation. Control of the risk management program

entails the setting of standards, monitoring actual performance, comparing the performance with the standards, and correcting any deviations from the standard. Risks and the effectiveness of the control measures need to be monitored to ensure changing circumstances do not alter risk priorities. Few risks remain static.

Ongoing review is essential to ensure that the management plan remains relevant. Factors that affect the likelihood and consequences of an outcome may change, as may factors that affect the suitability or cost of the various treatment options. If an accident occurs, or if more is learnt about the hazards in the workplace, the risk assessment may need to be reviewed or modified. Hazards may be observed that have not been anticipated or previously identified and which may require appropriate measures to be taken. After an accident has occurred, it is important to determine whether it was predicted, whether preventive measures were identified, and if so, why they did not work, whether the risk assessment is still suitable and sufficient if it failed to predict the accident, whether to the decision to accept a predicted risk as tolerable is still valid, why the accident occurred and what should be done to prevent similar accidents occurring again. It is therefore necessary to regularly repeat the risk management cycle, the time between reviews being dependent on the nature of the risks and the degree of change likely to take place in the work activity. Review is an integral part of the risk management treatment plan.

#### **7.4.8**    *Communication and Consultation*

The Contractor will be required to communicate and consult with internal and external stakeholders during each step of the risk assessment process. Stakeholders will include the Employer and his Safety Agent, the Engineer and the Contractor's employees and consultants.

Effective communication will ensure that those responsible for implementing the risk management process and those with a vested interest, understand the basis on which decisions are made and why particular actions are taken. It will also ensure that the perceptions of all those involved are noted and accommodated during the process.

### **8.        BASELINE RISK ASSESSMENT**

#### **8.1       Purpose**

The purpose of this Baseline Risk Assessment (BRA) is to ensure that the Principal Contractor and Contractors are taking the highlighted risks and hazards in consideration when they develop their site-specific health and safety plans for the project.

It is to further ensure that the client has advised and inform the Principal Contractor, Contractor and the Department of Labour of the prevailing risk and hazards associated with the project before commencement with the work on site.

To ensure that the Principal Contractor, Contractor identify, analyse, evaluate, and establish control measures to eliminate, mitigate before issuing Personal Protective Equipment of clothing to the workers or any other person affected by activities on site.

## 8.2 Scope

This Baseline Risk Assessment (BRA) apply to the above-mentioned project and for the application of Construction work permit as well as for the Principal Contractor & Contractor appointed for the Project.

## 8.3 Normative Reference

Section 8(2)(d) of the Occupational Health and Safety Act

Section 5(1)(a) & Section 9 of the Construction Regulation 2014.

Section 6 of Regulations for Hazardous Biological Agents read with COVID-19 OHS Directives.

## 8.4 Baseline Risk Assessment

In terms of Construction Regulation 5(1)(a), a client is required to prepare a baseline risk assessment of the intended construction project. This Baseline Risk Assessment has been developed in order to ensure that risks and hazards are identified, analysed and evaluated in order to eliminate, mitigate and reduce the exposure to such risk.

Effort shall be made to identify more site-based risks and hazards and possible solutions as far as is reasonably practicable to prevent exposure to such risks and hazards, a task-based risk assessment shall have conducted on site.

In the table below are some of identified baseline risks to be taken into consideration when preparing the health and safety plan for the project:

| ITEM | ACTIVITY ISSUE | HAZARD                              | RISK                           | RISK RATING<br>(High/Med/Low) | MINIMUM CONTROL                                                                                                                                                                                                                                |
|------|----------------|-------------------------------------|--------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1.   | Access control | Public access to site               | Injury & Damage to property    | Medium                        | Protection of site<br>(Barricade and fence);<br>Controlled access point; Secure;<br>Signage (Information, Warning & Prohibition signs;<br>Traffic management;<br>Notifications and planning &<br>Identification of high risk areas & Location. |
| 2.   | Transportation | Transportation of worker & Material | Road accident;<br>Overloading; | Medium                        | Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;                                                                                                                                              |

| ITEM | ACTIVITY ISSUE                                   | HAZARD                                              | RISK                                                               | RISK RATING<br>(High/Med/Low) | MINIMUM CONTROL                                                                                                                                                                                                                                   |
|------|--------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                                                  |                                                     |                                                                    |                               | Personal Protective Equipment & Clothing                                                                                                                                                                                                          |
| 3.   | Traffic Accommodation                            | Traffic movement                                    | Accident                                                           | Medium                        | Protection of the road (Barricade, barriers, speed humps); Road traffic control; access point; Signage (Information, Warning & Prohibition signs); Traffic management; Notifications and planning & Identification of high risk areas & Location. |
| 4.   | Site Establishment                               | Plant, Equipment Machinery; workers and environment | Injury; damage to property & Environmental impact                  | Low                           | Supervision; Prevent exposure; Substitution; Engineering controls; Training; Inspection of equipment; Competent person; Safe work and operating procedures; Personal Protective Equipment & Clothing                                              |
| 5.   | Underground Services & Overhead powerlines       | Water/Sewage/gas pipes & Electrical cables          | Injury; Electrocutation; damage to property & Environmental impact | Medium                        | Supervision; Prevent exposure; Substitution; Engineering controls; Training; Inspection of equipment; Competent & qualified person; Safe work and operating procedures; Lockout & Tag; Personal Protective Equipment & Clothing                   |
| 6.   | Redirecting Isolation and disconnecting Services | Electricity, Water/Sewage/gas pipes; Excavation     | Electrocutation; damage to property & Environmental impact         | Medium                        | Supervision; Prevent exposure; Substitution; Engineering controls; Training;                                                                                                                                                                      |

| ITEM | ACTIVITY ISSUE                                                                             | HAZARD                                                                                | RISK                                                                                   | RISK RATING<br>(High/Med/Low) | MINIMUM CONTROL                                                                                                                                                                                                                                                                                                  |
|------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                                                                                            |                                                                                       |                                                                                        |                               | Inspection of equipment;<br>Competent & qualified person;<br>Safe work and operating procedures;<br>Lockout & Tag;<br>Personal Protective Equipment & Clothing                                                                                                                                                   |
| 7.   | Storage of flammable material and liquids                                                  | Fuel storage; gas bottles; Smoking; spark                                             | Fire; explosion; damage to property;<br>Environmental impact                           | Medium                        | Management & Control of exposure;<br>Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safety Symbolic signs (Information, Warning & Prohibition);<br>Safe work and operating procedures;<br>Personal Protective Equipment & Clothing |
| 8.   | Temporary Electrical Installation                                                          | Electricity                                                                           | Electrocution;<br>Fire; explosion damage to property                                   | Low                           | Supervision;<br>Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent & qualified person;<br>Safe work and operating procedures;<br>Lockout & Tag;<br>Personal Protective Equipment & Clothing                                                       |
| 9.   | Bulk Earthworks (surface works) and stockpile including excavations deeper than 1.5 metres | Underground Services; Plant, Equipment Machinery; Excavation; workers and environment | Injury;<br>Electrocution; damage to property; ground collapse&<br>Environmental impact | Medium                        | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;                                                                                                                                                                                        |

| ITEM | ACTIVITY ISSUE                                                       | HAZARD                                                                                | RISK                                                                                 | RISK RATING<br>(High/Med/Low) | MINIMUM CONTROL                                                                                                                                                                                                                                                  |
|------|----------------------------------------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                                                                      |                                                                                       |                                                                                      |                               | Safe work and operating procedures;<br>Rescue plan<br>Personal Protective Equipment & Clothing                                                                                                                                                                   |
|      | Bulk Earthworks (excavations) and excavations deeper than 1.5 metres | Underground Services; Plant, Equipment Machinery; Excavation; workers and environment | Injury;<br>Electrocution; damage to property; ground collapse & Environmental impact | Medium                        | Locating of underground services;<br>Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Rescue plan<br>Personal Protective Equipment & Clothing |
| 10.  | Mobile plant and construction equipment                              | Plant, Equipment Machinery; workers and environment                                   | Injury; damage to property & Environmental impact                                    | Medium                        | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Personal Protective Equipment & Clothing                                                     |
| 11.  | Demolition work                                                      | Wall, concrete slab, Steel work                                                       | Injury; damage to property & Environmental impact                                    | Medium                        | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Rescue plan<br>Personal Protective Equipment & Clothing                                      |
| 12.  | Temporary works (Formwork and support work) including                | Scaffolding;<br>Shatters;<br>Beams;<br>Reinforcement;                                 | Injury; damage to property & Environmental impact                                    | Low                           | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;                                                                                                                                                                                         |

