

**ROADS AND TRANSPORT DEPARTMENT
TRANSPORTATION PLANNING DIVISION**



TENDER REFERENCE: RTD 12-2025/26

**TENDER FOR THE APPOINTMENT OF A PROFESSIONAL ENGINEERING
CONSULTING FIRM TO ASSIST WITH STORMWATER AND CATCHMENT
MANAGEMENT IN TSHWANE – 3 YEAR PERIOD, AS AND WHEN
REQUIRED**

VOLUME 1

| | |
|---|---|
| ISSUED BY: | PREPARED BY: |
| Supply Chain Management PO Box 48 PRETORIA 0001 Tel: 012 358 7975 | The Group Head <u>Roads and Transport Department</u> PO Box 1409 PRETORIA 0001 Tel: 012 358 1064 |

| | |
|------------------------------|-----------------|
| Registered Name of Tenderer: | |
| Trading Name of Tenderer: | |
| Registration No. of Entity: | |
| Contact Person: | CoT Vendor No: |
| Tel. No: | E-Mail Address: |
| Cell No: | Fax No: |

Contract: RTD 12-2025/2026
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

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PORTION 1: TENDER

PART T1: TENDER PROCEDURES

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Contract: RTD 12-2025/2026

Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T1: TENDER PROCEDURES

T1.1 TENDER NOTICE AND INVITATION TO TENDER

CITY OF TSHWANE

ROADS AND TRANSPORT DEPARTMENT

RTD 12-2025/26: TENDER FOR PROFESSIONAL ENGINEERING SERVICES TO ASSIST WITH STORMWATER AND CATCHMENT MANAGEMENT IN TSHWANE FOR A PERIOD OF 3 YEARS AS AND WHEN REQUIRED

Tenders are hereby invited for the above services.

Tenders will be evaluated on the basis of awarding points for specific goals of Contributor for the Construction Charter Scorecard and quality of the tenderer. The **80/20 Preference** Point System will be applied to the all tenders.

Tender documents are downloadable on National Treasury e-tender website (www.etenders.gov.za) and the City's Website (www.tshwane.gov.za).

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of 90 days after the closing date for the submission of tenders, during which period a tender may not be amended or withdrawn and may be accepted at any time by the Municipality.

A **COMPULSORY CLARIFICATION MEETING** with a representative of the Employer will take place in Room I-52, Centurion Municipal Offices Basden Street, corner with Rabie Street, Die Hoewes, Centurion on **the 24 March 2026 at 10:00.**

The closing time for receipt of tenders is **17 April 2026 at 10:00.** 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 **Divisional Head, SUPPLY CHAIN MANAGEMENT, 320 Madiba Street, PRETORIA, 0002 and must be submitted in the tender box situated at the Procurement Advice Centre, Tshwane House, 320 Madiba Street, Pretoria, 0002.** Tenders will be opened at the latter address at the time indicated.

ENQUIRIES: Representative: Mr. Pieter Odendaal Pr.Eng
Telephone: 012 358 7995
E-mail: pieterao@tshwane.gov.za

Supply Chain Municipality Representative: Lukkiet Thobejane
Telephone: 012 358 6282
E-mail: lukkiet3@tshwane.gov.za

Mr John Mettler
CITY MANAGER

PART T1: TENDER PROCEDURES

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 Notice 423 Government Gazette No 42622 of 8 August 2019)**, bound into Section T1.2

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.

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

| CLAUSE NUMBER | | TENDER DATA |
|---------------|--------------------------------------|---|
| C.1.1 | Actions | The Employer is City of Tshwane Metropolitan Municipality |
| C.1.2 | Tender Documents | <p>Volume 1: <u>Tender Document</u></p> <p>THE TENDER</p> <p>Part T1: Tendering Procedures</p> <p>T1.1 - Tender notice and invitation to tender</p> <p>T1.2 - Tender data</p> <p>T1.3 - Standard Conditions of Tender</p> <p>Part T2: Returnable documents</p> <p>T2.1 - List of returnable documents</p> <p>T2.2 - Returnable schedules</p> <p>THE CONTRACT</p> <p>Part C1: Agreements and contract data</p> <p>C1.1 - Form of offer and acceptance</p> <p>C1.2 - Contract data</p> <p>Part C2: Pricing Data</p> <p>C2.1 - Pricing instruction</p> <p>C2.2 - Pricing schedule</p> <p>C2.3 - Summary of pricing schedule</p> <p>Part C3: Scope of work</p> <p>C3 - Scope of work</p> |
| C.1.3 | Interpretation | Add 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 and Employer's Agent | <p>Agent: P.A. Odendaal</p> <p>Address: PO Box 1409 Pretoria 0001 Room CD 02 11 C de Wet Centre 175 Es'kia Mphahlele Drive Pretoria</p> <p>Tel: 012 358 7995</p> <p>E-Mail: pieterao@tshwane.gov.za</p> |
| C.2.1 | Eligibility (mandatory requirements) | In terms of <i>Section RD.D. Terms of reference for quality evaluation</i> in Part T2: <i>Returnable documents</i> , only those tenderers who meet the minimum technical (mandatory requirements) and functional evaluation criteria below, can be considered for evaluation. |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--------------------------|--------|------------------------|---|--------------------------|--------------------------|--|--------------------------|--------------------------|----------|--------------|-------|--------|------------------------|------------------|--|------------------|---|----|----|--|-------------------------|---|---------------------------|---|----------------------------|---|---|---|---|-----|---|----|----|--|-------------|---|---------------|---|-------------------------------------|---|--|---|---|----|----|--|----------|---|-------------------------------|---|---|---|---|---|----|--|----------|---|--|---|--------------|--|--|--|------------|--|
| | <p>Thus, in terms of eligibility,</p> <ul style="list-style-type: none"> - Only those tenderers who tick “YES” in respect of both criteria under (a) MANDATORY REQUIREMENTS below, are eligible to submit a tender. - Only those tenderers who score a minimum of 70 points in respect of the criteria under (b) FUNCTIONAL EVALUATION below, are eligible to submit a tender. <p>(a) MANDATORY REQUIREMENTS</p> <p>Tenderers must complete Form RD.D.1: Schedule for Professional and Approved Professional Person in <i>Part T2: Returnable documents</i> to complete this schedule. Failure to submit the Mandatory Requirements will lead to immediate disqualification.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">CRITERIA</th> <th style="text-align: center;">YES</th> <th style="text-align: center;">NO</th> </tr> </thead> <tbody> <tr> <td>1. Proof of registration as a professional engineer or professional engineering technologist in terms of the Engineering Profession Act, 2000 (Act 46 of 2000) for the applicable engineering work.</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>2. Proof of registration as Approved Professional Person(s) in terms of prevailing Dam Safety legislation, by DWS (Department of Water and Sanitation)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table> <p>NB: If any one of the above is “no”, the Bid will be disqualified (Attach proof of above to this page)</p> <p>(b) FUNCTIONAL EVALUATION</p> <p>Tenderers must complete Forms RD.D.3, RD.D.5, RD.D.7 and RD.D.9 in <i>Part T2: Returnable documents</i> to complete this schedule.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">CRITERIA</th> <th style="text-align: left;">SUB-CRITERIA</th> <th style="text-align: center;">SCALE</th> <th style="text-align: center;">WEIGHT</th> <th style="text-align: center;">HIGHEST POSSIBLE SCORE</th> <th style="text-align: center;">TENDERER'S SCORE</th> </tr> </thead> <tbody> <tr> <td rowspan="5">Proof of area for stormwater masterplan determination as specified in tender. (Refer to RD.D.2 & RD.D.3)</td> <td>0km²</td> <td style="text-align: center;">0</td> <td rowspan="5" style="text-align: center;">10</td> <td rowspan="5" style="text-align: center;">40</td> <td rowspan="5"></td> </tr> <tr> <td>Up to 10km²</td> <td style="text-align: center;">1</td> </tr> <tr> <td>10.1 – 100km²</td> <td style="text-align: center;">2</td> </tr> <tr> <td>100.1 - 500km²</td> <td style="text-align: center;">3</td> </tr> <tr> <td>> 500km² (of stormwater masterplans)</td> <td style="text-align: center;">4</td> </tr> <tr> <td rowspan="4">Proof of hydrological and hydraulic design, including run-off modelling and the design of stormwater networks. (Refer to RD.D.4 & RD.D.5)</td> <td>0km</td> <td style="text-align: center;">0</td> <td rowspan="4" style="text-align: center;">10</td> <td rowspan="4" style="text-align: center;">30</td> <td rowspan="4"></td> </tr> <tr> <td>Up to 100km</td> <td style="text-align: center;">1</td> </tr> <tr> <td>100.1 – 500km</td> <td style="text-align: center;">2</td> </tr> <tr> <td>> 500km (of stormwater networks)</td> <td style="text-align: center;">3</td> </tr> <tr> <td rowspan="3">Proof of drainage system related feasibility studies and preliminary designs. (Refer to RD.D.6 & RD.D.7)</td> <td>0</td> <td style="text-align: center;">0</td> <td rowspan="3" style="text-align: center;">10</td> <td rowspan="3" style="text-align: center;">20</td> <td rowspan="3"></td> </tr> <tr> <td>Up to 10</td> <td style="text-align: center;">1</td> </tr> <tr> <td>> 10 (feasibility studies)</td> <td style="text-align: center;">2</td> </tr> <tr> <td rowspan="3">Proof of design of Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS). (Refer to RD.D.8 & RD.D.9)</td> <td>0</td> <td style="text-align: center;">0</td> <td rowspan="3" style="text-align: center;">5</td> <td rowspan="3" style="text-align: center;">10</td> <td rowspan="3"></td> </tr> <tr> <td>Up to 10</td> <td style="text-align: center;">1</td> </tr> <tr> <td>> 10 (WSD and SuDS studies and designs)</td> <td style="text-align: center;">2</td> </tr> <tr> <td colspan="4">SCORE</td> <td style="text-align: center;">100</td> <td></td> </tr> </tbody> </table> | CRITERIA | YES | NO | 1. Proof of registration as a professional engineer or professional engineering technologist in terms of the Engineering Profession Act, 2000 (Act 46 of 2000) for the applicable engineering work. | <input type="checkbox"/> | <input type="checkbox"/> | 2. Proof of registration as Approved Professional Person(s) in terms of prevailing Dam Safety legislation, by DWS (Department of Water and Sanitation) | <input type="checkbox"/> | <input type="checkbox"/> | CRITERIA | SUB-CRITERIA | SCALE | WEIGHT | HIGHEST POSSIBLE SCORE | TENDERER'S SCORE | Proof of area for stormwater masterplan determination as specified in tender. (Refer to RD.D.2 & RD.D.3) | 0km ² | 0 | 10 | 40 | | Up to 10km ² | 1 | 10.1 – 100km ² | 2 | 100.1 - 500km ² | 3 | > 500km ² (of stormwater masterplans) | 4 | Proof of hydrological and hydraulic design, including run-off modelling and the design of stormwater networks. (Refer to RD.D.4 & RD.D.5) | 0km | 0 | 10 | 30 | | Up to 100km | 1 | 100.1 – 500km | 2 | > 500km (of stormwater networks) | 3 | Proof of drainage system related feasibility studies and preliminary designs. (Refer to RD.D.6 & RD.D.7) | 0 | 0 | 10 | 20 | | Up to 10 | 1 | > 10 (feasibility studies) | 2 | Proof of design of Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS). (Refer to RD.D.8 & RD.D.9) | 0 | 0 | 5 | 10 | | Up to 10 | 1 | > 10 (WSD and SuDS studies and designs) | 2 | SCORE | | | | 100 | |
| CRITERIA | YES | NO | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Proof of registration as a professional engineer or professional engineering technologist in terms of the Engineering Profession Act, 2000 (Act 46 of 2000) for the applicable engineering work. | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Proof of registration as Approved Professional Person(s) in terms of prevailing Dam Safety legislation, by DWS (Department of Water and Sanitation) | <input type="checkbox"/> | <input type="checkbox"/> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CRITERIA | SUB-CRITERIA | SCALE | WEIGHT | HIGHEST POSSIBLE SCORE | TENDERER'S SCORE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proof of area for stormwater masterplan determination as specified in tender. (Refer to RD.D.2 & RD.D.3) | 0km ² | 0 | 10 | 40 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Up to 10km ² | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 10.1 – 100km ² | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 100.1 - 500km ² | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | > 500km ² (of stormwater masterplans) | 4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proof of hydrological and hydraulic design, including run-off modelling and the design of stormwater networks. (Refer to RD.D.4 & RD.D.5) | 0km | 0 | 10 | 30 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Up to 100km | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | 100.1 – 500km | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | > 500km (of stormwater networks) | 3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proof of drainage system related feasibility studies and preliminary designs. (Refer to RD.D.6 & RD.D.7) | 0 | 0 | 10 | 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Up to 10 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | > 10 (feasibility studies) | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Proof of design of Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS). (Refer to RD.D.8 & RD.D.9) | 0 | 0 | 5 | 10 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Up to 10 | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | > 10 (WSD and SuDS studies and designs) | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| SCORE | | | | 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA |
|----------------------------------|--|
| | NB: Bids not receiving a minimum score of 70% (70 points) will be disqualified |
| C.2.2 Cost of Tendering | The employer will not compensate the tenderer for any costs incurred in attending interviews or making any submissions in the office of the employer. |
| C.2.5 Reference Documents | <p>Add the following:</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"> • The document <i>“Standard Specifications for Municipal Civil Engineering Works”, Third Edition, 2005</i> issued by the Divisional Head: Roads and Stormwater of the City of Tshwane. <p>This document is obtainable free of charge on the website www.tshwane.gov.za.</p> <ul style="list-style-type: none"> • The latest print version as current at 30 days before close of tenders of the document <i>“NEC3: Professional Services Contracts, April 2013”</i> including corrections thereto as current at 30 days before close of tenders. <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 www.saice.org.za. The corrections may be downloaded from the SAICE website www.saice.org.za.</p> |
| C.2.7 Clarification meeting | <p>The arrangements for a compulsory 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>Replace the clause with the following:</p> <p><i>Request clarification of the tender documents, if necessary, by notifying the employer at least 5 (Five) working days before the closing time stated in the tender data.</i></p> |
| C.2.12 Alternative offers | Alternative tender offers will not be considered. |
| C.2.13 Submitting a tender offer | <ul style="list-style-type: none"> • The tender offer shall be completed in non-erasable black ink • Any entry made by the tenderer in the document 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 non-erasable black ink and the full signature of the tenderer shall be placed next to the correction. |
| C.2.13.3 | <p>Copy of Tender document including supporting documents shall be submitted as an original, plus a scanned copy in PDF format on a memory stick.</p> <p>In addition to the hard copy submission, each tenderer is required to submit a scanned copy of the fully completed and signed tender submission document. This is to be on a memory stick attached to the original tender submission documents, adequately identifiable as belonging to the tenderer, be in PDF format scanned at 400 DPI, and be in full colour.</p> |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA |
|---------------|--|
| C.2.13.4 | <p>Add 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 ONE-PERSON CONCERN submitting a tender, this shall be clearly stated.</i></p> <p><i>In the case of a COMPANY submitting a tender, include a copy of a resolution by its board of directors authorising a director or other official of the company to sign the documents on behalf of the company.</i></p> <p><i>In the case of a CLOSE CORPORATION submitting a tender, include a copy of a resolution by its members 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 PARTNERSHIP submitting a tender, all the partners shall sign the documents, unless one partner or a group of partners has been authorised to sign on behalf of each partner, in which case proof of such authorisation shall be included in the Tender.</i></p> <p><i>In the case of a JOINT VENTURE/CONSORTIUM submitting a tender, include a resolution of each company of the joint venture together with a resolution by its members authorising a member of the joint venture to sign the documents on behalf of the joint venture.</i></p> <p><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></p> |
| C.2.13.5 | <p>The identification details are:</p> <p>Tender Reference: RTD 12-2025/2026</p> <p>Tender Description: Tender for professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required</p> <p>Closing Time: 10:00</p> <p>Closing Date: 17 April 2026</p> <p>Each tender shall be enclosed in a sealed envelope, bearing the correct identification details and shall be placed in the tender box located at:</p> <p>PROCUREMENT ADVICE CENTRE (TENDER BOX AT THE ENTRANCE OF TSHWANE HOUSE) TSHWANE HOUSE 320 MADIBA STREET PRETORIA 0001</p> <p>This address is 24 hours available for delivery of tender offers.</p> |
| C.2.13.9 | <p>Telephonic, telegraphic, telex, facsimile or e-mailed offers will not be accepted</p> |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | | TENDER DATA |
|---------------|--|---|
| C.2.13.10 | | <p>Add 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 | Information and data to be completed in all respects | <p>Add 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><i>Section T2.2 : Returnable Schedules</i> <i>Section C1.1 : Form of Offer and Acceptance</i> <i>Section C1.2 : Contract Data (Part 2)</i> <i>Section C2.2 : Pricing Schedule</i></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> <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> |
| C.2.15 | Closing time | The closing time for submission of tender offers is stated in the tender notice and invitation to tender. |
| C.2.16 | Tender offer validity | The validity period for the tender after closure is 90 days . CoT shall have right and power to extend any tender validity period beyond any initial validity period set and subsequent extensions. SCM shall ensure that an extension of validity is requested in writing from all bidders before the validity expiry date. Extension of validity shall be finalised while the quotations/bids are still valid. |
| C.2.16.5 | | <p>Add the following new clause</p> <p><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></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- |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA |
|---|--|
| | intensive portion of the works together with satisfactory evidence that such staff members satisfy the eligibility requirements. |
| C.2.23 Certificates | Refer to part T2 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> | <p>Add the following new clause</p> <p><i>The Tenderer shall not make any attempt either directly or indirectly to canvass any of the Employer's officials or the 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></p> <p><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></p> |
| C.2.25 <i>Prohibitions on awards to persons in service of the state</i> | <p>Add the following new clause</p> <p><i>The Employer is prohibited to award a tender to a person -</i></p> <ol style="list-style-type: none"> <i>a) who is in the service of the state; or</i> <i>b) 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> <i>c) a person who is an advisor or consultant contracted with the municipality or municipal entity.</i> <p><i>In the service of the state means to be -</i></p> <ol style="list-style-type: none"> <i>a) a member of:-</i> <ul style="list-style-type: none"> <i>• any municipal council;</i> <i>• any provincial legislature; or</i> <i>• the National Assembly or the National Council of Provinces;</i> <i>b) a member of the board of directors of any municipal entity;</i> <i>c) an official of any municipality or municipal entity;</i> <i>d) an employee of any national or provincial department;</i> <i>e) provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);</i> <i>f) a member of the accounting authority of any national or provincial public entity;</i> <i>or</i> <i>g) an employee of Parliament or a provincial legislature.</i> <p>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.</p> |
| C.2.26 <i>Awards to close family members of persons in the service of the state</i> | <p>Add the following new clause</p> <p><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 F2.25), or has been in the service of the state in the previous twelve months, including -</i></p> <ol style="list-style-type: none"> <i>a) the name of that person;</i> <i>b) the capacity in which that person is in the service of the state; and</i> <i>c) the amount of the award.</i> <p>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.</p> |
| | Add the following new clause |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA |
|---|---|
| <p>C.2.27 Vendor registration</p> | <p>The contractor will be required registering as a supplier/ service provider on the City of Tshwane’s vendor register before any payment can be done.</p> <p>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.</p> <p>Vendor registration documents are available from the Procurement Advice Centre or can be downloaded from:</p> <p>http://www.tshwane.gov.za/Business/Pages/Registration-of-Suppliers-(Vendors).aspx</p> <p>All parties of a joint venture or consortium submitting a tender shall comply with the requirements of this clause.</p> |
| <p>C.2.28 Tax</p> | <p>Add the following new clause</p> <p>National Treasury SCM Instruction no. 7 of 2017/18 clause 4 application during SCM Processes state that:</p> <p>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.</p> <p>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</p> <p>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</p> |
| <p>C2.29 B-BBEE Status Level of Contributor</p> | <p>Add the following new clause</p> <p>A valid 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) must be submitted with this tender document</p> <p>In the case of a Joint Venture/Consortium a valid B-BBEE Status Level of Contributor certificate must be submitted by each individual party to the Joint Venture/Consortium.</p> <p>Failure by the tenderer to comply with this clause will result in the tenderer scoring 0 points for preference.</p> |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | | TENDER DATA | | |
|---|---------------------------------------|--|------------------------------|--|
| C.3.1 | Respond to requests from the tenderer | | | |
| C.3.1.1 | | The employer will respond to requests for clarification up to 4 (four) working days before the tender closing time. | | |
| C.3.4 | Opening of tender submissions | Upon request tenders will be opened immediately after the closing time for tenders. Only the tenderer's name and pricing will be announced | | |
| C.3.11 | Evaluation of tender offers | All tenderers who submitted responsive tenders will be evaluated | | |
| C.3.11.1 | General | 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 C.3.11.2 and C.3.11.3 below supported by proof/ documentation stated in the conditions of this tender. | | |
| C.3.11.2 | Method of Evaluation | Method 2 | | |
| | | Stage 1: Administrative compliance | | |
| | | 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; <ul style="list-style-type: none"> • Tax compliance status PIN. or • Central Supplier Database (CSD) | | Tax status must be compliant before the award. |
| | | b) A copy of their Central Supplier Database (CSD) registration; or indicate their Master Registration Number / CSD Number; | | CSD must be valid. |
| c) Confirmation that the bidding company's municipal service charges, 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 ,signed lease agreement or In case of bidders located in informal settlement, rural areas or areas where they are not required to pay Rates and Taxes a letter from the local councillor confirming they are operating in that area | | Was a Municipal Account Statement, or signed lease agreement or letter from the local councillor provided for the bidding company? The name and / or addresses of the bidder's statement correspond with CIPC document, Address on CSD or Company profile? Are municipal service charges, rates and taxes up to date (i.e. not in arrears for more than 90 days)? | | |
| d) In addition to the above, confirmation that all the bidding | | Was a Municipal Account Statement, or signed lease | | |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA | | |
|---------------|--|--|--|
| | <p>company's owners / members / directors / major shareholders municipal service charges, 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 a signed lease agreement of owners / members / directors / major shareholders or In case of bidders located in informal settlement, rural areas or areas where they are not required to pay Rates and Taxes a letter from the local councillor confirming they are residing in that area</p> | | <p>agreement or letter from the local councillor provided for the company's owners / members / directors / major shareholders? Are municipal service charges, rates and taxes up to date (i.e. not in arrears for more than 90 days)?</p> |
| | <p>e) Duly Signed and completed MBD forms (MBD 1, 4, 5, 8 and 9) The person signing the bid documentation must be authorized 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.</p> <p>NB: Bidders must ensure that the directors, trustees, managers, principal shareholders, or stakeholders of this company, 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></p> | | <p>All documents fully completed (i.e. no blank spaces), All documents fully signed by (any director / member / trustee as indicated on the CIPC document, alternatively a delegation of authority would be required, Documents completed in black ink (i.e. no "Tippex" corrections, no pencil, no other colour ink, or non-submission of the MBD forms, will not be considered)</p> |
| | <p>f) Audited Financial Statements for the most recent three (3) years or Audited Financial Statements from date of existence for companies less than three years old.</p> <p>NB: The bidder must submit signed audited annual 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 proof from an "independent accounting professional as</p> |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA | |
|---------------|--|---|
| | <p>for the most recent three years, or if established for a shorter period, submit audited annual financial statements from date of establishment.</p> <p>If the bidder is exempted or not required by law to prepare signed annual financial statements for auditing purposes, then the bidder must submit proof from an "independent accounting professional as defined in regulation 26 of Companies Regulation, 2011, stating that the bidder is exempt or not required by law to prepare audited financial statements.</p> | <p>defined in regulation 26 of Companies Regulation, 2011, stating that the bidder is not required by law to prepare audited financial statements.</p> |
| | <p>g) Joint Ventures (JV) – (Only applicable when the bidder tenders as a joint venture) Where the bidder bids as a joint venture (JV), the required or relevant documents as per (a) to (f) above must be provided for all JV parties. In addition to the above the bidder must submit a Joint Venture (JV) agreement signed by the relevant parties.</p> <p>NB: It is a condition of this bid that the successful bidder will continue with the 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 f) must be provided for all partners of the JV.</p> |
| | <p>h) Bidder attended a compulsory briefing session where applicable</p> | <p>A compulsory briefing register must be signed by the bidder.</p> <p>Bidders will be disqualified should they fail to attend compulsory briefing session</p> |
| | <p>i) 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>Bidder will be disqualified should they make corrections on the price schedule without attaching a signature or initialising thereto.</p> <p>Bidder will be disqualified should they use tippex/</p> |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA | | | |
|---------------|---|---|--|---|
| | <table border="1" style="width: 100%;"> <tr> <td style="width: 30%;"></td> <td style="width: 30%;"></td> <td style="width: 40%;">correction ink, on the price schedule.</td> </tr> </table> <p>Stage 2: Eligibility Refer to clause C2.1</p> <p>Stage 3: Functionality Refer to clause C2.1 In the case of functionality, price, and preference: Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality as stated in the Tender Data. 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. Tenders that have achieved the minimum qualification score for functionality must be evaluated further in terms of the preference points system prescribed in clauses C3.11.3 below. The lowest acceptable tender will be used to determine the accurate system once tenders are received.</p> <p>Stage 4: Price, and Preference 80/20</p> | | | correction ink, on the price schedule. |
| | | correction ink, on the price schedule. | | |
| C.3.11.3 | <p style="text-align: center;">The 80/20 preference points system for acquisition of services, works or goods with a Rand value equal to or below R 50 million.</p> <p>The following formula must be used to calculate the points for price in respect of tenders with a Rand value below R50 000 000 (all applicable taxes included):</p> $P_s = 80 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$ <p>Where</p> <p>P_s = Points scored for price of tender under consideration;</p> <p>P_t = Price of tender under consideration; and</p> <p>P_{min} = Price of lowest acceptable tender.</p> <ul style="list-style-type: none"> • A maximum of 20 points may be awarded to a tenderer for the specific goal specified for the tender. • 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. • Subject to section 2(1)(f) of the Act, the contract must be awarded to the tenderer scoring the highest points. <p>20 points for Specific goals (service provider to submit the certified copy of the specific goals). Refer to Table 1 below:</p> | | | |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA | | |
|---------------|---|---|---|
| | 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"> • Level 1 • Level 2 • Level 3 • Level 4 • Level 5 • Level 6 • Level 7 • Level 8 • Non-compliant | <ul style="list-style-type: none"> • 8 Points • 7 Points • 6 Points • 5 Points • 4 Points • 3 Points • 2 Points • 1 Point • 0 Points | Valid Certified copy of BBEE certificate. Sworn Affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBEE certificate. |
| | EME and/ or QSE | 2 Points | Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBEE certificate |
| | At least 51% of Women-owned companies | 2 Points | Certified copy of Identity Document/s 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 People with disability | 2 Points | 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 and 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"> • City of Tshwane • Gauteng | 4 Points 2 Points 1 Point | Municipal Account statement/Lease agreement. |

PART T1: TENDER PROCEDURES

| CLAUSE NUMBER | TENDER DATA | | | |
|-----------------------------------|--|------------|--|--|
| | <table border="1" style="width: 100%;"> <tr> <td style="width: 30%; text-align: center;">• National</td> <td style="width: 30%;"></td> <td style="width: 40%;"></td> </tr> </table> <p><i>Table 1</i></p> <p>If there is uncertainty regarding the estimated price and which preference point system will be applicable, then the tender documents should state that either 80/20 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system.</p> | • National | | |
| • National | | | | |
| C.3.13 Acceptance of Tender Offer | <p>Tender offers will only be accepted if:</p> <ul style="list-style-type: none"> (a) the tenderer complies with the eligibility criteria stated in clause C.2.1 (b) 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; (c) the tenderer is not in arrears for more than 3 months with municipal rates and taxes and municipal service charges; (d) 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; (e) the tenderer has not: <ul style="list-style-type: none"> i) abused the Employer’s Supply Chain Management System; or ii) failed to perform on any previous contract and has been given a written notice to this effect. (f) 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; (g) the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer; | | | |
| C.3.16 Registration of the award | <p>The following to the clause:</p> <p>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.</p> | | | |
| C.3.17 Copies of Contract | <p>One signed copy of contract shall be provided by the Employer to the successful Tenderer.</p> | | | |

T1.3 STANDARD CONDITIONS OF TENDER

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Contract: RTD 12-2025/2026
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

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PART T1: TENDER PROCEDURES

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.*

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

C.1.2 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 only required for tender evaluation purposes, shall not 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 which:

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

b) **comparative offer** means the 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 organ of state may, prior to the award of the tender, cancel the tender if-

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

C.1.5.2 The decision to cancel the tender 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 a 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.3.8 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 not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information.

Notwithstanding the provisions of C.2.17, the Employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers

PART T1: TENDER PROCEDURES

or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

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 complies 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

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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 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

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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 may 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 may only be considered in the event that the main tender 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, services or supply 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

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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, 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, test 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

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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 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

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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.

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

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- 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.
- c) Where there is an error in the total of the prices either as a result of other corrections required by this checking process or in the 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.

Consider the rejection of a tender offer if the tenderer does not correct or accept the correction of the arithmetical error in the manner described above.

C.3.10 Clarification of a tender offer

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

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.

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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. |
| 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 unacceptable commercial risk and only if the tenderer:

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- 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, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data, and
- f) is able, in the opinion of the Employer, to perform the contract free of conflicts of interest.

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

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

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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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PART T2: RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

RD.A MANDATORY RETURNABLE DOCUMENTS

| Document Name | Reference | Confirmation of Document Included (Tenders may use this column to confirm documents have been completed, signed and included in the tender) |
|---|-------------|--|
| Compulsory Enterprise Questionnaire | Form RD.A.1 | |
| MBD 4: Declaration of Interest of Persons in Service of State | Form RD.A.2 | |
| MBD 8: Declaration of Tenderer's past supply chain management practices | Form RD.A.3 | |
| MBD 9: 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 (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 | |
| Certificate of Identity Document(s) | Form RD.B.5 | |
| Medical Certificate with doctor's details(Practice Number, Physical Address and contact number) | Form RD.B.6 | |

PART T2: RETURNABLE DOCUMENTS

RD.C ADDITIONAL RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

| Document Name | Reference | Confirmation of Document Included (Tenders may use this column to confirm documents have been completed, signed and included in the tender) |
|--|------------------|---|
| Proof of registration on CSD with National Treasury | Form RD.C.1 | |
| MBD 5: Declaration for procurement above R10 million (all applicable taxes included) | Form RD.C.2 | |
| Proof of professional indemnity insurance | Form RD.C.3 | |
| Key personnel | Form RD.C.4 | |
| Curriculum vitae of key personnel | Form RD.C.5 | |

RD.D RETURNABLE DOCUMENTS REQUIRED FOR FUNCTIONALITY EVALUATION PURPOSES

| Document Name | Reference | Confirmation of Document Included (Tenders may use this column to confirm documents have been completed, signed and included in the tender) |
|---|------------------|---|
| Terms of Reference for Functionality Evaluation with specific reference to the scope of work | | |
| Schedule for professional and approved professional persons | Form RD.D.1 | |
| Evaluation schedule: Determination of stormwater masterplans | Form RD.D.2 | |
| Schedule of tenderer's experience in the determination of stormwater masterplans | Form RD.D.3 | |
| Evaluation schedule: Hydrological and hydraulic design, including run-off modelling and design of stormwater networks | Form RD.D.4 | |
| Schedule of tenderer's experience in hydrological and hydraulic design, including run-off modelling and design of stormwater networks | Form RD.D.5 | |
| Evaluation schedule: Drainage system related feasibility studies and preliminary designs | Form RD.D.6 | |
| Schedule of tenderer's experience in drainage system related feasibility studies and preliminary designs | Form RD.D.7 | |
| Evaluation schedule: Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS) | Form RD.D.8 | |
| Schedule of tenderer's experience in Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS) | Form RD.D.9 | |

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PART T2: RETURNABLE DOCUMENTS

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

| Document Name | Reference | Confirmation of Document Included (Tenders may use this column to confirm documents have been completed, signed and included in the tender) |
|---------------------------------------|------------------|---|
| Record of addenda to tender documents | RD.E.1 | |
| Data provided by the contractor | Section C1.2 | |
| Form of offer and acceptance | Section C1.1 | |

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PART T2: RETURNABLE DOCUMENTS

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* |
| | | |
| | | |
| | | |
| <i>* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners</i> | | |
| 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.

| | | | |
|-------------------------|--|------------------|--|
| Signed: | | Date: | |
| Name: | | Position: | |
| Enterprise Name: | | | |

PART T2: RETURNABLE DOCUMENTS

FORM RD.A.2 MBD 4: DECLARATION OF INTEREST IN TENDER OF PERSONS IN SERVICE OF STATE

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.

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

3.1 Full name of bidder or his/her representative:

3.2 Identity Number:

3.3 Position occupied in Company:
(director, trustee, shareholder²)

3.4 Company Registration Number:

3.5 Tax Reference Number:

3.6 VAT Registration Number:

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

3.8 Are you presently in the service of the state?

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

If yes, furnish particulars:

¹ 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

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

PART T2: RETURNABLE DOCUMENTS

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

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

If yes, furnish particulars _____

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

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

If yes, furnish particulars _____

3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?