| ITEM | ACTIVITY ISSUE                  | HAZARD                                                     | RISK                                              | RISK RATING<br>(High/Med/Low) | MINIMUM CONTROL                                                                                                                                                                                                                   |
|------|---------------------------------|------------------------------------------------------------|---------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      | reinforcement and shutters.     | Concrete works                                             |                                                   |                               | Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Fall protection;<br>Rescue plan<br>Personal Protective Equipment & Clothing                                                               |
| 13.  | Bulk mixing plant (Batch plant) | Cement; sand; fly ash; concrete stone; pumps               | Injury; damage to property & Environmental impact | Low                           | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Dust suppression;<br>Personal Protective Equipment & Clothing |
| 14.  | Working close to water          | Reservoirs;<br>Wastewater dams;<br>Pits and water channels | Injury; damage to property & Environmental impact | Low                           | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Rescue plan<br>Personal Protective Equipment & Clothing       |
| 15.  | Confined space                  | Manholes, channels; Silos                                  | Injury; damage to property & Environmental impact | Low                           | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Rescue plan;<br>Personal Protective Equipment & Clothing      |

| ITEM | ACTIVITY ISSUE                      | HAZARD                                                                | RISK                                                       | RISK RATING<br>(High/Med/Low) | MINIMUM CONTROL                                                                                                                                                                                                                                 |
|------|-------------------------------------|-----------------------------------------------------------------------|------------------------------------------------------------|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 16.  | Electrical Equipment and hand tools | Jack hammers; grinders; impact drillers; concrete cutter etc.         | Injury; damage to property & Environmental impact          | Medium                        | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Fall protection;<br>Rescue plan<br>Personal Protective Equipment & Clothing |
| 17.  | Working at heights                  | Lifting Equipment;<br>Crane;<br>Scaffold; Ladder;<br>Rope access work | Falling; Injury; damage to property & Environmental impact | Medium                        | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Fall protection;<br>Rescue plan<br>Personal Protective Equipment & Clothing |
| 18.  | Pressure Equipment                  | Compressor air                                                        | Injury; damage to property & Environmental impact          | Medium                        | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Personal Protective Equipment & Clothing                                    |
| 19.  | Enabling & Builders work            | Concrete work;<br>Brick work;<br>Joinery; plumbing;<br>Drainage       | Injury; damage to property & Environmental impact          | Medium                        | Prevent exposure;<br>Substitution;<br>Engineering controls;<br>Training;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Fall protection;                                                            |

| ITEM | ACTIVITY ISSUE | HAZARD                                                                                                                                    | RISK                                              | RISK RATING<br>(High/Med/Low) | MINIMUM CONTROL                                                                                                                                                                                                                                                                                                                                                                |
|------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|      |                |                                                                                                                                           |                                                   |                               | Personal Protective Equipment & Clothing                                                                                                                                                                                                                                                                                                                                       |
| 20.  | Covid-19       | Hazardous biological agents (Contaminated areas, surfaces & equipment, tools);<br>(Contaminated Personal Protective Equipment & Clothing) | Injury; damage to property & Environmental impact | Medium                        | Prevent exposure;<br>Decontaminating;<br>Sanitisation;<br>Screening & testing;<br>Isolating and quarantining;<br>Engineering controls;<br>Training& information;<br>Safety symbolic signs;<br>Provision of hand washing facilities & soap;<br>Inspection of equipment;<br>Competent person;<br>Safe work and operating procedures;<br>Personal Protective Equipment & Clothing |

## 9. INCIDENT MANAGEMENT

Under this section the contractor must provide a clear description on how he intends to manage all types of incidents that may occur during the works based on the scope of work.

It shall furthermore include the reporting of all reportable incidents in accordance with Section 24 of the Occupational Health and Safety Act.

The contractor shall also provide for the investigation of incidents and/or accidents and how similar incidents/accidents shall be avoided.

## 10 RESOURCES

### 10.1 General

In this section of his Health and Safety Plan, the Contractor will be required to state how he intends to comply with the requirements of the Occupational Health and Safety Act, 1993, Regulation 6 for Hazardous Biological Agents read with COVID-19 OHS Directives and all its Regulations and related incorporated standards with regards to the resources and facilities intended for use on the temporary and permanent Works.

## **10.2 Employees**

### *10.2.1 Inspectors, supervisors and Issuers*

The Contractor shall provide in his Health and Safety Plan his intended Staffing Organogram for the Works. The organogram should include those inspectors, supervisors and issuers as envisaged in the Construction Regulations, 2014 required for the Works and any additional supervisory staff members as the Contractor (having taken the scope of the Works into account) considers necessary.

Copies of the supervisory staffs' curriculum vitae or portfolio of evidence and their appointment letters should be appended to the Contractor's Health and Safety Plan.

The Contractor's Health and Safety Plan should in addition cover at least the following aspects:

- The number of unskilled, semi-skilled and skilled (including Foreman, Charge hands, Artisans, Operators, Drivers, Clerks, Storeman and Team Leaders) employees he intends employing on the Works,
- The health and safety training to be provided to the Contractor's employees,
- The programme of the health and safety training,
- Systems for the review of the effectiveness of the training provided, and
- Systems to determine further training requirements throughout the construction period.

In preparing his Health and Safety Plan, the Contractor shall ensure compliance with Clause PS 22 in Section 4.2 of the Project Specifications.

Pro-forma letters of appointment for the various inspectors, supervisors and issuers as contemplated in the Construction Regulations, 2014 are included in Annexure 1 to this specification for use by the Contractor. The Contractor shall ensure that he includes in his Health and Safety Plan the appointment letters for all his inspectors, supervisors and issuers appointed for the Works.

### *10.2.2 Subcontractors*

The Contractor shall with reference to the use of subcontractors on the Works and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- The steps intended to ensure that his Subcontractors prepare, implement and maintain Health and Safety Plans,
- How health and safety information will be made available to his Subcontractors when changes are brought about to the design,
- How he intends determining that his Subcontractors are registered and in good standing with the compensation fund or with a licensed compensation insurer prior to the commencement of the Works,
- How he intends determining if his Subcontractors have made provision in their tenders for the cost of health and safety measures during the construction of the Works,
- How he intends satisfying himself on the competencies and resources of Subcontractors he intends appointing, and

- How he intends ensuring that his Subcontractors perform risk assessments prior to commencing their respective portions of the Works.

#### *10.2.3 Competencies*

The Contractor shall establish if a person is competent to perform a certain duty or be appointed in a certain capacity by requesting all candidates to supply the required certificates of competency. Where certificates of competencies cannot be delivered, the Contractor shall request a portfolio of evidence from the respective candidates.

Contractors should do enquiries at the South African Qualifications Authority (SAQUA) relating to the qualifications required for appointment of competent persons.

#### *10.2.4 Physical and Psychological Fitness*

Were required by the Occupational Health & Safety Act and its regulations the contractor shall ensure that his employees are in possession of a valid medical certificate of fitness to work in such an environment.

In terms of Section 7(8) of the Construction Regulations 2014 - A contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

### **10.3 Plant, Vehicles and Equipment**

#### *10.3.1 Suspended platform*

The Contractor shall with reference to Section 17: Suspended platforms of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends complying with SABS 1808 and SABS 1903,
- What systems he intends using to ensure the safety of all suspended platforms,
- What tests will be performed to establish the safety of suspended platforms,
- How he intends maintaining suspended platforms being used, and
- How he will document the design, testing, maintenance and inspections of the suspended platforms.

#### *10.3.2 Rope Access Work*

The Contractor shall with reference to Section 18: Rope Access Work of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- Explain what systems he intends using to ensure the safety of employees,

- Explain how he intends maintaining the different types of equipment to be use,
- What tests will be performed to establish the durability and safety of the equipment, and
- How he will document the design, testing, maintenance and inspections of all rope access works.

#### *10.3.3 Material hoists*

The Contractor shall with reference to Section 19: Materials Hoist, of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends confirming the construction stability of the material hoists,
- What systems he intends using to ensure the safety of all material hoists,
- What tests will be performed to establish the safety of all material hoists,
- How he intends maintaining the material hoists being used, and
- How he will document the design, testing, maintenance and inspections of all material hoists and
- What safety procedures and precautions are envisaged to ensure safe operation of the materials hoists.

#### *10.3.4 Batch Plants/Bulk Mixing Plants*

The Contractor shall with reference to Section 20: Bulk Mixing Plant of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- What systems he intends using to ensure the safety of all batch plants,
- How he intends maintaining the batch plants in use, and
- How he will document the design, testing, maintenance and inspections of batch plants in use.

#### *10.3.5 Explosive Actuated Fastening Devices*

The Contractor shall with reference to Section 21: Explosive actuated fastening devices, of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends controlling the issuing of explosive powered tools,
- How he intends implementing safety procedures prior to use of explosive powered tools, and
- What safety measures will be required during the use of explosive powered tools.

#### *10.3.6 Cranes*

This section of the specification shall be read in conjunction with the provisions of the Driven Machinery Regulations, 1988.

The Contractor shall with reference to Section 22: Cranes, of the Construction Regulations, 2014 and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How will environmental factors be considered in respect to the use of cranes,
- What systems he intends using to ensure the safety of all cranes in use,
- How he intends maintaining cranes in use,
- What tests will be performed to establish the safety of all cranes in use,
- What safety procedures and precautions are envisaged to ensure the safe operation of all cranes in use,
- How he will document the design, testing, maintenance and inspections of all cranes in use, and
- The contractor shall proof compliance of the Driven Machinery Regulation, 1988, with reference to the lifting machinery and tackle being used.