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

If yes, furnish particulars _____

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?

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

If yes, furnish particulars _____

3.13 Are any spouse, child or parent of the company's directors trustees, managers, principle shareholders or stakeholders in service of the state?

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

If yes, furnish particulars _____

3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract?

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

If yes, furnish particulars _____

PART T2: RETURNABLE DOCUMENTS

FORM RD.A.3 MBD 8: DECLARATION OF TENDERER’S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

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? (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) | Yes | No |
| | If so, furnish particulars: | | |
| 4.2 | Is the Tenderer or any of it’s 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)? (To access this Register enter the National Treasury’s website, www.treasury.gov.za , click on the icon “Register for Tender Defaulters” or submit your written request for a hard copy of the Register to facsimile number 012-326-5445) | Yes | No |
| | If so, furnish particulars: | | |
| 4.3 | Was the Tenderer or any of it’s 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: | | |

Contract: RTD 12-2025/26
 Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

| Item | Question | Response | |
|------|---|------------|-----------|
| 4.4 | <p>Does the Tenderer or any of it's 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?</p> <p>If so, furnish particulars:</p> | Yes | No |
| 4.5 | <p>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?</p> <p>If so, furnish particulars:</p> | 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.

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: _____

PART T2: RETURNABLE DOCUMENTS

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

1. This Municipal Bidding Document (MBD) must form part of all tenders³ invited.
2. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive tendering (or tender rigging)⁴. 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 MDB 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.

³ Includes price tenders, advertised competitive tenders, limited tenders and proposals.

⁴ Tender rigging (or collusive tendering) 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 tender process. Tender rigging is, therefore, an agreement between competitors not to compete.

CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying tender:

RTD 12-2025/26: Tender for the appointment of a professional engineering consulting firm to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

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 authorized 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 authorized 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"⁵ 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
 - c. 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 consortium⁵ 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 of 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.

⁵ 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.

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

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 practices 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 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: _____

Contract: RTD 12-2025/26
 Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.A.5 CERTIFICATE OF AUTHORITY OF SIGNATORY

RESOLUTION of the 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: | RTD 12-2025/26 |
| Tender Description: | Tender for the appointment of a professional engineering consulting firm to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required |

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

and who will sign as follow:

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

be, and is hereby authorized 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"> *Delete which is not applicable. IMPORTANT: This resolution <u>must</u> be signed by all the directors/members/ partners of the tendering enterprise. Should the number of directors/members/partners exceed the space available above, additional names and signatures must be supplied on a separate page. | <p>Enterprise stamp</p> |
|--|-------------------------|

PART T2: RETURNABLE DOCUMENTS

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 authorize *Mr/Ms _____ authorized 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 authorized 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 authorized 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.

Date: _____

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);

1.2 **To be completed by the organ of state**

(delete whichever is not applicable for this tender).

- a) The applicable preference point system for this tender is the 80/20 preference point system.

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.

1.4 **To be completed by the organ of state:**

The maximum points for this tender are allocated as follows:

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

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

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

PART T2: RETURNABLE DOCUMENTS

2. DEFINITIONS

- 2.1 **B-BBEE** means broad-based black economic empowerment as defined in Section 1 of the Broad-Based Black Economic Empowerment Act.
- 2.2 **B-BBEE Status Level of Contributor** means the B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of Section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003).
- 2.3 **Broad-Based Black Economic Empowerment Act** means the Broad-Based Black Economic Empowerment Act, 2003 (Act No. 53 of 2003).
- 2.4 **EME** means an Exempted Micro Enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act.
- 2.5 **functionality** means the ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.
- 2.6 **prices** includes all applicable taxes less all unconditional discounts.
- 2.7 **proof of B-BBEE status level of contributor** means:
1) B-BBEE Status level certificate issued by an authorized body or person;
2) A sworn affidavit as prescribed by the B-BBEE Codes of Good Practice;
3) Any other requirement prescribed in terms of the B-BBEE Act.
- 2.8 **QSE** means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9 (1) of the Broad-Based Black Economic Empowerment Act.
- 2.9 **rand value** means the total estimated value of a contract in Rand, calculated at the time of tender invitation, and includes all applicable taxes.

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 or 90 points is allocated for price on the following basis:

80/20

$$Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

PART T2: RETURNABLE DOCUMENTS

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

80/20:

| 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) |
|---|--|--|
| BB-BEE score of companies | | |
| 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 Points | |
| Level 8 | 1 Point | |
| Non-compliant | 0 Points | |
| EME and/or QSE | 2 | |
| At least 51% Women owned companies | 2 | |
| At least 51% owned companies by People with disability | 2 | |
| At least 51% owned companies by Youth | 2 | |
| Local Economic Participation | | |
| City of Tshwane Participants | 4 | |
| Gauteng Participants | 2 | |
| National participants | 1 | |

PART T2: RETURNABLE DOCUMENTS

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.

| |
|---|
| <p>..... SIGNATURE(S) OF TENDERER(S)</p> |
| <p>SURNAME AND NAME:</p> |
| <p>DATE:</p> |
| <p>ADDRESS:</p> |
| |
| |
| |

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

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.

PART T2: RETURNABLE DOCUMENTS

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:

If 80/20 preference point system applies:

| | Promotion of local enterprises |
|-------------------------------|---|
| No Response (score 0) | 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, |
| Satisfactory (score 1) | 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) |
| Good (score 2) | 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) |
| Very good (score 4) | 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)

| |
|--|
| <p>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.</p> <p><u>Person authorized to sign the tender:</u></p> <p>Full name (in BLOCK letters): _____</p> <p>Signature: _____</p> <p>Date: _____</p> |
|--|

PART T2: RETURNABLE DOCUMENTS

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

| | At least 51% Women owned companies and At least 51% owned companies by youth |
|------------------------------|---|
| No Response (score 0) | 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, |
| Good (score 1) | Certified copy of Identity Document/s that proof that company is 51% owned by Women |
| Good (score 1) | Certified copy of Identity Document/s that proof that company is 51% owned by youth |

(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. | |
| <u>Person authorized to sign the tender:</u> | |
| Full name (in BLOCK letters): | _____ |
| Signature: | _____ |
| Date: | _____ |

PART T2: RETURNABLE DOCUMENTS

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 |
|----------------------------------|---|
| No Response (score 0) | 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, |
| Good (score 1) | Medical Certificate with doctor's details (Practice Number, Physical Address and contact numbers |

(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:

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

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.

PART T2: RETURNABLE DOCUMENTS

FORM RD.C.2 MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION (ALL APPLICABLE TAXES INCLUDED)

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 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: _____

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.C.3 PROOF OF PROFESSIONAL INDEMNITY INSURANCE

The tenderer must provide proof of Professional Indemnity Insurance for at least R10-million per claim and the number of claims unlimited. See **Clause 8. Indemnity, insurance and liability** in **C1.2.2 Data Provided by the Employer**.

NOTE:

1. Attach original or certified copy of Professional Indemnity Insurance Certificate to this page.
2. In the case of a joint venture / consortium parties must each attach original or certified copy of their Professional Indemnity Insurance Certificates.

Contract: RTD 12-2025/26
 Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

RD.C.4 KEY PERSONNEL

The tenderer shall list in the table below the key personnel to be engaged for this project.

Note: Form RD.C.5 must be complete for each person listed below.

| | NAME | CATEGORY | LOCAL / NON-LOCAL |
|----|------|----------|-------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |
| 6 | | | |
| 7 | | | |
| 8 | | | |
| 9 | | | |
| 10 | | | |
| 11 | | | |
| 12 | | | |

(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: _____

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.C.5 CURRICULUM VITAE OF KEY PERSONNEL

Note: This form should be completed for each key person listed in Form RD.C.4

| | |
|--|-------------------------|
| Name: | Date of birth: |
| Profession: | Nationality: |
| Qualifications: | |
| Professional membership: | |
| Name of employer (firm): | |
| Current position: | Years with firm: |
| Employment record: (list in chronological order starting with earliest work experience) | |
| Experience records pertinent to required service: | |
| Certification: I, the undersigned, certify that to the best of my knowledge and belief, this data correctly describes me, my qualifications and my experience. _____ Date: _____ (Signature of person named in schedule) | |

PART T2: RETURNABLE DOCUMENTS

RD.D. TERMS OF REFERENCE FOR QUALITY EVALUATION

The tender will be evaluated in terms of **Annexure C: Standard Conditions of Tender, Section C.2.1: Eligibility** of the document ‘*Standard for Uniformity in Engineering and Construction Works Contracts (Board Notice 423 Government Gazette No 42622 of 8 August 2019)*’. The section is quoted below:

C.2.1 Eligibility

C.2.1.1 Submit a tender offer only if the tenderer satisfies the criteria stated in the tender data

- 1) In terms of mandatory requirements evaluation, the following is deemed as the minimum required criteria to perform the work discussed under **Part C3: Scope of work** of this document:
 - (a) Only Tenderers who have in their full-time employment, a person/s satisfying the following criteria, are eligible to submit a tender:
 - i. are registered as a professional engineer or professional engineering technologist in terms of the Engineering Profession Act, 2000 (Act 46 of 2000) for the applicable engineering work.
 - ii. are approved by DWS (Department of Water and Sanitation) as Approved Professional Person(s) in terms of prevailing Dam Safety legislation.
 - (b) Only those tenderers who tick “YES” in respect of both criteria under **RD.D (a): MANDATORY REQUIREMENTS** below, will proceed to the functional evaluation.

- 2) In terms of functional evaluation, the following is deemed as the minimum required criteria to perform the work discussed under **Part C3: Scope of work** of this document:
 - (a) Only those tenderers who score a minimum of 70 points in respect of the criteria under **RD.D (b): FUNCTIONAL EVALUATION** below, are eligible to submit a tender.

RD.D (a): MANDATORY REQUIREMENTS

Tenderers must complete **Form RD.D.1: Schedule for Professional and Approved Professional Person** to complete this schedule.

| CRITERIA | YES | NO |
|---|-----|----|
| 1. Proof of registration as a professional engineer or professional engineering technologist in terms of the Engineering Profession Act, 2000 (Act 46 of 2000) for the applicable engineering work. | | |
| 2. Proof of registration as Approved Professional Person(s) in terms of prevailing Dam Safety legislation, by DWS (Department of Water and Sanitation) | | |
| NB: If any one of the above is “no”, the Bid will be disqualified (Attach proof of above to this page) | | |

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

RD.D (b): FUNCTIONAL EVALUATION

Tenderers must complete **Forms RD.D.3, RD.D.5, RD.D.7 and RD.D.9** to complete this schedule.

| CRITERIA | SUB-CRITERIA | SCALE | WEIGHT | HIGHEST POSSIBLE SCORE | TENDERER'S SCORE |
|---|---|-----------------------|--------|------------------------|------------------|
| Proof of area for stormwater masterplan determination as specified in tender. (Refer to RD.D.2 & RD.D.3) | 0km ² Up to 10km ² 10.1 - 100km ² 100.1 - 500km ² > 500km ² (of stormwater masterplans) | 0 1 2 3 4 | 10 | 40 | |
| Proof of hydrological and hydraulic design, including run-off modelling and the design of stormwater networks. (Refer to RD.D.4 & RD.D.5) | 0km Up to 100km 100.1 - 500km > 500km (of stormwater networks) | 0 1 2 3 | 10 | 30 | |
| Proof of drainage system related feasibility studies and preliminary designs. (Refer to RD.D.6 & RD.D.7) | 0 Up to 10 > 10 (feasibility studies) | 0 1 2 | 10 | 20 | |
| Proof of design of Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS). (Refer to RD.D.8 & RD.D.9) | 0 Up to 10 > 10 (WSD and SuDS studies and designs) | 0 1 2 | 5 | 10 | |
| SCORE | | | | 100 | |
| NB: Bids not receiving a minimum score of 70% (70 points) will be disqualified | | | | | |

Contract: RTD 12-2025/26
 Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.1 SCHEDULE FOR PROFESSIONAL AND COMPETENT PERSONS

The tenderer or joint venture partners in the case of an unincorporated joint venture or consortium must have in their employment -

- person/s registered as a Professional Engineer in terms of the *Engineering Profession Act, 2000 (Act 46 of 2000)* for the applicable engineering work; and
- person/s that are approved by *DWS (Department of Water and Sanitation)* as Competent Person(s) in terms of prevailing *Dam Safety legislation*.

PROFESIONAL REGISTERED ENGINEER OR ENGINEERING TECHNOLOGIST

| FIRST NAME | LAST NAME | ID NUMBER | ECSA REGISTRATION NO. |
|------------|-----------|-----------|-----------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

DWS APPROVED COMPETENT PERSON

| FIRST NAME | LAST NAME | ID NUMBER | DWS APPROVAL ATTACHED YES/NO |
|------------|-----------|-----------|------------------------------|
| | | | |
| | | | |
| | | | |

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: _____

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.2 EVALUATION SCHEDULE: STORMWATER MASTERPLAN DETERMINATION

The experience of the tenderer or joint venture partners in the case of an unincorporated joint venture or consortium with regards to key staff members / experts in the determination of stormwater masterplans, as specified in tender.

Tenderers must complete Form RD.D.3: Schedule of tenderer's experience in the determination of stormwater masterplans to comply with this schedule.

Suitable proof of completion of relevant studies must be attached for each item listed in Form RD.D.3, which proof must either be the -

- 1) *Cover/Title page, the Table of Contents and/or Executive Summary* of the completion report, or
 - 2) Final layout drawing (where there is no report).
- and
- 3) Reference Letter from the Client

Proof of completion must not exceed 4 (four) pages for each item.

The scoring of the tenderer's experience will be as follows:

| Area of stormwater masterplans determined by the Tenderer (Cumulative) | Points to be awarded |
|---|--|
| 0 | A score of 0 points will be awarded if the tenderer did not respond or comply with this evaluation schedule. |
| Up to 10 km² | A score of 10 points will be awarded. |
| Between 10.1km² and 100km² | A score of 20 points will be awarded. |
| Between 100.1km² and 500km² | A score of 30 points will be awarded. |
| More than 500km² | A score of 40 points will be awarded. |

Contract: RTD 12-2025/26
 Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.3 SCHEDULE OF TENDERER'S EXPERIENCE IN THE DETERMINATION OF STORMWATER MASTERPLANS

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

| Employer, contact person and telephone number | Description of contract and masterplan name | Area of masterplans determined | Date completed |
|---|---|--------------------------------|----------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

(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:

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.4 EVALUATION SCHEDULE: HYDROLOGICAL AND HYDRAULIC DESIGN, INCLUDING RUN-OFF MODELLING AND THE DESIGN OF STORMWATER NETWORKS

The experience of the tenderer or joint venture partners in the case of an unincorporated joint venture or consortium with regards to key staff members / experts in hydrological and hydraulic design, including run-off modelling and the design of stormwater networks.

Tenderers must complete Form RD.D.5: Schedule of tenderer's experience in hydrological and hydraulic design, including run-off modelling and the design of stormwater networks to comply with this schedule.

Suitable proof of completion of relevant studies must be attached for each item listed in Form RD.D.5, which proof must either be the -

- 1) *Cover/Title page, the Table of Contents and/or Executive Summary* of the completion report, or
 - 2) Final layout drawing (where there is no report).
- and
- 3) Reference Letter from Client

Proof of completion must not exceed 4 (four) pages for each item.

The scoring of the tenderer's experience will be as follows:

| Length of stormwater network design by the tenderer (cumulative) | Points to be awarded |
|---|--|
| None | A score of 0 points will be awarded if the tenderer did not respond or comply with this evaluation schedule. |
| Up to 100km | A score of 10 points will be awarded. |
| Between 100.1km and 500km | A score of 20 points will be awarded. |
| More than 500km | A score of 30 points will be awarded. |

Contract: RTD 12-2025/26
 Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.5 SCHEDULE OF TENDERER'S EXPERIENCE IN HYDROLOGICAL AND HYDRAULIC DESIGN, INCLUDING RUN-OFF MODELLING AND THE DESIGN OF STORMWATER NETWORKS

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

| Employer, contact person and telephone number | Description of contract and project name | Length of stormwater network design | Date completed |
|---|--|-------------------------------------|----------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

(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:

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.6 EVALUATION SCHEDULE: DRAINAGE RELATED FEASIBILITY STUDIES AND PRELIMINARY DESIGNS

The experience of the tenderer or joint venture partners in the case of an unincorporated joint venture or consortium with regards to key staff members / experts in flooding related feasibility studies.

Tenderers must complete Form RD.D.7: Schedule of tenderer's experience in drainage related feasibility studies and preliminary design to comply with this schedule.

Suitable proof of completion of relevant studies must be attached for each item listed in Form RD.D.7, which proof must either be the -

- 1) *Cover/Title page, the Table of Contents and/or Executive Summary* of the completion report, or
 - 2) Final layout drawing (where there is no report).
- and
- 3) Reference letter from Client

Proof of completion must not exceed 4 (four) pages for each item.

The scoring of the tenderer's experience will be as follows:

| Number of feasibility studies and preliminary designs completed by the Tenderer | Points to be awarded |
|--|--|
| None | A score of 0 points will be awarded if the tenderer did not respond or comply with this evaluation schedule. |
| Up to 10 studies | A score of 10 points will be awarded. |
| More than 10 studies | A score of 20 points will be awarded. |

Contract: RTD 12-2025/26
 Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.7 SCHEDULE OF TENDERER'S EXPERIENCE IN DRAINAGE SYSTEM RELATED FEASIBILITY STUDIES AND PRELIMINARY DESIGNS

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

| Employer, contact person and telephone number | Description of the feasibility study or preliminary design | Date completed |
|---|--|----------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

(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:

Contract: RTD 12-2025/26

Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.8 EVALUATION SCHEDULE: WATER SENSITIVE DESIGN AND SUSTAINABLE DRAINAGE SYSTEMS STUDIES

The experience of the tenderer or joint venture partners in the case of an unincorporated joint venture or consortium with regards to key staff members / experts in Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS).

Tenderers must complete Form RD.D.9: Schedule of tenderer's experience in Water Sensitive Design and Sustainable Drainage Systems to comply with this schedule.

Suitable proof of completion of relevant studies must be attached for each item listed in Form RD.D.9, which proof must either be the -

- 1) *Cover/Title page, the Table of Contents and/or Executive Summary* of the completion report, or
 - 2) Final layout drawing (where there is no report).
- and
- 3) Reference Letter from the Client

Proof of completion must not exceed 4 (four) pages for each item.

The scoring of the tenderer's experience will be as follows:

| Number of WSD or SuDS studies completed | Points to be awarded |
|--|--|
| None | A score of 0 points will be awarded if the tenderer did not respond or comply with this evaluation schedule. |
| Up to 10 studies | A score of 5 points will be awarded. |
| More than 10 studies | A score of 10 points will be awarded. |

Contract: RTD 12-2025/26
 Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

FORM RD.D.9 SCHEDULE OF TENDERER'S EXPERIENCE IN WATER SENSITIVE DESIGN AND SUSTAINABLE DRAINAGE SYSTEMS

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

| Employer, contact person and telephone number | Description of WSD or SuDS studies | Date competed |
|---|------------------------------------|---------------|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

(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:

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART T2: RETURNABLE DOCUMENTS

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 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: _____

PORTION 2: CONTRACT

PART C1: AGREEMENT AND CONTRACT DATA

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| | FORM OF ACCEPTANCE | 4 |
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C1.1 FORM OF OFFER AND ACCEPTANCE

| |
|-------|
| STAMP |
|-------|

OFFER

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

Contract RTD 12-2025/26

Tender for the appointment of a professional engineering consulting firm to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

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 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 PRICES INCLUSIVE OF VALUE ADDED TAX IS

| SERVICE | Tendered fee per item (including 15% VAT) | |
|---|---|------------|
| | (in figures) | (in words) |
| A1.1 Unit rate for SMP Part 1 | R | |
| A1.2 Unit rate for SMP Part 2 | R | |
| A1.3 Unit rate for SMP Part 3 | R | |
| A1.4 Unit rate for SMP Part 4 | R | |
| A2 Unit rate for monthly project Administration | R | |
| C1 Percentage (%) discount offered on time-based fees | % | |

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,

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

FOR AND ON BEHALF OF THE TENDERER:

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. _____

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

ACCEPTANCE

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

The terms of the contract, are contained in:

- Part C1 Agreements and Contract Data
- Part C2 Pricing Data
- Part C3 Scope of Work

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C3 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.

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. _____

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

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.

4.1 Subject: _____
Details: _____

4.2 Subject: _____
Details: _____

4.3 Subject: _____
Details: _____

4.4 Subject: _____
Details: _____

4.5 Subject: _____
Details: _____

By the duly authorised representatives signing this agreement, the Employer and the Tenderer agree to and accept the foregoing Schedule of Deviations as the only deviations from 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.

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

FOR AND ON BEHALF OF THE TENDERER:

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.

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

CONFIRMATION OF RECEIPT

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

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. _____

Contract: RTD 12-2025/26
Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

C1.2 CONTRACT DATA

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Contract: RTD 12-2025/26
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PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

C1.2.1 GENERAL CONDITIONS OF CONTRACT

The general conditions of contract applicable to this contract shall be **NEC3 Professional Services Contract**, as well as the Data provided by Employer.

Tenderers, contractors and subcontractors shall obtain their own copies of the document **NEC3 Professional Services Contract, 2013** for tendering purposes and for use for the duration of the contract and shall bear all expenses in this regard:

Engineering Contracting Strategies (ECS)

Telephone: 011 803 3008

E-Mail: admin@ecs.co.za

Web: www.ecs.co.za

OR

Consulting Engineers South Africa (CESA)

Telephone: 011 463 2022

E-Mail: general@cesa.co.za

Web: www.cesa.co.za

OR

South African Institution of Civil Engineering (SAICE)

Telephone: 011 805 5947 / 48 / 53

E-Mail: civilinfo@saice.org.za

Web: www.saice.org.za

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

C1.2.2 DATA PROVIDED BY THE EMPLOYER

| CLAUSE/OPTION | DATA |
|-------------------|--|
| | <ul style="list-style-type: none"> The conditions of contract are the core clauses and the clauses for main Option G: Term contract dispute resolution Option W1: Dispute resolution and secondary Options X2: Changes in the law X9: Transfer of rights X10: Employer's Agent X11: Termination by the Employer Z: Additional conditions of contract <p>of the NEC3 Professional Services Contract, 2013</p> |
| 1. General | |
| 10.1 | <ul style="list-style-type: none"> The Employer is City of Tshwane. The Employer has authorised the Group Head: Roads and Transport to act on his behalf in respect of this Contract, save for such duties or functions: <ul style="list-style-type: none"> which other holders of office ex officio execute on behalf of the Employer; or for which the Divisional Head has no authority and the Employer's approval is required before execution thereof. The Group Head: Roads and Transport is: <p>Mr Pheko Letlonkane Roads and Transport Department P.O. Box 1409 PRETORIA 0001</p> |
| 11.2(1) | <ul style="list-style-type: none"> A detail programme of services to be rendered, to be submitted for approval by the Employer within 21 working days from the start date |
| 11.2(6) | <ul style="list-style-type: none"> Close-out report with all relevant documentation to be submitted within 3 months of issuing a completion certificate |
| 11.2(9) | <ul style="list-style-type: none"> The services are for the provision of professional services specified in the Scope and identified in the Acceptance portion of the Form of Offer and Acceptance |
| 11.2(10) | <ul style="list-style-type: none"> The following matters will be included in the Risk Register <ul style="list-style-type: none"> i. Availability of funds approved by Employer on the budget for the project. |
| 11.2(11) | <ul style="list-style-type: none"> The Scope is in the document called Part C3: Scope of Work |
| 12.2 | <ul style="list-style-type: none"> The law of the contract is the law of the Republic of South Africa subject to the jurisdiction of the Courts of South Africa |
| 13.1 | <ul style="list-style-type: none"> The language of the contract is English |
| 13.3 | <ul style="list-style-type: none"> The period for reply is 2 (two) weeks |

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

| CLAUSE/OPTION | DATA | | | | | | | | |
|---|---|------|--------|---|--|---|------|--|--|
| <p>2. The Parties' main responsibilities</p> <p>25.2</p> <p>25.5</p> | <ul style="list-style-type: none"> • The <i>Employer</i> provides access to persons places and things as stated in the Task Order • The Consultant adheres and management the projects in accordance with the Municipal Financial Management Act (MFMA) and relevant regulations published for time to time. | | | | | | | | |
| <p>3 Time</p> <p>31.2</p> <p>11.2(3)</p> <p>31.1</p> | <ul style="list-style-type: none"> • The starting date is the date which the consultant receives a signed copy of the contract document with a schedule of deviations, if any. • The completion date is 36 months after the starting date. <p><i>Note: If no completion date is provided the Consultant will perform the Services until completed as per Scope of Work</i></p> <ul style="list-style-type: none"> • The Consultant submits revised programmes at intervals no longer than 1 (one) month. | | | | | | | | |
| <p>5. Payment</p> <p>50.1</p> <p>50.3</p> | <ul style="list-style-type: none"> • The assessment interval is monthly. • The expenses stated by the Employer are <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Item</th> <th style="text-align: left;">Amount</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> – printing or reproduction of documents issued to the <i>Employer</i> or, where instructed by the <i>Employer</i> to Others, other than general correspondence and minor reports – covers and binding of documents issued to the Employer or to Others for construction or tendering purposes – maps, models and presentation materials </td> <td> Market related cost or in accordance with the latest Rates for Reimbursable expenses published on www.publicworks.gov.za/consultants </td> </tr> <tr> <td> <ul style="list-style-type: none"> – parking charges and toll fees within the Tshwane municipal area – casual labour and miscellaneous hand tools and materials </td> <td>Cost</td> </tr> <tr> <td> <ul style="list-style-type: none"> – special equipment required to perform specific aspects of a Time Charge Order which is not included in the staff rates </td> <td>Open market or competitively tendered process with all deductions for all discounts, rebates and taxes that can be recovered</td> </tr> </tbody> </table> | Item | Amount | <ul style="list-style-type: none"> – printing or reproduction of documents issued to the <i>Employer</i> or, where instructed by the <i>Employer</i> to Others, other than general correspondence and minor reports – covers and binding of documents issued to the Employer or to Others for construction or tendering purposes – maps, models and presentation materials | Market related cost or in accordance with the latest Rates for Reimbursable expenses published on www.publicworks.gov.za/consultants | <ul style="list-style-type: none"> – parking charges and toll fees within the Tshwane municipal area – casual labour and miscellaneous hand tools and materials | Cost | <ul style="list-style-type: none"> – special equipment required to perform specific aspects of a Time Charge Order which is not included in the staff rates | Open market or competitively tendered process with all deductions for all discounts, rebates and taxes that can be recovered |
| Item | Amount | | | | | | | | |
| <ul style="list-style-type: none"> – printing or reproduction of documents issued to the <i>Employer</i> or, where instructed by the <i>Employer</i> to Others, other than general correspondence and minor reports – covers and binding of documents issued to the Employer or to Others for construction or tendering purposes – maps, models and presentation materials | Market related cost or in accordance with the latest Rates for Reimbursable expenses published on www.publicworks.gov.za/consultants | | | | | | | | |
| <ul style="list-style-type: none"> – parking charges and toll fees within the Tshwane municipal area – casual labour and miscellaneous hand tools and materials | Cost | | | | | | | | |
| <ul style="list-style-type: none"> – special equipment required to perform specific aspects of a Time Charge Order which is not included in the staff rates | Open market or competitively tendered process with all deductions for all discounts, rebates and taxes that can be recovered | | | | | | | | |

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

| CLAUSE/OPTION | DATA | | | | | | | | | | | | | | |
|---|---|--|--|-------|-------|---|---|--|----------------|---|---|------------------|--|---|------------------|
| | <ul style="list-style-type: none"> - specialist studies undertaken by appropriately qualified and competent professionals - tests and, where applicable, the making good following such test undertake by specialists or accredited laboratories | | | | | | | | | | | | | | |
| | <ul style="list-style-type: none"> - vehicle travel within the Tshwane Municipal area | In accordance with the latest Rates for Reimbursable expenses published on www.publicworks.gov.za/consultants Log sheets to be submitted. | | | | | | | | | | | | | |
| 51.1 | <ul style="list-style-type: none"> • The period within which payment is made is 30 (thirty) days. | | | | | | | | | | | | | | |
| 51.2 | <ul style="list-style-type: none"> • The currency of this contract is South African Rand (ZAR). | | | | | | | | | | | | | | |
| 51.5 | <ul style="list-style-type: none"> • The interest rate is 2% (two percent) per annum above the prime lending rate of the Employer's bank at the time an interest payment is due. | | | | | | | | | | | | | | |
| 8. | Indemnity, insurance and liability | <ul style="list-style-type: none"> • The amounts of insurance and the periods for which the Consultant maintains insurance are <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Event</th> <th style="text-align: center;">Cover</th> <th style="text-align: center;">Period following Completion of the whole of the services or earlier termination</th> </tr> </thead> <tbody> <tr> <td>Failure of the consultant to use the skill and care normally used by professionals providing services similar to the services</td> <td>The Consultant shall insure against professional negligence, errors and omissions under a Professional Indemnity policy for at least R10-million per claim and the number of claims unlimited</td> <td style="text-align: center;">5 years</td> </tr> <tr> <td>Death of or bodily injury to a person (not an employee of the Consultant) or loss of or damage to property resulting from an action or failure to take action by the Consultant</td> <td>As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the Consultant's common law liability for people falling outside the scope of the Act with a limit of indemnity of not less than R5-million in respect of each claim, without limit to the number of claims</td> <td style="text-align: center;">12 months</td> </tr> <tr> <td>Death or bodily injury to employees of the</td> <td>That which is prescribed by the Compensation Injuries</td> <td style="text-align: center;">12 months</td> </tr> </tbody> </table> | | Event | Cover | Period following Completion of the whole of the services or earlier termination | Failure of the consultant to use the skill and care normally used by professionals providing services similar to the services | The Consultant shall insure against professional negligence, errors and omissions under a Professional Indemnity policy for at least R10-million per claim and the number of claims unlimited | 5 years | Death of or bodily injury to a person (not an employee of the Consultant) or loss of or damage to property resulting from an action or failure to take action by the Consultant | As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the Consultant's common law liability for people falling outside the scope of the Act with a limit of indemnity of not less than R5-million in respect of each claim, without limit to the number of claims | 12 months | Death or bodily injury to employees of the | That which is prescribed by the Compensation Injuries | 12 months |
| Event | Cover | Period following Completion of the whole of the services or earlier termination | | | | | | | | | | | | | |
| Failure of the consultant to use the skill and care normally used by professionals providing services similar to the services | The Consultant shall insure against professional negligence, errors and omissions under a Professional Indemnity policy for at least R10-million per claim and the number of claims unlimited | 5 years | | | | | | | | | | | | | |
| Death of or bodily injury to a person (not an employee of the Consultant) or loss of or damage to property resulting from an action or failure to take action by the Consultant | As prescribed by the Compensation for Occupational Injuries and Diseases Act No. 130 of 1993 and the Consultant's common law liability for people falling outside the scope of the Act with a limit of indemnity of not less than R5-million in respect of each claim, without limit to the number of claims | 12 months | | | | | | | | | | | | | |
| Death or bodily injury to employees of the | That which is prescribed by the Compensation Injuries | 12 months | | | | | | | | | | | | | |

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

| CLAUSE/OPTION | DATA | |
|---|--|--|
| 9 Termination | Consultant arising out of and in the course of their employment in connection with this contract | and disease Act No. 130 of 1993 as amended and whatever the Consultant deems desirable in addition |
| | <ul style="list-style-type: none"> The appointment will terminate after lapsing of the set project duration or extended duration as confirmed by the municipality in writing. | |
| 21 Consultant's obligations 21.4 | <ul style="list-style-type: none"> The Consultant prepares forecasts of the total Time Charge and expenses at intervals no longer than 30 (thirty) days. | |
| W1 Option W1 W1.1 W1.2(3) W1.4(2) | <ul style="list-style-type: none"> The <i>Adjudicator</i> is the person selected by the Parties in terms of the relevant Z Clause from the Panel of NEC Adjudicators set up by the Joint Civils Division of the Institution of Civil Engineers and the South African Institution of Civil Engineering. The <i>Adjudicator nominating body</i> is the Chairman of the Joint Civils Division of the Institution of Civil Engineers and the South African Institution of Civil Engineering The tribunal is a South African court of law. | |
| X2 Changes in law X2.1 | The <i>law of the project</i> is the law of the Republic of South Africa subject to the jurisdiction of the Courts of South Africa. | |
| X10 Employer's Agent X10.1 | <ul style="list-style-type: none"> The <i>Employer's Agent</i> is stated in the Task Order. The authority of the Employer's Agent is fully empowered to act on behalf of the Employer for the services covered by the Task Order and will accept, or not accept, the Consultant's assessment of the amount due in terms of the contract | |
| Z Additional conditions of contract | The additional conditions of contract are: | |
| Z1 Tax Invoices | <p style="text-align: center;">The Consultant's invoice</p> Delete the first sentence of core Clause 50.2 and replace by: Invoices submitted by the <i>Consultant</i> to the <i>Employer</i> include: | |