#### *10.3.7 Construction vehicles and mobile plant*

The Contractor shall with reference to Section 23: Construction vehicles and mobile plant of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends ensuring that construction vehicles and mobile plant are:
  - Of acceptable design and construction,
  - Maintained and in good working order,
  - Used according to design specifications, and
  - Are protected from falling into excavations, water or areas lower than the working surfaces,
- How he intends ensuring that workers are trained, authorised and physically fit to operate construction vehicles and mobile plant,
- What traffic arrangements and safety precautions will be implemented to ensure safe operation of construction vehicles and mobile plant on the Works, and
- How he intends safeguarding employees against construction vehicles and mobile plant moving on the construction site.

#### *10.3.8 Electrical Installation and Machinery on construction sites*

This section of the specification shall be read in conjunction with the provisions contained in the Electrical Installation Regulations, 2009.

The Contractor shall with reference to Section 24: Electrical Installation and machinery on construction sites of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends safeguarding employees against electrical cables or apparatus under, over or on site, and

- How he will ensure that electrical installations are of adequate strength to withstand working conditions on a construction site.

#### *10.3.9 Ladders*

The Contractor shall with reference to Section 13A of the General Safety Regulations and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How he intends ensuring that ladders used are safe and constructed of materials approved for its intended use, and
- What precaution will be made to ensure the stability of ladders in use.

## **11. MEDICAL FITNESS OF EMPLOYEES**

In this section the contractor shall with reference to Section 7(8) of the Construction Regulations, 2014, be required to describe the procedures by which employee's status of their health is determined (Entry Medicals).

The contractor shall also provide in detail the procedures by which the health of employees is monitored through a Medical Surveillance procedure.

The contractor must also provide for exit medicals in order to determine if the health of an employee have deteriorated during his/her duration of employment.

## **12. EMPLOYEE FACILITIES**

In this section the contractor shall with reference to the Facilities Regulations 2004, as well as Section 30 of the Construction Regulations 2014, be required to provide employees with the required facilities.

The contractor shall indicate exactly what facilities shall be provided.

The contractor shall also indicate how the facilities shall be maintained (cleaning and sanitizing)

Emphasis must be placed on the provisioning of toilet facilities, the maintenance services thereof and the provisioning of drinking water

## **13. MATERIALS**

### **13.1 General**

In this section of his Health and Safety Plan, the Contractor will be required to state how he intends to comply with the requirements of the Occupational Health and Safety Act, 1993 and all its regulations and related incorporated standards with regards to the design, supply, storage and erection of materials used for the temporary and permanent Works.

### **13.2 Fall Protection Equipment**

The Contractor shall with reference to Section 10: Fall Protection Equipment of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- Compilation of a fall protection plan,
- How the fall protection plan will be implemented and maintained,
- How employees will be screened and declared medically fit to work in areas where fall protection equipment is needed,

- How the safeguarding of persons, plant, vehicles, equipment and facilities on the construction site is contemplated,
- Training of staff working at heights and in the use of fall protection equipment,
- How a continuous assessment of the situation will be executed,
- How fall protection equipment will be inspected for safety, and
- How corrective actions will be implemented
- Emergency plans and procedures for treatment of incidents relating to falls from height.

### **13.3 Scaffolding**

The Contractor shall with reference to Section 16: Scaffolding of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How compliance with SABS 085 will be ensured,
- How scaffolding in use will be maintained,
- What systems are intended to ensure the safety of scaffolding used, and
- What tests will be performed to establish the safety of scaffolding used
- Training plan for scaffold erectors and inspectors.

### **13.4 Use and temporary storage of flammable liquids on construction sites**

This section of the specification shall be read in conjunction with the provisions for the use and storage of flammable goods as determined in the General Safety Regulations.

The Contractor shall with reference to Section 25: Use and temporary storage of flammable liquids on construction sites of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- How flammable liquids will be stored to minimize the risk of fire or explosions,
- How the contractor will identify a flammable store
- What safety precautions will be employed if ventilation of the flammable store is not possible,
- How access to flammable stores will be controlled,
- How empty vessels used for the storage of flammable liquids will be disposed of,
- What quantity of flammable liquids will be stored on the construction site,
- What systems are intended to ensure the safe storage of flammable liquids, and
- What retaining methods will be used to prevent the spreading of any spillage.

### **13.5 Stacking and storage**

This section of the specification shall be read in conjunction with the provisions for the stacking of articles contained in the General Safety Regulations.

The Contractor shall with reference to Section 28 Stacking and storage on construction sites of the Construction Regulations, 2014, and without limiting his obligations, cover at least the following matters in his Health and Safety Plan:

- Who will supervise the stacking and storage of materials on site, and
- What systems are intended to ensure the safe stacking and storage of materials on the site

### **13.6 Personnel Safety Equipment and Facilities**

The Contractor shall comply with Section 2 of the General Safety Regulations and shall in particular provide all necessary personnel protective equipment for his personnel for the duration of the construction period. To this end the Contractor shall without limiting his obligations indicate in his Health and Safety Plan:

- Identify training requirements in the Contractors Training plan in the use and maintenance of personal protective equipment,
- The type of personnel safety equipment he will provide,
- How he intends issuing it to his employees, and
- How he will maintain the personnel safety equipment issued.

### **13.7 First Aid, Emergency Equipment and Procedures**

The Contractor shall comply with Section 3 of the General Safety Regulations regarding first aid, emergency equipment and procedures.

## **14. CATEGORIES OF WORK**

In this section of his Health and Safety Plan, the Contractor will be required to state how he intends to comply with the requirements of the Occupational Health and Safety Act, 1993 and all its regulations and related incorporated standards with regards to the execution of the following categories of work.

### **14.1 General**

The Contractor shall, without limiting his obligations, cover at least the following matters in his Health and Safety Plan under this category of work:

#### **14.1.1 Construction welfare facilities**

Contractors will be required to adhere to Section 30: Construction welfare facilities of the Construction Regulations, 2014.

This regulation must be read in conjunction with the provisions of the Facilities Regulations, 2004 (as amended) and SANS 0400.

The Contractor must discuss the following in detail in his safety plan:

- How will the Contractor establish the amount of facilities required for employees to shower, change, eat and attend to sanitary needs
- What measures will the employer take to house employees on site who lives far from their residences or for the provision of transport

#### *14.1.2 Environmental regulations for workplaces*

The Contractor shall comply with the Environmental Regulations for Workplaces, 1987, and shall address the following aspects as described in the regulations in his Health and Safety plan:

- Thermal requirements,
- Lighting,
- Windows,
- Ventilation,
- Housekeeping,
- Noise and hearing conservation,
- Precautions against flooding, and
- Fire precautions and means of egress.

#### *14.1.3 Housekeeping on construction sites*

Contractors will be required to adhere to Section 27: Housekeeping on construction sites, of the Construction Regulations, 2014.

This regulation must be read in conjunction with the provisions of the Environmental Regulations for Workplaces, 1987 (as amended).

The Contractor must discuss the following in detail in his safety plan:

- How will contractors ensure the neatness of construction sites
- What measures does the Contractor envisage to
  - Store and/or stack materials,
  - Remove debris from site,
  - Prevent unauthorized entrance to the site
  - Protect employees or passers-by from falling objects

#### *14.1.4 Fire precaution on construction sites*

Contractors will be required to adhere to Section 29: Fire precautions on construction sites, of the Construction Regulations, 2014.

This regulation must be read in conjunction with the provisions of the Environmental Regulations for Workplaces, 1987 (as amended).

The Contractor must discuss the following in detail in his safety plan:

- How the Contractor will minimize the risk of fire on the site
- How the Contractor will identify potential fire hazards
- What prohibitions the Contractor will implement to manage risk areas
- How many employees the Contractor will train in fire fighting
- What organization the Contractor envisage to combat fires on sites
- What precautions and procedures will be followed to evacuate employees in the case of a fire

#### *14.1.5 Water Environments*

The Contractor will be required to adhere to Section 26: Water Environments, of the Construction Regulations, 2014.

The Contractor must discuss the following in detail in his safety plan:

- What precautions will the Contractor take to identify dangers where employees may fall into water
- What safety procedures and equipment will the Contractor implement to safeguard employees working at water environments

#### *14.1.6 Structures*

The Contractor will be required to adhere to Section 11: Structures, of the Construction Regulations, 2014.

The Contractor must discuss the following in detail in his safety plan:

- Explain what controls, test or precautions will be made to prevent structures from collapsing during construction,
- The Contractor shall indicate what steps will be taken and implemented to ensure that structures or parts thereof will not be loaded in such a manner that it may collapse, and
- What procedures does the Contractor envisage to implement in order to obtain all relevant data on structures before commencement of construction work.