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

| CLAUSE/OPTION | DATA |
|--|---|
| | <ul style="list-style-type: none"> - the details stated in the Scope to show how the amount due has been assessed, and - the details required by the <i>Employer</i> for a valid tax invoice. <p>Delete the first sentence of core Clause 51.1 and replace by:</p> <p>Each payment is made by the <i>Employer</i> within 30 days of receiving the <i>Consultant's</i> invoice showing the details which this contract requires or, if a different period is stated in the Contract Data, within the period stated</p> |
| Z2 Communications | <p>Add to the end of the first sentence in core Clause 13.1</p> <p>Excluding communication by a communication protocol allowing the interchange of short text messages between mobile telephone devices and a store-and-forward method of writing, sending, receiving and saving messages over the internet.</p> |
| Z3 Selection and appointment of the Adjudicator | <ul style="list-style-type: none"> • A Party may at any time notify the other Party of the names of two persons he has chosen from the Panel of NEC Adjudicators set up by the Joint Civils Division of the Institution of Civil Engineers and the South African Institution of Civil Engineering (see www.jointcivils.co.za) whose availability to act as the Adjudicator the notifying Party has confirmed. The other Party selects one of the two persons chosen to be the Adjudicator within four days of receiving the notice, failing which the person chosen by the notifying Party will be the Adjudicator. The Parties appoint the selected Adjudicator under the NEC Adjudicator's Contract, June 2005 with amendments June 2006. |
| Z4 Notification of a compensation event | <ul style="list-style-type: none"> • Replace eight weeks in clause 61.3 with four weeks. |

PART C1: AGREEMENT AND CONTRACT DATA CONTENTS

C1.2.3 DATA PROVIDED BY THE CONTRACTOR

| CLAUSE/OPTION | | DATA | |
|---------------|---------------------------|--|--|
| 1. | Definitions | • The legal name of the Service Provider is: | |
| | | • Physical Address: | |
| | | • Postal Address: | |
| | | • Telephone | |
| | | • Facsimile: | |
| | | • E-Mail Address: | |
| 5.3 | Designated Representative | • The authorised and designated representative of the Service Provider is: | |
| | | • The address for receipt of communications is: | |
| | | • Physical Address: | |
| | | • Postal Address: | |
| | | • Telephone | |
| | | • E-Mail Address: | |

PART C2: PRICING DATA

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| C2.3 | SUMMARY OF PRICING SCHEDULE | 7 |
| C2.4 | CALCULATIONS FOR TENDER EVALUATION PURPOSES ONLY | 8 |

C2.1 PRICING INSTRUCTIONS

1. General

- 1.1 This section provides the tenderer with guidelines and requirements with regard to the completion of the Price Schedule. The Schedule **shall be completed in non-erasable black ink** and the tenderer is referred to the Conditions of Tender in regard to the correction of errors.
- 1.2 The Price Schedule shall be read with all the documents which form part of this Contract.
- 1.3 The fees used in the Pricing Schedule shall be based on the latest documents:
- **ECSA Guideline for Services and Processes for Estimating Fees for Registered Persons.**
(available at <https://www.ecsa.co.za/regulation/SitePages/Guideline%20Fees.aspx>)
 - **Rates for Reimbursable Expenses**
(available at <http://www.publicworks.gov.za/consultantguidelines.html>)
 - AGSA (Auditor-General of South Africa) Circular 1/2024/25 Guideline on fees for financial service performed https://www.agsa.co.za/Portals/0/TAEV/Circular_01_2024_25_Guide_on_AGSA-Charge%20Out%20Rates%20Final.pdf?ver=Je7JPW142HEjlfB-uQo4Xg%3D%3D
- 1.4 All fees and sums of money quoted in the Price Schedule shall be in rands and whole cents. Fractions of a cent shall be discarded.
- 1.5 All prices and rates entered in the Price Schedule must be **excluding VAT**. VAT will be added last on the summary page of the Price Schedule.
- 1.6 An item against which no price, rate or discount is entered will be considered as a zero price, rate or discount and considered to be covered by the other prices, rates or discounts.
- 1.7 Should excessively high discount percentages be tendered, such discounts may be of sufficient importance to warrant rejection of a tender by the Employer.
- 1.8 A detailed Pricing Schedule is included.
- 1.9 The Pricing Schedule will be used for evaluation purposes and payment will be made for actual work completed.
- 1.10 The *Deputy Director: Integrated Stormwater Planning* in the *Transportation Planning (TP) Division* will have the powers to issue work orders to the approved Professional Service Provider.
- 1.11 The client reserves the right, by giving written notice to the Consultant, to suspend or terminate the progress of a particular project/stage at any time. Should the client exercise this right, the client will pay the Consultant for work done and expenses incurred only up to the time that notice was given.

PART C2: PRICING DATA

1.12 Disbursements shall mean expenses incurred by the relevant consultant in rendering services to the *Transportation Planning (TP) Division* and shall include the following:

- 1.12.1 Agreed costs of typing, production, copying and binding of contract documents, feasibility reports, pre-qualification documents, preliminary design reports, final reports and manuals, excluding general correspondence, minor reports, contractual reports, progress reports, etc;
- 1.12.2 Expenses on special productions, copying, printing, artwork, binding, and photography, etc. requested by the TP Division.
- 1.12.3 All costs incurred as part of disbursements must be with approval from the TP Divisional Head
- 1.12.4 Travelling expenses will not be recovered as part of the disbursements.
- 1.12.5 Accommodation and subsistence expenses will not be recovered as part of the disbursements.
- 1.12.6 Any other relevant disbursements shall be subject to approval of the TP Divisional Head

2. Pay Items

2.1 Abbreviations used in the Price Schedule are as follows:

| | | | | | |
|-----------|---|---|-----|---|----------------------|
| h | = | hour | p/h | = | per person per hour |
| day | = | per day | p/d | = | per person per day |
| month | = | per month | p/m | = | per person per month |
| p | = | per person | no | = | number |
| % | = | percent | sum | = | sum |
| rate only | = | rate only | km | = | Kilometre |
| node | = | Point between network elements (conduits) in a hydrological model | | | |

3. Corrections of entries made by the tenderer

Any entry made by the Tenderer in the Price Schedule, 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.

4. Rates

All rates submitted by the Tenderer will be inclusive of all expenses, costs and profits related to the successful completion of the work.

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Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART C2: PRICING DATA

C2.2 PRICING SCHEDULE

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PART C2: PRICING DATA

C2.2 PRICING SCHEDULE

C2.2.1 FEES FOR NORMAL SERVICES

- Note:**
- (1) This schedule must be read with Part C3: Scope of Work, in particular Section C3.5 and C3.6.
 - (2) The fees tendered for each part of the SMP (Table A1 in Section C2.2.1), shall include full compensation for all expenses, staff cost, disbursements, survey costs, other costs and profits related to the successful completion of that specific part of the SMP, as not all parts of a SMP will necessarily be required or completed.
 - (3) Refer to the document *Specifications & Guidelines: Stormwater Master Plans, (latest version)* for the determination of unit rates
 - (4) The fees tendered to perform the monthly project administration and meetings (Table A2 in Section C2.2.1), shall include full compensation for all expenses, costs and profits related to the successful completion of the work.
 - (5) Section C2.4 will only be used for tender evaluation purposes and does not reflect any work.

A. NORMAL SERVICES

A1 SMP Part 1 to 4

TABLE A1: TENDERED FEES FOR SMP Part 1 to SMP Part 4

| Service: SMP Part 1 to 4 | Unit | Unit Rate per node (excl. VAT) |
|--|------|--------------------------------|
| A1.1 SMP Part 1 | Node | R |
| A1.2 SMP Part 2 | Node | R |
| A1.3 SMP Part 3 | Node | R |
| A1.4 SMP Part 4 | Node | R |
| Unit Rate for A1.1, A1.2, A1.3 & A1.4: SMP Part 1 to 4 (Excl VAT) - to Section C2.3, Table C, Item A1.1 – A1.4 - to Section C2.4, Item C2.4.1, 2.4.2, 2.4.3 & 2.4.4 | | |

A2 Monthly project administration

TABLE A2: TENDERED FEES FOR MONTHLY PROJECT ADMINISTRATION

| Service: Monthly project administration | Unit | Unit rate per month (excl. VAT) |
|---|-------|---------------------------------|
| A2 Monthly project administration | Month | R |

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PART C2: PRICING DATA

| |
|---|
| <p><i>Unit Rate for MONTHLY PROJECT ADMINISTRATION (Excl VAT)</i></p> <ul style="list-style-type: none">- <i>to Section C2.3, Table C, Item A2</i>- <i>to Section C2.4, Item C2.4.5</i> |
|---|

PART C2: PRICING DATA

B. FEES FOR ADDITIONAL SERVICES

Although no additional services are anticipated at this stage, any additional service required will be dealt with in terms of the 'Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act'.

C. TIME BASED FEES

Time based fees, expenses and costs will be dealt with in terms of Item 4.2 of the *Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act (46 of 2000), Board Notice 243 of 2013*.

In terms of the *Engineering Council of South Africa (ECSA)*, the maximum hourly rates for employees will be as determined by the *Department of Public Service and Administration (DPSA)* annually and can be obtained from DPSA. The following categories are defined by DPSA:

| Category | Description | DPSA category |
|----------|---|---------------|
| A | Technical International Specialist (Senior Partner/Director) | 15/16B1.1 |
| B | Technical Specialist (Principal Consultant) | 14/15B1.1 |
| C | Technical Specialist (Senior Consultant) | 13/14B1.1 |
| D | Technical Assistant to Engineer | 12/13B1.1) |
| E | Administrative Assistant | 9/10B1.1 |

The hourly rate published by DPSA for each category of employees will be multiplied by the hours worked. The sum of the fees claimed for all categories shall be subject to the percentage discount offered below.

DISCOUNT OFFERED ON TIME-BASED FEES

State the percentage (%) discount offered on time-based fees, calculated according to the prevailing tariffs of the *Engineering Council of South Africa (ECSA)* as published in the *Government Gazette* in terms of the Engineering Profession Act, 2000 (Act no. 46 of 2000):

C1. Percentage (%) discount offered: _____ % (to **Section C2.3, Table C, Item C1 and Section C2.4, Item C2.4.6**)

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PART C2: PRICING DATA

C2.3 SUMMARY OF PRICING SCHEDULE (Completion is compulsory)

TABLE C: SUMMARY OF PROFESSIONAL FEES

| SERVICE | From | Tendered fee (excl. VAT) | 15% VAT | Tendered fee (incl. VAT) |
|---|----------|--------------------------|---------|--------------------------|
| A. Service: Normal services | | | | |
| A1 SMP Part 1 to 4 | | | | |
| A1.1 Unit rate for SMP Part 1 | Table A1 | R | R | R |
| A1.2 Unit rate for SMP Part 2 | Table A1 | R | R | R |
| A1.3 Unit rate for SMP Part 3 | Table A1 | R | R | R |
| A1.4 Unit rate for SMP Part 4 | Table A1 | R | R | R |
| A2 Monthly Project Administration | | | | |
| A2 Unit rate for Monthly Project Administration | Table A2 | R | R | R |
| C. Service: Time Based Fees | | | | |
| C1 Percentage (%) discount offered on time-based fees | C1 | | % | |

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 his/her knowledge and are to the best of his/her belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters):

Signature:

Date:

PART C2: PRICING DATA

C2.4 CALCULATIONS FOR TENDER EVALUATION PURPOSES ONLY

Calculations for tender evaluation purposes only (amounts excluding VAT)

| | (A) | | (B) Tendered fee (excl. VAT) | | (A) x (B) |
|--|--------------|---|---|----------|----------------|
| C2.4.1. SMP Part 1 | 5 000 nodes | x | Total fee per node: <i>(from Table C, A1.1)</i> | R /node | = R |
| C2.4.2. SMP Part 2 | 5 000 nodes | x | Total fee per node: <i>(from Table C, A1.2)</i> | R /node | = R |
| C2.4.3. SMP Part 3 | 10 000 nodes | x | Total fee per node: <i>(from Table C, A1.3)</i> | R /node | = R |
| C2.4.4. SMP Part 4 | 10 000 nodes | x | Total fee per node: <i>(from Table C, A1.4)</i> | R /node | = R |
| C2.4.5. Monthly project administration | 36 months | x | Total fee per month: <i>(from Table C, A2)</i> | R /month | = R |
| C2.4.6. All other work | R3.0 m | x | % discount offered on time-based fees: <i>(from Table C, C1)</i> | % | = R |
| TOTAL (C2.4.1 + C2.4.2 + C2.4.3 + C2.4.4 + C2.4.5 + C2.4.6) (Excl. VAT) | | | | | R |
| | | | | | 15% VAT |
| | | | | | R |
| TOTAL (Incl. VAT) | | | | | R |

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 his/her knowledge and are to the best of his/her belief both true and correct.

Person authorized to sign the tender:

Full name (in BLOCK letters):

Signature:

Date:

PART C3: SCOPE OF WORK

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C3.1 EMPLOYER'S OBJECTIVES

Proposals for the provision of consulting engineering services are requested from specialist engineering consultants to assist with stormwater and catchment management in Tshwane.

C3.2 BACKGROUND

Integrated stormwater management in the City of Tshwane (CoT) entails the planning and management of all stormwater runoff, from the first drop of rain that drains overland towards the nearest stormwater drainage system, enters and follows constructed minor and major stormwater drainage systems to where it discharges into a watercourse, and runs along these watercourses until it leaves Tshwane's area of jurisdiction. The goals of integrated stormwater management in Tshwane are the protection of life and property from flood hazards; the improvement of the quality of life of the community; and the preservation of the natural environment.

Stormwater and catchment management focuses on the major and minor catchment areas and appurtenant drainage networks up to a point where it discharges into a watercourse. It includes aspects like catchment management, planning of all drainage networks in Tshwane, stormwater master plans (SMPs), development of sustainable drainage systems (SuDS), planning and upgrading of drainage systems, identifying drainage problems and proposed solutions, flood attenuation, etc.

Watercourse and flood management on the contrary, are focussed on natural drainage routes and watercourses. It includes the delineation of all catchment areas and watercourses within Tshwane, the determination of flood discharges in all these watercourses, flood line studies, flood management plans (FMPs), hydraulic management of watercourses and flood plains, dam safety investigations, identifying flood hazards, watercourse improvements, flood attenuation structures, wetland conservation, erosion and sediment control, etc.

This tender is to assist the CoT with aspects of stormwater and catchment management.

C3.3 CURRENT EXTENT OF STORMWATER AND CATCHMENT MANAGEMENT IN TSHWANE

The backlog in stormwater drainage systems in Tshwane, especially in the northern, eastern, and formerly marginalized areas is huge. Given that a large percentage of the existing stormwater drainage systems are also under capacity due to urban densification and previously accepted but now outdated design criteria, the need for proper stormwater drainage systems is thus immense.

Stormwater Master Plans (SMPs) that form part of the appointment, are essential to manage stormwater drainage systems holistically and effectively. It enables meaningful and integrated development and is invaluable in addressing stormwater-related problems in established areas. SMPs are also extensively used in stormwater maintenance management.

A SMP entails the analysis of existing stormwater drainage systems and proposals for upgrading these systems, and/or the planning of new systems in undeveloped areas or areas where no systems exist. This is achieved through hydrological modelling and simulation using specialized computer programs. The results are however only valid and useful if the models are continuously updated, maintained, refined, and extended to include and reflect "as-built" information, changes necessitated by detail design as well as urban densification in an area.

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Re-development, urban densification and renewal, Spatial Development Frameworks (SDFs) and flooding/drainage problems in older areas also require upgrading of existing drainage systems.

Stormwater and catchment management is essential to effectively manage the drainage network in Tshwane and address the huge backlog in stormwater drainage systems, both efficiently and ecologically acceptably. Proper stormwater and catchment management is also fundamental in enabling the CoT to render a professional service to the people of Tshwane in its quest for accountable service delivery.

C3.4 DURATION AND COST OF THE APPOINTMENT

The appointment will be for a period of three (3) years, subject thereto that the Municipality reserves the right to suspend the appointment at any time by giving 30 days' notice.

The SMPs, feasibility studies and other stormwater and catchment management related work mentioned above and in *Paragraph C3.5: Description of services* below will not be completed within the three-year appointment period unless substantial external funding is obtained. Currently internal funding amounts to approximately R2 million per year.

The quantities set out in in Part C2: Pricing Data, paragraph C2.4, are approximate quantities and will only be used for tender evaluation purposes. These quantities do not reflect any work to be done. The amount of work to be done is "as and when required" i.e., unknown. The quantities given are therefore neither warranted nor guaranteed.

C3.5 DESCRIPTION OF THE SERVICES

The Service Provider will be required to perform the following services in accordance with the Guideline Scope of Services and Tariff of Fees for Persons Registered in terms of the Engineering Profession Act, 2000, Act No.46 of 2000):

C3.5.1 NORMAL SERVICES

The following services to be provided by the consulting engineer will be regarded as Normal Services in terms of this appointment and will comprise the following:

- (a) Compile Stormwater Master Plan (SMP) studies:
 - Part 1 SMP: Major stormwater drainage network modelling and network requirements.
 - Part 2 SMP: Minor stormwater drainage network modelling and network requirements.
 - Part 3 SMP: Stormwater drainage network costing.
 - Part 4 SMP: Prioritisation of the stormwater drainage network, sub-networks and drainage network elements.
- (b) Part 1 to 4 SMP studies above, shall include all required desktop and site surveys as specified in the document *Specifications & Guidelines: Stormwater Master Plans*, (latest version) as issued by the CoT Transportation Planning Division.
- (c) Investigate stormwater management related problems and formulate proposed solutions, including the identification of problem areas and areas where property and infrastructure are exposed to flooding risks.
- (d) Prepare feasibility studies (Part 5 SMPs) and/or conceptual designs to eradicate identified problems.

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- (e) Obtain authorisations for project proposals from the relevant Provincial, National, or other Authorities, including Environmental Authorisations and Water Use License applications.
- (f) Investigate and plan flood attenuation, detention, and retention measures.
- (g) Investigate pollution and plan proposed pollution control measures.
- (h) Review stormwater related reports from others.
- (i) Compile, update, refine, maintain, and extend Catchment Management Plans (CMPs).
- (j) Investigate and introduce Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS) principles to all feasibility studies, or other studies related to stormwater planning and catchment management.
- (k) Perform dam safety inspections for larger attenuation structures with engineers/engineering technologists approved by DWS (National Department of Water and Sanitation) as competent persons (Dam Engineers) and assist the City in fulfilling all obligations in terms of prevailing dam safety legislation.
- (l) Update the existing stormwater SMP database and geodatabase, and compile reports reflecting -
 - the existing standing of all SMP projects,
 - the SMP backlog, and
 - the total stormwater drainage system backlog in Tshwane.
- (m) Assist in formulating policy and policy guidelines on stormwater management, and all aspects related thereto, including WSD and SuDS.
- (n) Continuously integrate and coordinate SMPs and CMPs with other management systems.
- (o) Liaise with other specialist consultants, authorities, municipal departments and interest groups, and coordinate and integrate all inputs.
- (p) Assist in educating the public on all aspects of stormwater management, including WSD and SuDS principles and technologies.
- (q) Add SMP and CMP output data, and other stormwater related data, to the corporate GIS, intranet, internet, and geodatabases. Ensure that all data can be integrated, accessed, updated and queried within the GIS environment of the CoT by using an integrated systems approach.

C3.5.2 ADDITIONAL SERVICES

Although no additional services are anticipated at this stage, any additional service required will be dealt with in terms of the 'Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act'.

C3.6 RENUMERATION

Final payments for all studies will only be made once the studies are completed and documents had been uploaded and integrated on the Corporate GIS and Geodatabase system of the City of Tshwane. Interim progress payments for each study of up to 80% of the value of work will be made upon delivery of invoices and the appropriate supporting documentation regarding work completed.

C3.6.1 NORMAL SERVICES

- (a) STORMWATER MASTER PLANS (Part 1 to 4)

PART C3: SCOPE OF WORK

Payment for parts 1 to 4 of a SMP will be in terms of the unit rates tendered. The tendered rates for all parts of a SMP will be a unit rate per node, irrespective of the location, size, or type of catchment or SMP, and final payment for a completed part of a SMP will thus be based on the number of node points employed in the final hydrological model of the SMP.

The proposed unit rates for Parts 1 to 4 of a SMP must be provided in tabular form per node, and in the format as shown in **Part C2: Pricing Data, Section C2.2.1, Paragraph A, Table A1**.

Refer to Section 12 of the document *Specifications & Guidelines: Stormwater Master Plans, (latest version)* for the determination, presentation and variations of unit rates.

(b) FEASIBILITY STUDIES, CONCEPTUAL DESIGNS AND BUSINESS PLANS

Payment for feasibility studies, conceptual designs and business plans will be time-based in terms of Section C3.6.2 below.

(c) MONTHLY PROJECT ADMINISTRATION

Payment for monthly project administration will be in terms of the monthly unit rate tendered in **Part C2: Pricing Data, Section C2.2.1, Paragraph A, Table A2**.

This monthly lump sum must include compensation for the arrangement and attendance of the monthly coordination meeting, preparing of the agenda and minutes, and the compilation and updating of a monthly detail programme and progress report reflecting the progress and spending of all sub-projects.

(d) OTHER WORK INCLUDED IN THE SCOPE OF SERVICES NOT SEPARATELY COVERED

Payment for all other work will be time-based in terms of Section C3.6.2 below.

NOTE:

The number of nodes (C2.4.1 to C2.4.4) as well as the value for Time-based fees (C2.4.6) in **Part C2: Pricing Data, Section C2.4, are estimated values and will only be used for tender evaluation purposes**. These quantities do not reflect any work to be done. The amount of work to be done is "as and when required" i.e., unknown. The quantities given are therefore neither warranted nor guaranteed.

C3.6.2 TIME BASED FEES, EXPENSES AND COSTS

Time based fees, expenses and costs will be dealt with in terms of Item 4.2 of the Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Profession Act (46 of 2000), Board notice 243 of 2013. The maximum hourly rates will be as determined by the Department of Public Service and Administration (DPSA) annually and can be obtained from DPSA.

Where a discount is offered on time-based fees calculated according to the prevailing tariffs of the Engineering Council of South Africa, it must be clearly indicated in **Part C2: Pricing Data, Section C2.2.1, Paragraph C. Such discounts may be offered on condition that the quality of services is not compromised.**

C3.6.3 ESCALATION OF RATES

All unit rates will be escalated one year after the appointment date and annually thereafter, based on the increase in time-based fee rates as determined by the Department of Public Service and

PART C3: SCOPE OF WORK

Administration (DPSA) annually.

The unit rates will be escalated with the average percentage increase recommended for all salary bands.

Time-based fees will not be escalated as the latest rates published annually by ECSA, or DPSA where applicable, will apply. Refer to Section C3.6.2: Time Based Fees, Expenses and Costs.

C3.7 PERSONNEL AND COMPANY CAPABILITY STATEMENT

This appointment requires specialist engineering expertise, and the tenderer must clearly indicate in his proposal that the firm and personnel can perform the work (refer to **Form RD.E.1 to RD.E.9** in Part T2 of the tender document in this regard). Specialist aspects, inter alia, include:

- Hydrological design and modelling
- Hydraulic design of stormwater structures
- Stormwater master plans
- Flood attenuation, detention and retention
- Pollution control
- Water Sensitive Design (WSD) and Sustainable Drainage Systems (SuDS)
- Catchment Management Plans (CMPs)
- Dam Safety
- Other related stormwater management matters
- Relevant IT, GIS and computer knowledge and experience

Curriculum Vitae's (CVs) indicating relevant qualifications and experience of the personnel, who will be involved with the project, must also be provided with the proposal, with specific reference to the above.

The following information is also required and must be provided with the proposal:

- The names and professional registration numbers of all engineers/engineering technologists who will take professional liability for the work.
- The names and professional registration numbers of all engineers/engineering technologists approved by DWS (National Department of Water and Sanitation) as a competent person (Dam Engineers) in terms of prevailing Dam Safety Legislation.

C3.8 COOPERATION WITH OTHER CONSULTANTS

If required consultants must be prepared to work with and in conjunction with other consultants and to cooperate fully in this regard.

The appointed consultant shall cooperate in all aspects as directed by the Employer with the consulting firm appointed for watercourse and flood management in Tshwane.

C3.9 FACILITIES AND EQUIPMENT TO BE PROVIDED BY THE EMPLOYER

The Employer will not supply any facilities, office space, equipment, software, vehicles, telecommunication systems etc.

C3.10 REFERENCE DATA

To ensure that a uniform standard and approach are followed by consultants when performing SMPs for

PART C3: SCOPE OF WORK

the CoT, all relevant work will be performed in terms of the document *Specifications & Guidelines: Stormwater Master Plans, (latest version)* as issued by the CoT Transportation Planning Division. In terms of this document, a SMP is divided into five individual parts as follows:

- Part 1: Major stormwater drainage network modelling and network requirements.
- Part 2: Minor stormwater drainage network modelling and network requirements.
- Part 3: Stormwater drainage network costing.
- Part 4: Prioritisation of the stormwater drainage network, sub-networks, and drainage network elements.
- Feasibility studies and business plans to address drainage problems.

C3.11 PLANNING AND PROGRAMMING

C3.11.1 Programs submitted by the consultants for projects should reflect the following:

- Starting dates, milestone dates, estimated duration and planned completion dates.
- Order and timing of services which the service provider plans to do.
- Provisions for:
 - Float
 - Time risk allowances

The Consultant shall also update the detail programme monthly and prepare a progress report reflecting the progress and spending of all sub-projects.

C3.12 SOFTWARE APPLICATIONS

The appointment requires that all spatial and non-spatial data complies with the City of Tshwane *Geospatial (GIS) Data Governance Framework* to ensure expected data standards, formats, data structure and quality requirements associated with delivery of such data. The services of qualified and registered SAGC GISc Practitioners (Professionals, Technologists and/or Technicians) therefore form part of the services required as part of this appointment. The *Geospatial (GIS) Data Governance Framework* is available from Tshwane Corporate Geo-Information Management (Corporate GIS).

The successful tenderer must be in possession of the following specific computer software (also refer to the document *Specifications & Guidelines: Stormwater Master Plans, (latest version)* as issued by the CoT Transportation Planning Division):

C3.12.1 The latest ESRI based ArcGIS software corporately used by the CoT (currently ArcMap 10.8.2)

The software is required to access and use existing CoT data, to export all required deliverables in File Geodatabase (FGDB) data storage format (to be used via CoT Intranet Web GIS Viewer and related ArcGIS software). Metadata must be supplied in City of Tshwane *GIS METADATA template* format. The *GIS METADATA template* is available from Tshwane Corporate Geo-Information Management (Corporate GIS).

C3.12.2 Software for hydrological modelling:

- The software model must be able to analyse existing dual drainage networks comprising of pipes/canals and roads forming the overflow system.
- The model must be able to analyse inlet structures where relevant.

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Professional engineering services to assist with stormwater and catchment management in Tshwane for a period of 3 years as and when required

PART C3: SCOPE OF WORK

- The model must be able to handle in and off-stream storage facilities.

C3.12.3 All software

Software shall be compliant with Microsoft Windows 10 and/or the latest operating systems and shall be fully compatible with Microsoft Office 365 and/or the latest versions. All software licenses must be valid and presented at the start of the contract.

C3.13 **FORMAT OF COMMUNICATIONS**

Consultants will be required to submit all documents in both hard copy and electronic format.

The accepted SMP Part 1 to 4 studies must additionally be provided in the appropriate File Geodatabase (FGDB) data storage format (refer to paragraph C3.13.1) and uploaded to the corporate GIS platform as directed.

C3.14 **MANAGEMENT MEETINGS**

The Consultant shall arrange monthly coordination meetings with representatives from the CoT to discuss the progress of the sub-projects and kept minutes of the meetings.

C3.15 **USE OF DOCUMENTS BY THE EMPLOYER**

The copyright in any document produced, and the patent rights or ownership in any plant, machinery, thing, system or process designed or devised by a Service Provider in the course of the service, is vested in the City of Tshwane Metropolitan Municipality.

C3.16 **COUNCIL PROCEDURES AND DIRECTIVES**

All work performed as part of this tender shall be carried out in accordance with the policies, standards, financial by-laws, procedures and directives of the Municipality, the Department and the Division.

SPECIFICATIONS & GUIDELINES

Stormwater Master Plans

October 2021

Second Revision

ISSUED BY: ROADS AND TRANSPORT DEPARTMENT

P.O. Box 1409, Pretoria, 0001





Specifications & Guidelines

STORMWATER MASTER PLANS

October 2021

2nd Revision

COMPILED BY:

ROADS AND TRANSPORT DEPARTMENT
TRANSPORTATION PLANNING DIVISION

ENQUIRIES:

INTEGRATED STORMWATER PLANNING SECTION

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ANNEXURE A: GEODATABASE FIELDS AND CALCULATIONS

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- A.3 Output data required for stormwater catchments (SMP Part 1 and 2)
- A.4 Output data required for prioritised networks (SMP Part 4)
- A.5 Selection data for continuous modelling

1. INTRODUCTION AND BACKGROUND

The City of Tshwane Metropolitan Municipality (CoT) uses Stormwater Master Plans (SMPs) and Flood Management Plans (FMPs) extensively as planning tools.

The stormwater drainage system consists of the major stormwater drainage system being watercourses and major stormwater networks, and the minor stormwater drainage system comprising minor stormwater networks and roads.

SMPs focus on major and minor stormwater drainage networks, up to the point where it discharges into a watercourse, and include stormwater network planning and drainage network upgrades.

THIS DOCUMENT HAS BEEN COMPILED FOR SMPs.

1.1 PURPOSE AND OBJECTIVES OF THIS DOCUMENT

The purpose of this document is to ensure that a uniform approach and standards are used when compiling SMPs for the CoT. This in turn will make it possible to integrate, utilise, administer and query data regarding SMPs and other stormwater related information. The main objectives of this document are therefore to:

- Provide guidelines for the compilation of SMP's.
- Provide guidelines on how data should be presented in reports and on drawings.
- Provide guidelines on how data should be captured and stored.
- Provide a sound platform for tendering purposes.

1.2 CONTENTS AND USE OF THE GUIDELINE DOCUMENT AND PARTS OF THE SMP

The document has been divided into the following sections:

| | |
|-------------|---|
| Section 1: | Introduction and background |
| Section 2: | Current available data |
| Section 3: | Existing stormwater data |
| Section 4: | Design criteria for stormwater drainage Systems |
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| Section 8: | Stormwater drainage network costing |
| Section 9: | Prioritisation of stormwater drainage networks and network elements |
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| Section 11: | Requirements for reports and data storage |
| Section 12: | Tendering |

Not all parts of the SMP will necessarily always be completed. In view of this, the scope of work for SMPs have been divided into five individual parts as discussed in Section 1.3 below. The sections in this document and interaction thereof with parts of the SMP are shown schematically on Figure 1.3.1 in Section 1.3.

1.3 DESCRIPTION OF DRAINAGE NETWORKS AND PARTS OF THE SMP

1.3.1 Description of drainage network

The stormwater drainage network comprises a major and a minor stormwater drainage system.

(a) Major stormwater drainage system

The major stormwater drainage system comprises the following:

- Major stormwater drainage networks and sub-networks comprising major drainage elements such as pipes, culverts, small canals and roads (operating as overflow channels for the minor stormwater drainage network); and
- Watercourses and topographic land depressions or low points.

(b) Minor stormwater drainage system

The minor stormwater drainage system comprises the following:

- Minor stormwater drainage networks and sub-networks comprising minor drainage elements such as catchpits, other inlet structures, junction boxes, manholes and side drains.

Minor stormwater drainage networks perform as “collector systems” draining into the major stormwater drainage system.