#### *14.1.7 Hazardous Chemical Substances*

The Contractor will be required to adhere to the Regulations for Hazardous Chemical Substances 1995 as amended in the handling and storage cement of and other hazardous chemical substances.

The Contractor must discuss the following in detail in his safety plan in respect of each hazardous chemical substance that will be used in the works:

- Storage of substance
- Handling of substance
- Protective clothing and other devices to be used while handling the substance
- Medical surveillance.

#### *14.1.8 Hazardous biological agents (Contaminated areas, surfaces & equipment, tools); (Contaminated Personal Protective Equipment & Clothing)*

The Contractor will be required to adhere to Regulations for Hazardous Biological Agents read with COVID-19 OHS Directives.

The Contractor must discuss the following in detail in his safety plan in respect of each hazardous biological agents:

- Prevent exposure
- Decontaminating
- Sanitisation;
- Screening & testing;
- Isolating and quarantining;
- Engineering controls;
- Training& information;
- Safety symbolic signs;
- Provision of hand washing facilities & soap;
- Inspection of equipment;
- Competent person;
- Safe work and operating procedures;
- Personal Protective Equipment & Clothing

### **14.2 Site Clearance**

The Contractor shall, without limiting his obligations, cover at least the following matters in his Health and Safety Plan under this category of work:

#### *14.2.1 Demolition work*

Contractors will be required to adhere to Section 14: Demolition work, of the Construction Regulations, 2014.

The Contractor shall discuss the following in detail in his safety plan:

- Briefly explain how he will safeguard people and property during and after demolition works
- Briefly explain how he will protect staff from dangerous situations
- Discuss the methods proposed to safeguard the public and property against harm during demolition works

- Discuss what type of equipment he envisages to use during demolition work
- How will the Contractor ensure the safety of equipment used during demolition work
- What steps will the Contractor deem necessary to take where hazardous materials is encountered
- Dust control measures
- Noise control measures

### **14.3 Earthworks**

The Contractor shall, without limiting his obligations, cover at least the following matters in his Health and Safety Plan under this category of work:

#### **14.3.1 Excavation work**

Contractors will be required to adhere to Construction Regulation 13: Excavation work, of the Construction Regulations, 2014.

The Contractor must discuss the following in detail in his safety plan:

- How will the Contractor establish the stability of ground prior to excavations,
- What steps will the Contractor follow to ensure that bolstering, shoring and bracing is sufficient to ensure the safety of the excavation, and
- What steps will the Contractor follow to ensure the equipment used to safeguard an excavation is sufficient and safe.

### **14.4 Concrete**

The Contractor shall, without limiting his obligations, cover at least the following matters in his Health and Safety Plan under this category of work:

### **14.5 Welding, flame cutting, grinding, soldering or similar operations**

The Contractor shall comply with Section 9 of the General Safety Regulations, with regards to the welding, flame cutting, grinding, soldering or similar operations associated with pipework.

## **15. IMPLEMENTATION OF CONTRACTOR'S HEALTH AND SAFETY PLAN**

### **15.1 General**

The Contractor shall describe in his Health and Safety Plan how he intends implementing his plan.

The Contractor shall indicate the methods he intends using to ensure accurate record keeping of all critical elements identified in his risk assessment and covered in his Health and Safety Plan.

The Contractor shall indicate how internal audits will be carried out, how shortcomings will be addressed, how he intends to review the safety plans, how he would train staff and how he would implement the findings and recommendations of internal audits or inputs of employees.

## **15.2 Administrative Systems**

The Contractor's administrative system shall without limiting his obligations, cover the following:

- Up-keep of a safety file on site,
- Maintenance of his Health and Safety plan,
- Procedures to follow for the appointment of competent persons,
- Application of construction work permits or Notification of construction work
- Submit the Notification of Construction to the provincial director
- Provide a valid Letter of Good Standing
- Procedures to follow for notifications,
- Injury on duty [IOD] administration,
- Recording of minutes of safety meetings,
- Recording of checklists,
- Safe keeping of checklists, and
- Internal audits.

The Contractor shall in particular ensure that a copy of the Occupational Health and Safety Act, 1993 and its Regulations is available on the site and is easily accessible by employees.

## **15.3 Reporting Systems**

The Contractor shall comply with Section 9 of the General Administrative Regulations, 2003 and shall in particular (in accordance with section 12) furnish an inspector with information relating to health and safety on the construction site, when requested to do so.

The Contractor shall notify the Employer of any investigations, complaint or criminal charge which may arise as a consequence of the provision of the Occupational Health and Safety Act, (Act 85 of 1993) and its Regulations, pursuant to work performed in terms of this Contract.

## **15.4 Training**

The Contractor shall train all his employees in accordance with the requirements of section 13 of the Occupational Health and Safety Act, 1993. The Contractor shall ensure that every employee is informed of the following:

- The hazards of any work he must perform or plant machinery or equipment he is permitted to use, and
- The precautionary measures which should be taken regarding the above.

The Contractor shall, without limiting his obligations, indicate in his Health and Safety Plan how he intends:

- Identifying the training needs of the personnel he intends employing, and
- Implementing the training identified
- What proof of induction training will be carried by his employees (e.g., laminated type identification card)?

### **15.5 Safety Meetings**

The Contractor shall conduct at least one formal safety meeting per month with his employees to ensure safety awareness and shall maintain appropriate records of attendance and meeting content. Such records shall be made available to the Employers Safety Agent. Such meetings shall address at least the following:

- Accident / safety incidents
- Hazardous conditions
- Hazardous biological agents
- Hazardous materials / substances
- Job or work projections
- Work procedures
- Protective clothing / equipment
- Housekeeping
- General safety topics

### **15.6 Inspections and Monitoring**

The Contractor shall be required to inspect each workplace prior to works commencing to ensure that all protective equipment is in place and that by entering the workplace no person will be exposed to any hazard which could affect his health or safety. The Contractor shall without limiting his obligations, indicate the following in his Health and Safety Plan:

- The inspection and monitoring procedures he intends employing to determine the safety of workplaces, and
- Who will be responsible for the checking of each workplace at the commencement of each shift.

The Contractor shall include in his Health and safety Plan all the checklists he intends using during the inspection and monitoring of the implementation of his Health and Safety Plan.

The Contractor can expect inspections of the works by any of the following parties:

- The Employer or his Safety Agent,
- The Employer's Occupational Safety Officer, or
- The designated officer serving in the Department of Manpower and appointed by the Minister as Chief Inspector or his representative.

In addition to site inspections performed by the Employer or his safety agent they shall also do audits and assess the safety situation at the works and investigate incidents. Follow-up inspections will be performed to ensure compliance to recommendations done.

The Employer, his Safety Agent or his Occupational Safety Officer may stop the work at any time under the following conditions:

- If the Contractor is not compliant with his Health and Safety Plan
- Imminent threat to the health and safety of any person on site
- Continuous non-conformance to corrective action requests.

Inspections by the Chief Inspector or his representative will be by appointment and the purpose would be to investigate complaints received by the Inspector or to investigate serious incidents.

The Chief Inspector or his representative may issue prohibition notices to stop the activities at the works until the situation investigated has been resolved or he may issue an improvement notice whereby the Contractor will have a period to rectify any hazard identified by the inspector.

## **16. AUDITING**

### **16.1 Internal Audits**

CR

The audits contemplated in CR 5(1)(o) of the Construction Regulations, 2014 will be carried out by the Employer or his appointed Safety Agent.

The intervals for the audits shall be agreed between the Contractor and the Employer or his Safety Agent during the preparation of the Contractor's Health and Safety Plan, but shall be carried out at least once every month or at such shorter interval that an inspector may require. The Employer or his Safety Agent shall provide at least 7 calendar days' notice prior to the conducting of an audit.

The findings of each audit will be made known to the Contractor and the Employer in a report prepared by the Employer or his Safety Agent and will be submitted to all parties within seven working days of the respective audit being completed. Any shortfalls identified will be documented in the audit report together with the Contractor's proposals to rectify the same. All audit reports will be filed in the Health and Safety File.

A date for a follow up audit will be negotiated with the Contractor to verify the implementation of all actions to rectify shortfalls as identified in the audit report.

The Contractor will ensure that the same arrangement detailed above be implemented with his Contractors to ensure his compliance with the Construction Regulations as contemplated in Section 7

## **16.2 Audits by Employer or Safety Agent**

The Employer or Safety Agent will be entitled to carry out additional audits or follow-up audits, as the case may be, at any time during the construction period provided that:

- i) The audit or follow-up audit are carried out during ordinary working hours, and
- ii) The Employer or Safety Agent gives the Contractor at least 24 hours' notice of his intention to carry out such audits.

The Contractor's employees will be present during any audit carried out by the Employer or his Safety Agent.

## **17. MEASUREMENT AND PAYMENT**

### **17.1 Measurement and Payment**

17.1.1 The scheduled items for health and safety will be as specified in clause 31 of section 001 of the Standard Specifications.

17.1.2 The Contractor shall price all items scheduled in this section of the schedule of quantities to enable the Employer to comply with clause 4.1.(h) of the contract. Failure by the Contractor to price these items will force the Employer to reject the Contractor's tender in terms of clause 4.(4) of the contract.

**ANNEXURE 1**

**APPOINTMENT LETTERS**

|                             |                     |
|-----------------------------|---------------------|
| <div>Company<br/>Logo</div> | <b>Company Name</b> |
|                             | Company Address     |
|                             | Company Address     |
|                             | Code                |

Attention: (**Assistant Construction Supervisor's Name**)

**APPOINTMENT OF THE ASSISTANT CONSTRUCTION SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 8(8)**

I, (**contractor's name**) hereby appoint (**assistant construction supervisor's name**) as the assistant supervisor responsible for (**site address**) to carry out the construction work of (**description of construction work and area of responsibility**).

In terms of this appointment, you are required to ensure that all construction work performed under your supervision is carried out as follows:

1. By persons suitably trained and competent to do such work;
2. That all persons are aware and understand the hazards attached to the work being carried out;
3. That the required risk assessments are carried out;
4. That precautionary measures are identified and implemented;
5. That discipline is enforced at the construction site at all times;
6. That all identified statutory requirements are met; and
7. That any other interest in terms of health and safety with respect to the responsible area is met.
8. You will accept the duties of the Construction Supervisor in his absence.

You are required to report any deviations of the above-mentioned instruction to (**construction supervisor's name**) and in his absence to the contractor's representative.

This appointment is valid from (**date**) to the completion of the stipulated construction work.

You shall submit a written weekly report any non-compliance with the construction Regulations, 2014.

|                                       |           |      |
|---------------------------------------|-----------|------|
| Contractor's Representative full name | Signature | Date |
| .....                                 |           |      |

Kindly confirm your acceptance of this appointment by completing the following:

I, (**assistant construction supervisor**) understand the implications of the appointment as detailed above and confirm my acceptance.

|                                               |           |      |
|-----------------------------------------------|-----------|------|
| Assistant construction supervisor's full name | Signature | Date |
|-----------------------------------------------|-----------|------|

|                             |                     |
|-----------------------------|---------------------|
| <div>Company<br/>Logo</div> | <b>Company Name</b> |
|                             | Company Address     |
|                             | Company Address     |
|                             | Code                |

Attention: (**Safety Officer's Name**)

**APPOINTMENT OF THE CONSTRUCTION HEALTH AND SAFETY OFFICER IN TERMS OF CONSTRUCTION REGULATION 8(5)**

I, (**contractor's name**) hereby appoint (**safety officer's name**) as the Construction Health and Safety Officer responsible for (**site address**) to manage all the health and safety issues as required in terms of the Act by establishing a health and safety program with elected health and safety Representatives.

You shall ensure that all the requirements in terms of the Act and in particular in terms of the Construction Regulations, 2014 are met. You shall also ensure that all appointed sub-contractors comply with the requirements as stipulated in the Construction Regulations, 2014.

You shall further ensure that all records, registers and required lists are maintained and shall stop construction work upon identifying any non-compliance by any contractor; this includes stopping any work should the competency of the person carrying out such work be questionable.

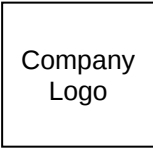
This appointment is valid from (**date**) to the completion of the stipulated construction work.

|                                       |           |       |
|---------------------------------------|-----------|-------|
| _____                                 | _____     | _____ |
| Contractor's Representative full name | Signature | Date  |

.....  
Kindly confirm your acceptance of this appointment by completing the following:

I, (**construction health and safety officer's name**) understand the implications of the appointment as detailed above and confirm my acceptance.

|                                                  |           |       |
|--------------------------------------------------|-----------|-------|
| _____                                            | _____     | _____ |
| Construction Health & Safety Officer's full name | Signature | Date  |



**Company Name**  
**Company Address**  
**Company Address**  
**Code**

Attention: **(Construction Vehicle and Mobile Plant Inspector)**

**APPOINTMENT OF THE CONSTRUCTION VEHICLE AND MOBILE PLANT INSPECTOR IN TERMS OF CONSTRUCTION REGULATION 23(1)(k)**

I, **(contractor’s name)** hereby appoint **(construction vehicles and mobile plant inspector’s name)** as the construction vehicles and mobile plant inspector responsible for **(site address)** to inspect on a daily basis all construction vehicles and mobile plant, as per the provided checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to construction vehicles and mobile plant that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2014 are at all times met.

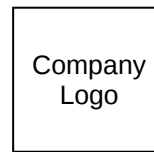
This appointment is valid from **(date)** to the completion of the stipulated construction work.

|                                       |           |       |
|---------------------------------------|-----------|-------|
| _____                                 | _____     | _____ |
| Contractor’s Representative full name | Signature | Date  |
| .....                                 |           |       |

Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction vehicles and mobile plant inspector’s full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

|                                                              |           |       |
|--------------------------------------------------------------|-----------|-------|
| _____                                                        | _____     | _____ |
| Construction vehicles and mobile plant inspector’s full name | Signature | Date  |



**Company Name**  
**Company Address**  
**Company Address**  
**Code**

Attention: **(Sub-Contractor's Name)**

**APPOINTMENT OF SUB-CONTRACTOR IN TERMS OF THE CONSTRUCTION REGULATION 7(1)(c)(v)**

I, **(contractor's name)** hereby appoint **(sub-contractor's name)** as the sub-contractor responsible for **(site address)** to carry out the construction work of **(description of construction work)**.

You shall ensure that you meet all the requirements in terms of the Act and in particular in terms of the section 37(2) agreement and the Construction Regulations, 2014. You shall also ensure that all contractors appointed by yourself and reporting to you comply with the requirements as stipulated in the Construction Regulations, 2014.

You shall also ensure that all the information and specifications to ensure that the construction work is carried out in a safe manner are carried over to all contractors appointed and reporting to you.

You shall further ensure that all records, registers and required lists are maintained and that all persons appointed to carry out tasks as stipulated by these regulations are competent and have the necessary resources to complete their tasks effectively in such a manner that health and safety is not in any manner compromised.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

You shall submit a written weekly report on all shortfalls that have not been met in terms of these regulations.

\_\_\_\_\_  
Contractor's Representative full name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(sub-contractor's name)** understand the implications of the appointment as detailed above and confirm my acceptance.

\_\_\_\_\_  
Sub-Contractor's Representative full name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

|                             |                     |
|-----------------------------|---------------------|
| <div>Company<br/>Logo</div> | <b>Company Name</b> |
|                             | Company Address     |
|                             | Company Address     |
|                             | Code                |

Attention: (**Construction Supervisor's Name**)

**APPOINTMENT OF THE CONSTRUCTION SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 8(7)**

I, (**contractor's name**) hereby appoint (**construction supervisor's name**) as the Supervisor responsible for (**site address**) to carry out the construction work of (**description of construction work and area of responsibility**).

In terms of this appointment, you are required to ensure that all construction work performed under your supervision is carried out as follows:

1. By persons suitably trained and competent to do such work;
2. That all statutory appointments have been completed;
3. That, where required, health and safety committees are established and that meetings are accordingly held;
4. That all persons are aware and understand the hazards attached to the work being carried out;
5. That the required risk assessments are carried out;
6. That precautionary measures are identified and implemented;
7. That discipline is enforced at the construction site at all times;
8. That all identified statutory requirements are met; and
9. That any other interests in terms of health and safety with respect to the responsible area is met.
10. You will in writing delegate your duties to the Assistant Construction Supervisor while absent from site.

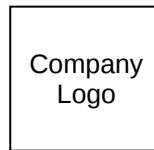
You are required to report any deviations of the above-mentioned instructions to (**contractor's name**). This appointment is valid from (**date**) to the completion of the stipulated construction work. You shall submit a written weekly report on all shortfalls that have not been met in terms of these regulations.

|                                                |                    |               |
|------------------------------------------------|--------------------|---------------|
| _____<br>Contractor's Representative full name | _____<br>Signature | _____<br>Date |
|------------------------------------------------|--------------------|---------------|

Kindly confirm your acceptance of this appointment by completing the following:

I, (**construction supervisor**) understand the implications of the appointment as detailed above and confirm my acceptance.

|                                              |                    |               |
|----------------------------------------------|--------------------|---------------|
| _____<br>Construction Supervisor's full name | _____<br>Signature | _____<br>Date |
|----------------------------------------------|--------------------|---------------|



**Company Name**  
**Company Address**  
**Company Address**  
**Code**

Attention: (**Excavation Work Supervisor's Name**)

### **APPOINTMENT OF THE EXCAVATION WORK SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 13(1)(a)**

I, (**contractor's name**) hereby appoint (**excavation work supervisor's name**) as the excavation work supervisor responsible for (**site address**) to supervise and carry out all the necessary inspections in terms of all excavation work as per the provided checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to excavation work that that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations are at all times met.

This appointment is valid from (**date**) to the completion of the stipulated construction work.