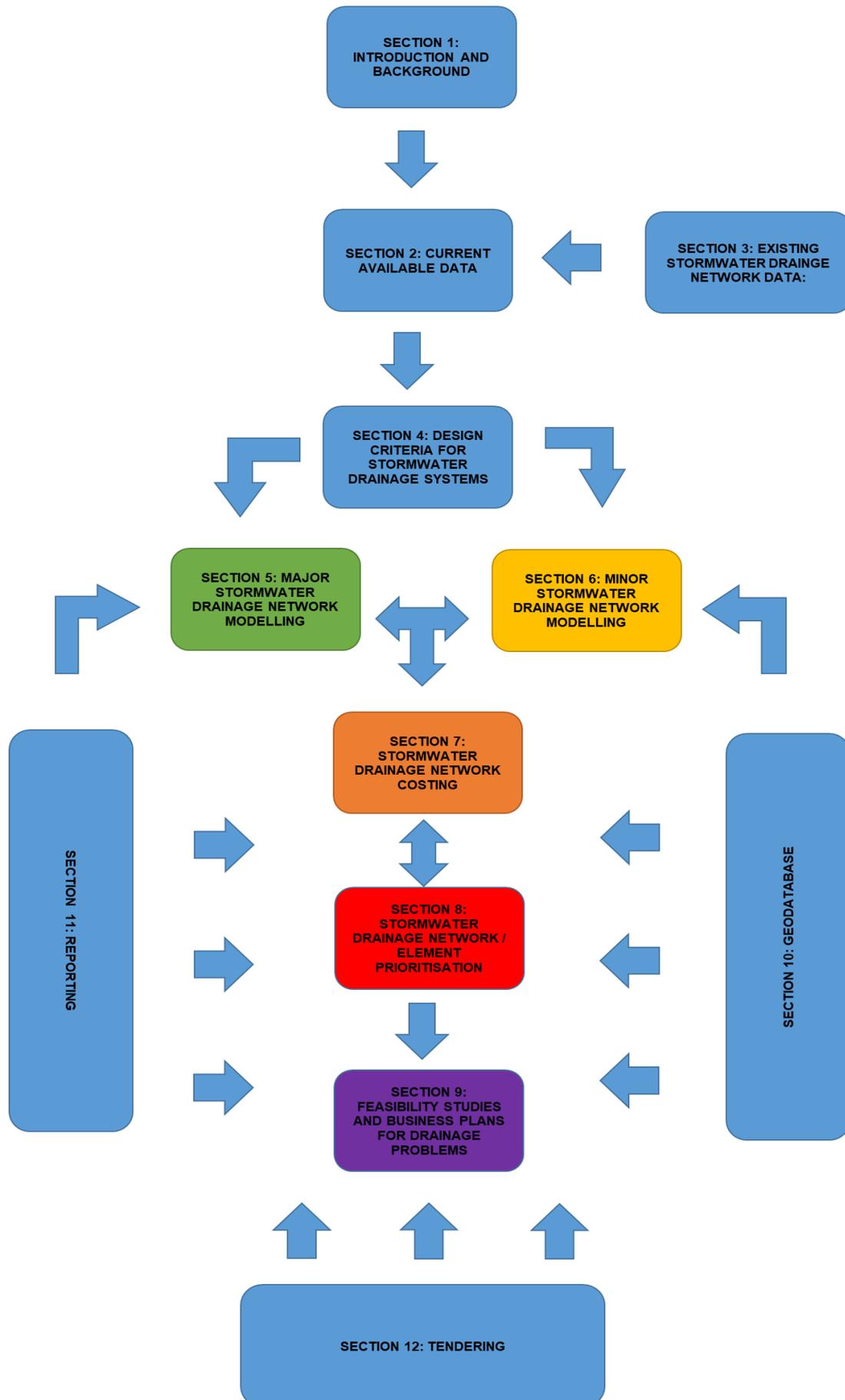
1.3.2 Parts of the SMP

The SMP has been divided into five individual parts as follows:

- Part 1: Major stormwater drainage network modelling and network requirements
- Part 2: Minor stormwater drainage network modelling and network requirements
- Part 3: Stormwater drainage network costing
- Part 4: Prioritisation of stormwater drainage networks, sub-networks and drainage network elements,
- Part 5: Feasibility studies to address drainage problems

It should be noted that the level of detail and specific parts of the SMP may vary for each report or circumstance. Only one or all parts identified above could be necessary depending on the requirements or outcome of the study.

FIGURE 1.3.1 - SECTIONS AND LAYOUT OF DOCUMENT IN RELATION TO SMP's



2. CURRENT AVAILABLE DATA

A summary of current data available from the CoT is provided in this section.

The data can be obtained from the CoT: Roads and Transport Department or the CoT GIS Department (<https://e-gis002.tshwane.gov.za> or Geoinfoservice@tshwane.gov.za)

2.1 SPATIAL COORDINATE SYSTEM AND PROJECTION

The City of Tshwane has adopted as its spatial coordinate system the following:

- Ellipsoid: WGS 84
- Projection: Transverse Mercator
- Central Meridian: Longitude 29 degrees
- Latitude of Projection Origin: 0 degrees (equator)
- Scale Factor at Central Meridian: 1
- Projected Coordinate System Name: WG29
- Datum: Hartebeesthoek 1994
- Planar Distance Units: Metres

2.2 AERIAL PHOTOGRAPHY

Aerial photography (2018) in *.ecw format – yielding 1: 5 000 scale colour digital ortho imagery.

2.3 CADASTRAL DATA

Cadastral data giving erf and street boundaries.

2.4 CONTOURS AND LIDAR

Contour data is available for the following intervals:

- 1m
- 5m
- 10m
- 20m

Complete LIDAR survey data dated (2013) is available in the following formats:

- LAS
- ASCII

2.5 CATCHMENT BOUNDARY DATA

Catchment boundaries have been determined based on 20m and 5m contours. The following catchments have been delineated:

- Major basin boundaries.
- Major external catchments.
- Sub-catchments named “tertiary catchments” for each of the defined major basins.

Digital data is available from the CoT Roads and Transport Department.

2.6 TSHWANE SURVEY BENCHMARK DATA AND CORRECTIONS

Permanently marked survey station details are available from the CoT Survey Department.

2.7 RIVER CENTRELINES, CODES AND CHAINAGE SYSTEM

All watercourses and centrelines have been delineated. Based on river confluence positions along the watercourses a river chainage system has been established. Confluence points have been chosen at control structures such as dams or at intersection points of watercourses. Confluence points are approximate and based on a 1m-contour plan.

The river chainage system shall be used as reference on all flood line and FMP studies, as well as SMP studies as applicable. Confluence points giving XY coordinates, the approximate chainage as well as all relevant digital data is available from the CoT Roads and Transport Department. Note that coordinates must be negative for the Tshwane area.

2.8 FLOOD LINE DATA

1-in-50-year and 1-in-100-year flood lines are available for parts of Tshwane.

1-in-100-year indicative flood lines are available for all watercourses in Tshwane. Indicative flood lines shall be used for planning purposes only.

Further details on the above can be obtained from the CoT Roads and Transport Department.

2.9 FLOOD PEAK DATA

Nine basins have been modelled using SWMM (SCS based) hydrological modelling software. The model is a regional flood management model and determines, inter alia, 1-in-50-year and 1-in-100-year flood peaks along major rivers and bigger tributaries.

The model has been based on potentially fully developed land use and gives runoff peaks and volumes at selected river cross section points. Calibration of the model is on-going and the latest information shall be obtained before any project commence. Data can be obtained from the CoT Roads and Transport Department.

2.10 STORM RAINFALL DATA

A regional frequency analysis of rainfall was carried out for the Tshwane area. Based on this analysis Tshwane was divided into rainfall regions for which IDF (Intensity-Duration-Frequency) curves have been derived.

The above rainfall data shall be used for hydrological modelling. The latest data shall be obtained from the CoT Roads and Transport Department.

2.11 REGIONAL SOIL DATA

A regional soils map was developed for the Tshwane area by the *Council for Geosciences*. It was a desktop study taking into consideration landforms and local soils knowledge and information.

Based on the study, the Tshwane area has been divided in several hydrological soil type zones, using the SCS classification system.

The soils data shall be used for hydrological modelling in the absence of better available data. The soils data shall be verified by the consultant to ensure the data accurately reflects actual conditions for the study area.

2.12 REGIONAL LAND-USE DATA

Potentially fully developed land-use coverage shall be obtained from the CoT City Planning Department. The latest RSDF maps shall be used and the densities according to the RSDF shall be used for simulation purposes.

Imperviousness and other required parameters for catchments shall be verified by the CoT Roads and Transport Department before simulation commence.

2.13 COMPLETED SMP STUDIES

To date several SMP studies have been completed. SMP data can be obtained from the CoT Roads and Transport Department.

When a new SMP study is carried out in an area covered by an existing SMP, relevant data shall be abstracted from the existing SMP. The consultant shall determine the need for incorporating relevant SMP data based on the type of project and project specific needs.

2.14 EXISTING STORMWATER DRAINAGE INFRASTRUCTURE

Available data of existing stormwater drainage networks and infrastructure is discussed in Section 3 of this document.

3. EXISTING STORMWATER DRAINAGE INFRASTRUCTURE DATA

This section provides details on the availability of data of existing stormwater drainage networks and infrastructure.

Information and data of the existing stormwater drainage network are available from the *CoT Infrastructure Technical Information Management Section of the Roads and Transport Department.*

The data includes conduit data as well as data on inlet, outlet and other stormwater drainage structures.

The data is available in digital (.shp file) and as-built drawing format.

Please note that infrastructure data should be verified on site.

4. DESIGN CRITERIA FOR STORMWATER DRAINAGE SYSTEMS

This section provides the design standards applicable to both the evaluation and upgrading of existing stormwater drainage systems as well as the design of new stormwater drainage systems.

4.1 BASIC PRINCIPLES FOR SMPs

For the purpose of compiling SMPs, the following design principles shall apply to determine conduit sizes:

- All major and minor systems within road reserves shall be pipe or box culverts.
- The capacity of the major system is a combination of the street capacity (Class 5 and 4(b) roads) and the capacity of the underground system.
- A maximum flow depth of 100 mm shall be used for calculating street capacity.
- The design flow of the minor system is determined as the larger between –
 - the 1-in-2-year runoff, or
 - the difference between the 1-in-20-year runoff and the available road capacity.
- If no road capacity is available, i.e. midblock or Class 4(a) and 3 roads, the 1-in-20-year runoff shall be provided.
- The minimum pipe diameter 450 mm.

4.2 MINOR STORMWATER DRAINAGE SYSTEM

4.2.1 Description of the minor system

The *minor system* commonly comprises catchpits, other inlet structures, junction boxes, manholes, pipe culverts and side drains required to drain the post-development runoff from regular storms from the highest point down to a major stormwater drainage system, being a major stormwater drainage network or a watercourse.

4.2.2 Design criteria for the minor system

The following criteria are used as the design standard for the *minor system*, to provide drainage systems that -

- orderly convey and discharge stormwater for the convenience of the community;
- protect property from flooding and prevent damage;
- avoid the inconvenience of excessive stormwater in roads to pedestrians as well as boarding or disembarking passengers; and
- improve road safety for vehicles;

from storms of low severity which occurs frequently.

4.2.3 *Design recurrence interval for the minor system*

The following are used as the design standard for the *minor system*:

- (i) A design storm with a **1-in-2-year** recurrence interval, based on an anticipated post-development scenario, is used as the design standard.
- (ii) At particular developments with a high pedestrian and vehicular traffic density and subsequent higher inconvenience factor, a design storm with a **1-in-5-year** recurrence interval shall be used as the design standard.

4.2.4 *Allowable encroachment on roads*

Always consider the allowable encroachment on roads by stormwater runoff when designing the *minor system*.

4.3 MAJOR STORMWATER DRAINAGE SYSTEM

4.3.1 *Description of the major system*

The *major system* includes larger culverts, canals and watercourses, but also make use of the road system to convey runoff overland to suitable points of discharge. One objective of *major system* design is to plan roads to cope with this excess water to avoid damage to properties and road infrastructure.

The *major system* commonly comprises the *minor system* (stormwater drainage network), the road surface, pipe and box culverts, canals, natural low-points and watercourses, and drains all stormwater runoff from larger storms.

4.3.2 *Design criteria for the major system*

The following criteria are used as the design standard for the *major system*, to provide drainage systems that -

- prevent possible loss of life;
- reduce flooding of property and infrastructure; and
- prevent damage to property and infrastructure;

by severe storms.

4.3.3 *Design recurrence interval for the major system*

The following are used as the design standard for the *major system*:

- (i) The part of the *major system* conveying stormwater from the highest point down to a watercourse or low-point, which comprise roads and drainage systems which operates in combination with the minor system, be designed for an anticipated post-development runoff with a **1-in-20-year** recurrence interval.
- (ii) The part of the *major system* comprising watercourses or low-points be designed for an anticipated post-development runoff with a **1-in-50-year** recurrence interval.

- (iii) Bridge openings on Class 4 and lower order roads shall be designed to accommodate a flood with an anticipated post-development runoff -
- with a **1-in-50-year** recurrence interval, plus the calculated required freeboard, or
 - with a **1-in-100-year** recurrence interval without freeboard (in the absence of freeboard calculations).
- (iv) Bridge openings on Class 3 and higher order roads shall be designed to accommodate a flood with an anticipated post-development runoff with a **1-in-100-year** recurrence interval, plus the calculated required freeboard.

4.3.4 Allowable encroachment on roads

Always consider the allowable encroachment on roads by stormwater runoff where roads form part of the *major system*.

5. HYDROLOGICAL MODELLING AND OTHER REQUIREMENTS

This section provides guidelines for the required hydrological model to be implemented, the labelling of network nodes and elements, as well as the requirements for model input data applicable to network modelling.

5.1 HYDROLOGICAL MODEL REQUIREMENTS

The following are requirements for the hydrological model:

- The model must be capable of analysing existing dual drainage networks consisting of pipe/canals and road networks forming the overflow system.
- The model must be capable of analysing inlet structures where relevant.
- The model must be capable of processing in-stream and off-stream storage facilities.
- Data output format shall be according to the CoT Roads and Transport Department requirements.

The consultant shall discuss the selection of the proposed hydrological model with the CoT Roads and Transport Department to verify its suitability.

5.2 HYDROLOGICAL MODEL INPUT DATA

5.2.1 Stormwater drainage network layout, node point and catchment naming

The naming of the proposed stormwater drainage network layout, the individual network elements and nodes shall be labelled in a logical manner. Nodes shall be named in a chronological order starting at R1_1 and shall have the prefix of the township, as indicated by the CoT Roads and Transport Department. The same principle shall apply to the naming of catchments, starting at D1_1 and having the same prefix of the township. Further details are provided below:

A_BC_D_E: Use underscores throughout to ensure that ArcGIS and Excel sort data in the same way.

- A *SMP code*: In accordance with the township Geocode from CGIS
- B *Item code*: Outlets (natural stream nodes) = NS; Nodes = R; Sub-catchments = D
- C *System number*: Numerical number starting at 1, increasing from the outlet
- D *Component number*: Numerical number starting at 1, increasing from the outlet
- E *Sub-component number*: Numerical number starting at 1, increasing from the outlet

- (i) Number outlets from 1, starting downstream and increasing upstream. This is the *system number*.
- (ii) Number nodes for each system, starting downstream and increasing upstream. Where a natural stream node has two inflow nodes, number the longest route first and then continue with the shorter route. This is the *component number*.
- (iii) Number each *sub-component* to a node, starting downstream and increasing upstream. If further branching occurs, number the longest branch first, then continue with second longest, etc.
- (iv) Number each catchment in the system. The catchment number is the same as the

node number that drains the specific catchment, with only the item code changing from "R" to "D".

Below find typical examples:

HAT_NS1

| | | |
|---|----------------|---------------------|
| A | HAT | Hatfield SMP |
| B | NS | Natural stream node |
| C | 1 | 1st node |
| D | Not applicable | |
| E | Not applicable | |

SDR_R3_1_2

| | | |
|---|-----|---|
| A | SDR | Sunderland Ridge SMP |
| B | R | Drainage node |
| C | 3 | System no. 3, meaning it discharges to NS3 |
| D | 1 | Component node 1, being the first node in system no. 3 |
| E | 2 | Sub-component node 2, being the first node draining the branched system from node no. 1 |

ALN_D4_8

| | | |
|---|----------------|---|
| A | ALN | Annlin SMP |
| B | D | Sub-catchment |
| C | 4 | System no. 4 |
| D | 8 | Component node 8, meaning that this catchment drains to node R4_8 |
| E | Not applicable | |

5.2.2 *Rainfall data*

Refer to Section 2.10: Storm rainfall data.

5.2.3 *Topo-cadastral data*

Refer to Section 2.3: Cadastral data.

5.2.4 *Existing stormwater drainage network*

Refer to Section 3: Existing stormwater drainage network data.

Note: Additional site inspections and ground-truthing shall be done where necessary.

5.2.5 *Existing and future land-use data*

Refer to *Section 2.12: Regional land-use data* for existing and planned future land-use for the regional hydrological model.

The above data may be used as a guide only and **shall** be refined and updated for the SMP study area.

5.2.6 *Soils data*

Refer to Section 2.11: Regional soil data.

6. MAJOR STORMWATER DRAINAGE NETWORK MODELLING (PART 1 SMP)

This section provides guidelines for input and output data required for completion of Part 1 SMP studies for major stormwater drainage networks.