---

|                                       |           |      |
|---------------------------------------|-----------|------|
| Contractor's representative full name | Signature | Date |
|---------------------------------------|-----------|------|

Kindly confirm your acceptance of this appointment by completing the following:

I, (**excavation work supervisor's full name**) understand the implications of the appointment as detailed above and confirm my acceptance.

---

|                                      |           |      |
|--------------------------------------|-----------|------|
| Excavation Work Supervisor full name | Signature | Date |
|--------------------------------------|-----------|------|



**Company Name**  
**Company Address**  
**Company Address**  
**Code**

Attention: (**Ladder Inspector's Name**)

### **APPOINTMENT OF THE LADDER INSPECTOR IN TERMS OF GENERAL SAFETY REGULATIONS 13A (1)**

I, (**contractor's name**) hereby appoint (**ladder inspector's name**) as the ladder inspector responsible for (**site address**) to manage ladders on site. You should inspect the ladders as per the checklist at least once a week.

You shall ensure that when becoming aware of any health and safety hazards in respect to ladders that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2014 are at all times met.

This appointment is valid from (**date**) to the completion of the stipulated construction work.

\_\_\_\_\_  
Contractor's representative full name      Signature      Date

Kindly confirm your acceptance of this appointment by completing the following:

I, (**ladder inspector's full name**) understand the implications of the appointment as detailed above and confirm my acceptance.

\_\_\_\_\_  
Ladder inspector's full name      Signature      Date

|                             |                     |
|-----------------------------|---------------------|
| <div>Company<br/>Logo</div> | <b>Company Name</b> |
|                             | Company Address     |
|                             | Company Address     |
|                             | Code                |

Attention: **(Risk Assessor’s Name)**

**APPOINTMENT OF THE CONSTRUCTION SITE RISK ASSESSOR IN TERMS OF CONSTRUCTION REGULATION 9(1)**

I, **(contractor’s name)** hereby appoint **(risk assessor’s name)** as the construction site risk assessor responsible for **(site address)** to carry out risk assessments prior to the commencement of construction work and any other risk assessment that may be required for the duration of the construction work.

You shall ensure that all risks are identified and analyzed and that safe working procedures are drafted and implemented to reduce, mitigate or controls the hazards that were identified.

You will at least use the risk evaluation program with the provided checklists.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

|                                       |           |       |
|---------------------------------------|-----------|-------|
| _____                                 | _____     | _____ |
| Contractor’s representative full name | Signature | Date  |

Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction site risk assessor’s name)** understand the implications of the appointment as detailed above and confirm my acceptance.

|                                             |           |       |
|---------------------------------------------|-----------|-------|
| _____                                       | _____     | _____ |
| Construction site Risk Assessor’s full name | Signature | Date  |

|                             |                     |
|-----------------------------|---------------------|
| <div>Company<br/>Logo</div> | <b>Company Name</b> |
|                             | Company Address     |
|                             | Company Address     |
|                             | Code                |

Attention: **(Scaffolding Supervisor's Name)**

**APPOINTMENT OF THE SCAFFOLDING SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 16(1)**

I, **(contractor's name)** hereby appoint **(scaffolding supervisor's name)** as the scaffolding supervisor responsible for **(site address)** to supervise and carry out all the necessary inspections in terms of all scaffolding work. (Whether newly erected, altered or moved as per the provided checklist)

You shall ensure that when becoming aware of any health and safety hazards in respect to scaffolding work that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2014 are at all times met.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

|                                       |           |       |
|---------------------------------------|-----------|-------|
| _____                                 | _____     | _____ |
| Contractor's Representative full name | Signature | Date  |

Kindly confirm your acceptance of this appointment by completing the following:

I, **(scaffolding supervisor's full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

|                                    |           |       |
|------------------------------------|-----------|-------|
| _____                              | _____     | _____ |
| Scaffolding Supervisor's full name | Signature | Date  |



**Company Name**  
**Company Address**  
**Company Address**  
**Code**

Attention: **(Stacking and Storage Supervisor’s Name)**

**APPOINTMENT OF THE STACKING AND STORAGE SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 28(a)**

I, **(contractor’s name)** hereby appoint **(stacking and storage supervisor’s name)** as the stacking and storage supervisor responsible for **(site address)** to manage all stacking and storage on site.

You shall inspect all new stacking and thereafter as often as needed according to the checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to stacking and storage that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations are at all times met. On identifying any shortfalls or hazards convey such information in writing to the construction supervisor.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

|                                       |            |      |
|---------------------------------------|------------|------|
| _____                                 | _____      |      |
| Contractor’s Representative full name | Supervisor | Date |

Kindly confirm your acceptance of this appointment by completing the following:

I, **(stacking and storage supervisor’s full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

|                                             |           |      |
|---------------------------------------------|-----------|------|
| _____                                       | _____     |      |
| Stacking and Storage Supervisor’s full name | Signature | Date |

## **ANNEXURE 2**

### **NOTIFICATION TEMPLATES**

Company  
Logo

**Company Name**  
*Company Address*  
*Company Address*  
*Code*

Attention: The Provincial Director  
The Department of Labour  
[Postal Address\*]

## **NOTIFICATION OF CONSTRUCTION WORK ON CONTRACT [NUMBER] [CONTRACT DESCRIPTION]**

In terms of regulation 4. (1) of the Construction Regulations, 2014 promulgated on 07 February 2014 in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993), we hereby notify you of our intention to commence construction works on the abovementioned contract, which:

- Includes the demolition of a structure exceeding a height of 3 meters,
- Includes the use of explosives to perform the construction work,
- Includes the dismantling of fixed plant at a height greater than 3 meters,
- Will exceed 30 days or will involve more than 300-person days of construction,
- Includes excavation work deeper than 1 meter, or
- Includes working at a height greater than 3 meters above ground or a landing.

### **1. Parties involved on the Contract**

1.1 The Principal Contractor is: [Contractor's Name]  
[Contractor's postal address]  
[Contractor's postal address]  
Att: [Contractor's contact person and telephone number]

1.2 The Client (Employer) is: [Employer's Name]  
[Employer's postal address]  
Att: [Employer's contact person and telephone number]

1.3 The Client's Safety Agent is: [Safety Agent's Name]  
[Safety Agent's postal address]  
Att: [Safety Agent's contact person and telephone number]

1.4 The Contractor's Construction Supervisor is: [Contractor's Construction Supervisor's name and telephone number]

## 2. Details of the construction works

- 2.1 The physical address of the works is: [Physical address of works]  
[Physical address of works]
- 2.2 The nature of the construction works is: [Provide a description of the works].
- 2.3 The expected commencement date of the Works is : [Insert expected commencement date]
- 2.4 The expected completion date of the works is : [Insert expected completion date]
- 2.5 The estimated maximum number of persons on the construction site:
- 2.6 A total of \_\_\_\_\_ contractors will be accountable to the Principal Contractor on the construction site during the execution of the Works. The names of the contractors already chosen are as follows: [Provide a list of the Contractor's subcontractors already appointed]

## 3. Other details

- 3.1 The Principal Contractor's compensation registration number is: \_\_\_\_\_
- 3.2 Keep a copy of this notification of construction on site for inspection.

We trust the above is in order.

Yours faithfully,

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\* Postal Address of Provincial Director as indicated in regulation 1 of the General Administrative Regulations, 1996.

## **ANNEXURE 3**

### **IDENTIFIED HEALTH AND SAFETY HAZARDS**

### **ANNEXURE 3: IDENTIFIED HEALTH AND SAFETY HAZARDS**

In terms of Regulation 9(1) (b) of the Construction Regulations 2014 the following hazards anticipated with the scope of work have been identified.

**NOTE:** The list of potential hazards is by no means intended to be all inclusive and is not limited to this list, and it remains the responsibility of the Contractor to identify all possible hazards with regards to his scope of work and to put measures in place to mitigate, reduce or control these hazards.

#### **Potential Hazards**

1. Commissioning of new installations
2. Confined space entry
3. Demolition/breaking into existing structures
4. Excavation shoring / brazing
5. Excavations been flooded during rainy season
6. Explosives
7. Hazardous material handling / storage / management
8. Heat stress
9. Loading and offloading vehicles
10. Manual handling of materials
11. Plant and equipment integrity
12. Public and traffic safety
13. Requirements for plant isolations
14. Safe usage and storage of Oxygen, Acetylene and LPG cylinders
15. Scaffolding
16. Stacking and storage of equipment / materials
17. Tie-ins into existing equipment
18. Usage of compressed air and equipment
19. Work involving radioactive sources
20. Working in operational areas
21. Working on live electrical installations / sub-stations / MCC rooms
22. Working on moving equipment.
23. Contaminated areas, surfaces & equipment, tools; Contaminated Personal Protective Equipment & Clothing.

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**APPOINTMENT OF A CONTRACTOR FOR THE CONSTRUCTION OF  
A PUMP STATION, BULK SEWER UPGRADING AND SEWER LINK  
CONNECTION TO CONNECT 1051 RETICULATED STANDS AT  
MAMELODI X6 PHOMOLONG.**

**C3.9 REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE  
ENVIRONMENTAL MANAGEMENT PLAN**

## **C3.9 REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE ENVIRONMENTAL MANAGEMENT PLAN**

### **1. INTRODUCTION**

The EMP will address the environmental impacts during the design, construction and operational phases of a project. Due regard must be given to environmental protection during the entire project. In order to achieve this a number of environmental specifications/recommendations are made. These are aimed at ensuring that the Contractor maintains adequate control over the project in order to:

Minimise the extent of impact during construction,  
Ensure appropriate restoration of areas affected by construction.  
Prevent long term environmental degradation.

The contractor must be made aware of the environmental obligations that are stipulated in this document, and declares himself/herself to be conversant of all relevant environmental legislation. The Contractor should also be aware that the Engineer will monitor the implementation of the procedures.

### **2. POLICY STATEMENT**

The construction will be to the best management practices as identified to minimize the environmental impact of activities associated with the development.

### **3. OBJECTIVES OF THE EMP**

The EMP has the following goals:

- Identifying those construction activities that may have a detrimental impact on the environment;
- Detailing the mitigation measures that will need to be taken, and the procedures for their implementation;
- Establishing the reporting system to be undertaken during the construction.

The EMP also serves to highlight specific requirements that will be monitored during the development and should the environmental impacts not have been satisfactory prevented or mitigated; corrective action will have to be taken. The document should, therefore, be seen as a guideline that will assist in minimising the potential environmental impact of activities.

### **4. DESIGNATED ENVIRONMENTAL OFFICER**

For the purpose of the EMP, a nominated representative of the Contractor should be the designated environmental officer for the project. The nominated representative of the Contractor will therefore be responsible for ensuring that the provisions of the EMP are complied with. The Engineer will be responsible for issuing instructions to the Contractor where environmental considerations call for action to be taken. The environmental officer will submit monthly reports

to the Engineer on site who will verify the information.

## **5. LEGAL REQUIREMENTS**

Under normal circumstances and EMP would be the end result or the final stage in the EIA procedure. However, a working agreement was negotiated between the National Department of Environmental Affairs and Tourism (DEAT) and the City of Tshwane Metropolitan Municipality. The agreement stipulates the project types the City of Tshwane Metropolitan Municipality need to submit to DEAT for approval and those project types the City of Tshwane Metropolitan Municipality do not need to submit for approval. For those actions that do not need approval, the City of Tshwane Metropolitan Municipality undertook to compile generic EMP's to assist to minimising degradation to the area. The following project types fall in this non-approval category: periodic maintenance, special maintenance, rehabilitation and specific upgrades.

## **6. MITIGATION MEASURES**

In setting mitigation measures, the practical implications of executing these measures must be borne in mind. With early planning, both the cost and the impacts can be minimised.

### **6.1 Establishment of site offices**

#### **6.1.1 Site plan**

The Contractor shall provide the Engineer on site with a plan detailing the layout of site offices facilities, such as chemical toilets, areas for stockpiling of material, storage of hazardous materials and provision of containers. The site offices should not be sited in close proximity to steep areas as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the site, and in particular the ablution facilities, aggregate stockpiles and hazardous material stockpiles are located as far away as possible from any water course as possible.

The site plan shall be submitted before the site hand over meeting. Read with Standard Specifications for Municipal Civil Engineering Works: Section 001 and 002.

#### **6.1.2 Vegetation**

The vegetation surrounding the site offices is to be left as intact as possible and vegetation planted at the site should be indigenous. Only trees directly affected by the works and such others as may be indicated by the Engineer in writing, may be sawn off/removed.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien invader plant shall be cleared by hand before seeding. Read with Specifications: 104 – Landscaping and grassing.

#### 6.1.3 Rehabilitation

The site offices will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas are to be removed from the site on completion of the contract. Read with Specifications Sections 001, 002 and 104.

#### 6.1.4 Water for human consumption

Water for human consumption must be tested and treated in accordance with recommendations.

#### 6.2 Sewage treatment

Adequate toilet facilities are to be provided. Use of the veld for this purpose shall not, under any circumstances, be allowed. The Contractor shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the Engineer. Latrines shall be positioned within walking distance from wherever employees are employed on the works.

Save and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak always, dry composting toilets such as “enviro loos”, or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets is to be done in consultation with the Site Engineer.

Read with Specifications 104.

#### 6.3 Waste management

Waste management and waste minimisation must be implemented at the outset of the contract.

##### 6.3.1 Litter

No littering by construction workers are allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site is to be kept free of litter. Read with Specifications Sections 001 and 002.

##### 6.3.2 Removal of solid waste

Solid waste is to be stored in an appointed area for collection and disposal. A refuse control system must be established for the collection and removal of refuse to the satisfaction of the Engineer. Disposal of solid waste will be in a Department of Water Affairs and Forestry (DWAF) licensed landfill site.

### 6.3.3 Hazardous waste

Hazardous waste such as bitumen, tar, oils, etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care must be taken when using tar products such as tar prime or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

## 6.4 Soil management

### 6.4.1 Topsoil

The contract provides for the stripping and stockpiling of topsoil from the site for later reuse. Topsoil is considered to be of a minimum thickness of  $\pm 300$  mm of the natural soil, including all the vegetation and organic matter. The areas to be cleared of topsoil shall include the storage areas. Weeds appearing on the stockpiled topsoil shall be removed by hand before seeding. Soils contaminated by hazardous substances shall be disposed of in an approved Department of Water Affairs and Forestry waste disposal site.

### 6.4.2 Borrow material

The Contractor's attention is drawn to the requirements set forth by the Department of Mineral and Energy Affairs in terms of the submission of EMPR's for establishment, operation and rehabilitation of borrow pits and quarries. The cost of complying with the requirements shall be deemed to be included in existing rates in the schedule of quantities. Read with the Specification Section 203.

## 6.5 Discovery of archaeological sites, artifacts or graves

### 6.5.1 Archaeological site

If an artefact on site is uncovered, work in the immediate vicinity must be stopped immediately. The Contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the Engineer of such discovery. The National Monuments Council must be contacted who will appoint an archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. Read with General Conditions of Contract.

### 6.5.2 Graves

If a grave on site is uncovered, work in the immediate vicinity must be stopped and an undertaker as well as the National Monuments Council should be contacted. The undertaker will place advertisements in the newspapers concerning the grave. He will also provide for the relocation of bones, should it be necessary. Read with General Conditions of Contract.

## 6.6 Stockpiled material

The Contractor shall so plan his activities that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material must be indicated and demarcated on the site plan and approved in writing by the engineer.

The area chosen shall be devoid of indigenous trees and shrubs. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. After the stockpiled material has been removed, the site shall be reinstated as closely as possible to its original condition. All areas affected by stockpiling shall be landscaped, top soiled and grassed to the Engineer's approval and at the Contractor's cost.

Material milled out of the existing road surface that is temporarily stockpiled within the road reserve shall:

- be stockpiled so as to be as inconspicuous as possible
- be prevented from contaminating water courses,
- be cleared of weeds.

In all cases, the areas for stockpiling and disposal of construction rubble shall be approved by the Engineer before such operation commences.

Read with Series 2: Earthworks – Section 203.

## 6.7 Fuel, diesel and other hazardous materials

### 6.7.1 Hazardous materials

All hazardous materials i.e. bitumen binders shall be stored in an appointed area that is fenced and has restricted entry. Storage of bituminous products shall only take place using suitable containers to the approval of the Engineer.

Under no circumstances shall the spoiling of bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected bituminous products shall be taken to the supplier's production plant. No spillage of bituminous products shall be allowed on site. Affected areas shall be promptly reinstated to the satisfaction of the Engineer.

### 6.7.2 Fuel

Should any fuel storage tank be required on site, the Contractor shall ensure that he has complied with the necessary legal requirements for the erection of such tanks. Leakage must be avoided. The fuel and diesel must be stored in a bunded area with adequate containment (at least 1,5 times the volume of the fuel) for potential spills and leaks.

#### 6.7.3 Oil, grease

Oil, grease and cleaning materials from the maintenance of vehicles and machinery shall be collected in a sump and sent back to the supplier or, otherwise disposed of at a registered site.

#### 6.7.4 Cooking oil

The Contractor should ensure that sufficient fuel is available for heating and cooking purposes should this be necessary.

#### 6.7.5 Spillages

Streams, rivers and dams must be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous products. In the event of a spillage, prompt action must be taken by competent instances to clear the affected area.

#### 6.8 General considerations

Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a designated register and the response noted with the date and action taken. This record must be submitted with the monthly reports.

Any avoidable non-compliance with the above-mentioned measures may be considered sufficient ground for withholding payment of part or all amounts to be paid for the said item.

### 7. MEASUREMENT AND PAYMENT

The Contractor shall not be separately reimbursed or compensated in respect of his compliance with the provisions of this part of the Scope of Works. All costs so incurred shall, save and except to the extent provided for the schedule of quantities under SECTION 001: GENERAL REQUIREMENTS AND CHARGES, be deemed to be included in the rates tendered for the various items of work listed in the schedule of quantities.

**TABLE 1 SUMMARY OF MITIGATION MEASURES**

| <b>ENVIRONMENTAL COMPONENT</b>       | <b>ACTIVITY</b>                        | <b>MITIGATION</b>                                                                                                                                                                                                                                                                                                                                              | <b>RELEVANT SECTION IN SPECIFICATIONS</b> |
|--------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
| <i>Establishment of site offices</i> | <i>Siting of offices</i>               | <i>Preferred areas would be flat areas along the route. Avoid steep areas as soil erosion could increase. Avoid water courses</i>                                                                                                                                                                                                                              | 001<br>002.02.01                          |
|                                      | <i>Site Plan</i>                       | <i>Contractor will provide engineer detail of layout of site facilities within two weeks of moving to the site ie chemical toilets, the demarcation of areas for stockpiling of materials, storage of hazardous materials and the provision of containers. The offices shall be fenced. The site plan will be submitted before the site hand over meeting.</i> | 001<br>002                                |
| <i>Site rehabilitation</i>           | <i>Cleanup</i>                         | <i>All construction material is to be removed from the site on completion of the contract.</i>                                                                                                                                                                                                                                                                 | 001<br>002<br>104                         |
| <i>Vegetation</i>                    | <i>On site</i>                         | <i>Vegetation planted on the site should be indigenous. Only trees directly affected by works as indicated in writing by Engineer, shall be sawn off/removed</i>                                                                                                                                                                                               | 104                                       |
|                                      | <i>Weeds</i>                           | <i>Clearance of weeds must be done by hand before seeding.</i>                                                                                                                                                                                                                                                                                                 | 104                                       |
|                                      | <i>Grass cover</i>                     | <i>The grass cover surrounding the construction site is to be left as in tact as possible or restored to its original condition.</i>                                                                                                                                                                                                                           | 104                                       |
| <i>Water</i>                         | <i>Available for human consumption</i> | <i>Water for human consumption must be tested and treated in accordance with recommendations.</i>                                                                                                                                                                                                                                                              |                                           |
| <i>Soil management</i>               | <i>Topsoil</i>                         | <i>The topsoil (<math>\pm</math> 300 mm) of any excavation shall be removed and stockpiled separately from underlying material in an appointment area</i>                                                                                                                                                                                                      | 203<br>104                                |

| <b>ENVIRONMENTAL COMPONENT</b>                | <b>ACTIVITY</b>                                      | <b>MITIGATION</b>                                                                                                                                                                                                                                                                        | <b>RELEVANT SECTION IN SPECIFICATIONS</b> |
|-----------------------------------------------|------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                               | <i>Borrow material</i>                               | <i>EMPR's for borrow pits to be submitted to the Department of Mineral and Energy Affairs for approval</i>                                                                                                                                                                               | 201<br>203                                |
| <i>Archaeological &amp; Cultural sites</i>    | <i>Discover of archaeological sites of artefacts</i> | <i>If an artefact on site is uncovered, work in the immediate vicinity must be stopped immediately and an archaeological consultant must be contacted. Work may only resume once clearance is given in writing by the archaeologist.</i>                                                 | GCC                                       |
| <i>Graves</i>                                 | <i>Discovery of graves</i>                           | <i>If a grave on site is uncovered, work in the immediate vicinity must be stopped and an undertaker should be contacted</i>                                                                                                                                                             | GCC                                       |
| <i>Waste management</i>                       | <i>Solid &amp; Construction waste</i>                | <i>Solid waste is to be stored in an appointment area for collection and disposal. Disposal of waste will be in a DWAF licensed landfill, and no waste may be burnt on site.</i>                                                                                                         |                                           |
|                                               | <i>Litter</i>                                        | <i>The site is to be kept free of litter</i>                                                                                                                                                                                                                                             | 001                                       |
| <i>Sewage treatment</i>                       | <i>Toilet facilities</i>                             | <i>Adequate toilet facilities are to be provided, and the siting of chemical toilets is to be done in consultation with the site engineer. Use of the veld for this purpose shall not be allowed.</i>                                                                                    | 001<br>002                                |
| <i>Fuel, diesel &amp; hazardous materials</i> | <i>Hazardous Materials</i>                           | <i>All hazardous materials ie bitumen binders will be stored in an appointed area that is fenced and has restricted entry. No spoiling of bituminous products on site, over embankments, in borrow pits or any burning. No spillage of bituminous products shall be allowed on site.</i> |                                           |
|                                               | <i>Fuels</i>                                         | <i>All fuel tanks will be stored in an appointed area. Leakage will be avoided.</i>                                                                                                                                                                                                      |                                           |

| <b>ENVIRONMENTAL COMPONENT</b> | <b>ACTIVITY</b>           | <b>MITIGATION</b>                                                                                                                                                                                                                                                | <b>RELEVANT SECTION IN SPECIFICATIONS</b> |
|--------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|
|                                | <i>Cooking fuel</i>       | <i>The Contractor should ensure that sufficient fuel is available for heating and cooking purposes should this be necessary.</i>                                                                                                                                 |                                           |
|                                | <i>Oil, grease</i>        | <i>Oil, grease and cleaning materials from maintenance of vehicles shall be collected in a sump and sent back to supplier.</i>                                                                                                                                   |                                           |
|                                | <i>Spillages</i>          | <i>Streams, rivers or dams must be protected against spillages of pollutants mentioned in 6.7 (e). In the event of a spillage, prompt action must be taken to clear the affected area.</i>                                                                       |                                           |
| <i>General considerations</i>  | <i>Lines of authority</i> | <i>A nominated representative of the contractor will be the designated environmental officer for the site.</i>                                                                                                                                                   | <b>RELEVANT SECTION IN SPECIFICATIONS</b> |
|                                | <i>Reports</i>            | <i>The environmental officer will submit monthly reports to the Engineer who will verify the information</i>                                                                                                                                                     |                                           |
|                                | <i>Complaints</i>         | <i>Complaints received regarding activities on the construction site pertaining to the environment should be recorded in a designated register, and the response noted with the date and action taken. This record must be submitted with the monthly report</i> |                                           |

CITY OF TSHWANE  
HUMAN SETTLEMENTS DEPARTMENT

CONTRACT NO: HHS 01-2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR  
THE CONSTRUCTION OF A PUMP STATION, BULK SEWER  
UPGRADING AND SEWER LINK CONNECTION TO CONNECT  
1051 RETICULATED STANDS AT MAMELODI X6 PHOMOLONG**

**C4            SITE INFORMATION**

## **C4.1 LOCALITY**



## **C4.2 SOIL CONDITIONS**

## **Soil Conditions**

From the field data recorded in the Geotechnical Investigation Report for the Site in August 2023, the biggest challenge facing these works will be the control of groundwater in excavations

Stormwater remain ponded on the ground surface where this is underlain by silty clayey (alluvial) soils, and then aquichidial properties also appear to confine groundwaters below the alluvium to the contact zone with residual soils / bedrock, once this surface layer of alluvium is pierced, the groundwater can rise to between 1.5 to 2.0m at these locations.

The following methods of groundwater control are recommended for use on this project:

- (i) Pumping from open sumps
- (ii) Pumping from well points
- (iii) Pumping from bored wells

The proximity of the nearby roads is a potential hazard and any dewatering measure must be controlled and monitored by piezometers to ensure that stabilising of the roads is maintained.

Well point methods on the pipeline route is favoured whilst the use of bored wells is recommended for the pump station. Groundwater control or management is a specialist field and it is recommended that the issue be dealt with by a competent specialist.

## **Conclusion and Recommendation**

- It is considered that conditions prevailing at the site are generally favourable for the structural elements of the development, provided the recommendations given in this report are adhered to.
- New sewer line should be designed in the way that in can be able to accommodate the community and future development.
- The pipeline should be excavated according to the SANS or City of Tshwane standards and to the depth as per design recommendation so that it will all flow with free gravity to the connection point.
- The site can also be designated as Site Class S and manholes can be founded on lightly reinforced strip footings on the backfill and light reinforcement in the masonry.
- Drainage system can also be considered to keep directing the rainwater away from the structure and manholes.
- Pipe should be covered with blanket material as per SANS requirement.
- Proper backfilling using in-situ excavated (G7 to G9) materials for bedding below the sewer pipeline be compacted to at-least 93%/ 95% Mod ASSHTO density and 300mm layer of top-soil material to be put at-least above the backfilling to the ground level.
- Pipe pressure testing to design requirement should be done to make sure that no leakages prior blanketing.

- Informal market structures (business structures) were built very close to the road reserve alongside Mohwelere street, Fibre cable line need to be taken care of as it's also constructed on the proposed site alongside with Mohwelere street, Rand water pipeline as well shows some pipeline as well as marks along the gravel street (Motswiriri street) that continues form Mohwelere street. Construction for upgrading Solomon Mahlangu drive to Mamelodi east is also busy.