6.1 REQUIRED MAJOR STORMWATER DRAINAGE NETWORK

A “footprint” of the required major stormwater network shall be determined. This shall, inter alia, include the following:

- Selection of appropriate design standards in terms of Section 4: Design criteria for stormwater drainage systems.
- Determination of an anticipated stormwater network layout to accommodate the design runoff for new developments.
- Determination of an anticipated stormwater network layout or additional network elements required to augment existing under-capacity networks.
- Calculation of the required sizes of the drainage network elements through hydrological modelling.

6.2 HYDROLOGICAL MODEL OUTPUT DATA

6.2.1 New major stormwater drainage networks

The following output data shall be available:

- Peak flows, runoff volumes and velocities for the 1-in-2-year and 1-in-20-year storms depending on the design requirements in terms of *Section 4: Design criteria for stormwater drainage systems*.

6.2.2 Existing major stormwater drainage networks

The following output data shall be available:

- Peak flows, runoff volumes and velocities for the 1-in-2-year and 1-in-20-year storms depending on the design requirements in terms of *Section 4: Design criteria for stormwater drainage systems*.
- Hydraulic capacity of the existing network.
- Excess flow of the existing network.
- Design flows of the proposed additional or new networks to address the deficit in the existing system capacity.

6.3 GEODATABASE

- The shapefiles of the drainage routes, nodes and catchments shall be updated with the hydrological data from the simulations.
- All drainage routes, nodes and catchments shall have the correct township prefix.

- The final files shall be added to the Geodatabase and submitted with the completion report.

The geodatabase is explained in more detail in *Section 11: Requirements for reports and data storage* of this document.

6.4 COMPLETION REPORT

The completion report is discussed in *Section 11: Requirements for reports and data storage* of this document.

Note: For purposes of the completion report the sub-catchments shall be grouped into logical main catchments (i.e. all network elements that drain to a specific outlet shall be grouped together).

7. MINOR STORMWATER DRAINAGE NETWORK MODELLING (PART 2 SMP)

This section provides guidelines for input and output data required to complete Part 2 SMP studies for minor stormwater drainage networks.

7.1 REQUIRED MINOR STORMWATER DRAINAGE NETWORK

A “footprint” of the required minor stormwater network shall be determined. This shall, inter alia, include the following:

- Selection of appropriate design standards in terms of Section 4: Design criteria for stormwater drainage systems.
- Determination of an anticipated stormwater network layout to accommodate the design runoff for new developments.
- Determination of an anticipated stormwater network layout or additional network elements required to augment existing under-capacity networks.
- Calculation of the required sizes of the drainage network elements through hydrological modelling.

7.2 HYDROLOGICAL MODEL OUTPUT DATA

7.2.1 New minor stormwater drainage networks

The following output data shall be available:

- Peak flows, runoff volumes and velocities for the 1-in-2-year and 1-in-20-year storms depending on the design requirements in terms of *Section 4: Design criteria for stormwater drainage systems*.

7.2.2 Existing minor stormwater drainage networks

The following output data shall be available:

- Peak flows, runoff volumes and velocities for the 1-in-2-year and 1-in-20-year storms depending on the design requirements in terms of *Section 4: Design criteria for stormwater drainage systems*.
- Hydraulic capacity of the existing network.
- Excess flow of the existing network.
- Design flows of the proposed additional/new network to address the deficit in the existing system capacity

7.3 GEODATABASE

- The shapefiles of the drainage routes, nodes and catchments shall be updated with the hydrological data from the simulations.
- All drainage routes, nodes and catchments shall have the correct township prefix.

- The final files shall be added to the Geodatabase and submitted with the completion report.

The geodatabase is explained in more detail in *Section 11: Requirements for reports and data storage* of this document.

7.4 COMPLETION REPORT

The completion report will be discussed in *Section 11: Requirements for reports and data storage* of this document.

Note: For purposes of the completion report the sub-catchments shall be grouped into logical main catchments (i.e. all network elements that drain to a specific outlet shall be grouped together).

8. STORMWATER DRAINAGE NETWORK COSTING (PART 3 SMP)

This section provides requirements for the estimation of costs of the required major or minor stormwater drainage networks, sub-networks and network elements.

8.1 BASIS OF COST ESTIMATION

The cost estimate for the required drainage network and its elements, shall be based on 'unit cost' rates per element size and per element type. Unit rates used in the calculations shall be motivated to and discussed with the CoT Roads and Transport Department before the cost estimation is finalised.

The unit rates shall include but is not limited to the following (as applicable):

- Excavation
- Trimming
- Reinforcing
- Formwork
- Finishing
- Subsoil excavation
- Subsoil stone
- Geotextile
- Backfill
- Brickwork
- Kerb inlets / catchpits
- Junction boxes

8.2 PIPES AND RECTANGULAR CULVERTS

A unit rate per meter for various culvert sizes shall be determined. Where applicable the cost of inlet and outlet structures shall also be included.

After each culvert size has been determined, the estimated cost of the culvert is calculated by multiplying the unit rate with the length of culvert.

8.3 SUMMARY OF COSTING

To calculate the total cost of a network, the following allowances shall be included in the cost:

- Preliminary and general costs: 10 %
- Contingencies: 10 %
- Professional fees and other costs: 15 %
- Value added Tax (VAT): 15 % (or prevalent at the time)

9. PRIORITISATION OF STORMWATER DRAINAGE NETWORKS AND NETWORK ELEMENTS (PART 4 SMP)

This section provides details of the subjective weighting system to be applied to prioritise the proposed stormwater drainage networks and elements.

9.1 FORMULAE

The following formulas are used for the prioritisation of the stormwater systems and the networks respectively:

$$\text{Priority canal/pipe} = [(\text{criteria}_1\text{weight} + \text{criteria}_2\text{weight} + \dots \dots \dots)^A]^B * C$$

$$\text{Priority network} = \frac{[(\text{Priority canal/pipe}_1 * \text{Length}_1) + (\text{Priority canal/pipe}_2 * \text{Length}_2) + \dots \dots \dots]}{\text{Length canal/pipe}_1 + \text{Length canal/pipe}_2 + \dots \dots \dots}$$

9.2 FACTORS

The factors A, B and C of the formulae in Section 9.1 are defined as follows:

- (i) "A" is the exponential factor for distinguishing between open and closed systems:

- A = 1.2 for open systems
 - A = 1.0 for closed systems.

- (ii) "B" is the social exponential factor of the development status

| CLASSIFICATION | B |
|--|-----|
| Low Income, high density, 175 persons/ha | 1.2 |
| Medium Income, medium density, 50 – 174 persons/ha | 1.1 |
| High Income, low density, 1 – 49 persons/ha | 1.0 |

- (iii) "C" is a multiplication factor to obtain a priority out of 100 points. "C" is defined as a constant of 2.5.

9.3 WEIGHTING

The weighting of the various criteria affecting a canal / pipe section is summarised in the table below.

| Criteria No. | Criteria | Condition | | Weight |
|--------------|-------------------------------------|-----------|-------|--------|
| | | Min | Max | |
| 1 | Peak Flow | 0 | 3 | 1 |
| | | 3 | 10 | 2 |
| | | 10 | 15 | 3 |
| | | 15 | 20 | 4 |
| | | 20 | -- | 5 |
| 2 | Excess Flow | 0 | 0.3 | 1 |
| | | 0.3 | 2.4 | 2 |
| | | 2.4 | -- | 3 |
| 3.1 | Topographical Slope: Channels | 0 | 0.003 | 4 |
| | | 0.003 | 0.025 | 1 |
| | | 0.025 | 0.05 | 2 |
| | | 0.05 | 0.1 | 3 |
| | | 0.1 | -- | 4 |
| 3.2 | Topographical Slope: Pipes/Culverts | 0 | 0.005 | 4 |
| | | 0.005 | 0.025 | 1 |
| | | 0.025 | 0.05 | 2 |
| | | 0.05 | 0.1 | 3 |
| | | 0.1 | -- | 4 |
| 4 | Velocity | 0 | 0.4 | 1 |
| | | 0.4 | 3.5 | 2 |
| | | 3.5 | -- | 3 |

The criteria in the table are defined as follows:

- (i) *Peak flow* (Criteria no. 1) is the 1-in-2-year or 1-in-50-year runoff for the specific element under consideration.
- (ii) *Excess flow* (Criteria no. 2) is the required design flow of the drainage network element, less the capacity of the existing element. Where no network exists, the *excess flow* equals the design flow.
- (iii) The *topographical slope* (Criteria no. 3) is calculated from CoT Lidar data. Refer to *Section 2.3: Contours and Lidar* for more information.
- (iv) The *velocity* (Criteria no. 4) is determined with the manning equation using the peak flow value of the 1-in-2-year or 1-in-20-year runoff.

9.4 REFINEMENT OF STORMWATER DRAINAGE NETWORK COSTS AND IMPLEMENTATION PROGRAMME

The priority of the required drainage network elements, sub-elements and networks shall be summarised in tabular format and in Excel format, as in the example below:



SPECIFICATIONS AND GUIDELINES: STORMWATER MASTER PLANS

| Act/View ID No | UPSTREAM NODE | DOWNSTREAM NODE | LENGTH (m) | SLOPE | EXISTING OR NEW DIA (mm) | Q2 (m³/s) | Q20 (m³/s) | CELESTIAL FLOOD (m³/s) | VELOCITY (m/s) | MAJOR / MINOR | PROPOSED ELEMENT | 20 Year (if Major Route)/2 Year | COST_2019 | Peak Flow Excess (m³/s) | ELEMENT PRIORITY | Velocity (m/s) | Total | Priority x Length |
|---|---------------|-----------------|------------|-------|--------------------------|-----------|------------|------------------------|----------------|---------------|---|---------------------------------|-----------|-------------------------|------------------|----------------|-------|-------------------|
| Catchment Ranking | | | | | | | | | | | | | | | | | | |
| Network Ranking | | | | | | | | | | | | | | | | | | |
| Network Cost (All Cost Incl) | | | | | | | | | | | | | | | | | | |
| RI-1 | | OUTLET1 | 331 | 0.004 | 0.028 | 2.195 | 2.195 | 2.195 | 1.500 | Major | New 1500 DIA Pipe | | 2527900 | 1 | 2 | | 17.2 | 5709 |
| RI-2 | | RI-1 | 51 | 0.011 | 0.760 | 1.898 | 1.898 | 1.898 | 1.250 | Minor | New 1200 DIA Pipe | | 372800 | 1 | 2 | | 17.2 | 489 |
| RI-3 | | RI-2 | 29 | 0.013 | 0.615 | 1.898 | 1.898 | 1.898 | 1.250 | Minor | Replace existing 450 dia (Assumed) with 1050 DIA pipe | | 46800 | 1 | 2 | | 17.2 | 489 |
| RI-4 | | RI-3 | 24 | 0.019 | 0.615 | 1.628 | 1.628 | 1.628 | 0.550 | Minor | New 550 DIA Pipe | | 46800 | 1 | 2 | | 17.2 | 441 |
| Totals | | | | | | | | | | | | | | | | | | |
| Sub Priority | | | | | | | | | | | | | | | | | | |
| Network Ranking | | | | | | | | | | | | | | | | | | |
| Network Cost (All Cost Incl) | | | | | | | | | | | | | | | | | | |
| RI-0 | | OUTLET2 | 120 | 0.033 | 2.262 | 5.514 | 5.514 | 5.514 | 2.4 x 1.5 | Major | Replace existing 450 dia (Assumed) with 2.4 x 1.5 Box Culvert | | 1372000 | 2 | 3 | | 30.3 | 3638 |
| RI-1 | | RI-0 | 14 | 0.007 | 1.097 | 2.661 | 2.661 | 2.661 | 0.700 | Minor | Replace existing 450 dia (Assumed) with 750 DIA Pipe | | 46400 | 1 | 3 | | 17.2 | 241 |
| RI-6 | | RI-0 | 14 | 0.007 | 1.097 | 2.661 | 2.661 | 2.661 | 0.700 | Minor | Replace existing 450 dia (Assumed) with 750 DIA Pipe | | 46400 | 1 | 3 | | 17.2 | 241 |
| RI-6-1 | | RI-6 | 204 | 0.007 | 0.893 | 0.893 | 0.893 | 0.893 | 0.650 | Minor | Add 525 dia to existing 450 dia (Assumed) | | 483073 | 1 | 2 | | 17.2 | 3518 |
| RI-9 | | RI-6-1 | 46 | 0.035 | 0.279 | 0.279 | 0.279 | 0.279 | 0.450 | Minor | New 450 DIA Pipe | | 97900 | 1 | 1 | | 13.2 | 607 |
| RI-8-1 | | RI-9 | 51 | 0.011 | 0.420 | 0.420 | 0.420 | 0.420 | 0.550 | Minor | Add 450 dia to existing 450 dia (Assumed) | | 108522 | 1 | 1 | | 13.2 | 673 |
| RI-8 | | RI-8-1 | 132 | 0.003 | 0.180 | 0.180 | 0.180 | 0.180 | 0.450 | Minor | No Upgrade Required | | 698800 | 1 | 1 | | 17.2 | 2380 |
| RI-1-1 | | RI-8 | 138 | 0.019 | 1.021 | 2.537 | 2.537 | 2.537 | 1.846 | Major | New 1050 DIA Pipe | | 698800 | 1 | 2 | | 17.2 | 379 |
| RI-2 | | RI-1-1 | 22 | 0.026 | 0.393 | 0.393 | 0.393 | 0.393 | 0.450 | Minor | New 450 DIA Pipe | | 46800 | 1 | 2 | | 17.2 | 2380 |
| RI-3 | | RI-2 | 39 | 0.022 | 0.629 | 1.607 | 1.607 | 1.607 | 0.629 | Minor | New 550 DIA Pipe | | 92400 | 1 | 2 | | 17.2 | 673 |
| RI-3-1 | | RI-3 | 141 | 0.029 | 0.464 | 1.068 | 1.068 | 1.068 | 0.450 | Minor | New 450 DIA Pipe | | 30000 | 1 | 2 | | 17.2 | 2432 |
| RI-3-2 | | RI-3-1 | 28 | 0.029 | 0.464 | 0.464 | 0.464 | 0.464 | 0.450 | Minor | New 450 DIA Pipe | | 30000 | 1 | 2 | | 17.2 | 2432 |
| RI-3-3 | | RI-3-2 | 28 | 0.029 | 0.464 | 0.464 | 0.464 | 0.464 | 0.450 | Minor | New 450 DIA Pipe | | 30000 | 1 | 2 | | 17.2 | 2432 |
| RI-4 | | RI-3-3 | 133 | 0.037 | 0.150 | 0.150 | 0.150 | 0.150 | 0.450 | Minor | New 450 DIA Pipe | | 203000 | 1 | 1 | | 13.2 | 443 |
| RI-9-1 | | RI-4 | 21 | 0.038 | 0.044 | 0.044 | 0.044 | 0.044 | 0.450 | Minor | New 450 DIA Pipe | | 44700 | 1 | 1 | | 13.2 | 277 |
| RI-10 | | RI-9-1 | 39 | 0.033 | 0.120 | 0.301 | 0.301 | 0.301 | 0.450 | Minor | New 450 DIA Pipe | | 63000 | 1 | 1 | | 13.2 | 515 |
| RI-11 | | RI-10 | 1187 | | | | | | | | | | 3 848 395 | 1 | 1 | | 13.2 | 20201 |
| Sub Priority | | | | | | | | | | | | | | | | | | |
| Network Ranking | | | | | | | | | | | | | | | | | | |
| Network Cost (All Cost Incl) | | | | | | | | | | | | | | | | | | |
| RI-1 | | OUTLET3 | 101 | 0.045 | 0.812 | 1.971 | 1.971 | 1.971 | 1.350 | Major | New 1350 DIA Pipe | | 171500 | 1 | 2 | | 17.2 | 172 |
| RI-1-1 | | RI-1 | 61 | 0.004 | 0.525 | 1.294 | 1.294 | 1.294 | 1.250 | Minor | New 1050 DIA Pipe | | 282400 | 1 | 2 | | 17.2 | 1052 |
| RI-2 | | RI-1-1 | 37 | 0.045 | 0.097 | 0.255 | 0.255 | 0.255 | 0.697 | Minor | New 450 DIA Pipe | | 79700 | 1 | 1 | | 13.2 | 488 |
| RI-3 | | RI-2 | 129 | 0.003 | 0.429 | 1.075 | 1.075 | 1.075 | 0.800 | Minor | New 1050 DIA Pipe | | 597100 | 1 | 2 | | 17.2 | 2225 |
| RI-4 | | RI-3 | 19 | 0.003 | 0.229 | 0.558 | 0.558 | 0.558 | 0.229 | Minor | New 530 DIA Pipe | | 45000 | 1 | 1 | | 13.2 | 251 |
| RI-3-1 | | OUTLET4 | 119 | 0.005 | 0.239 | 0.620 | 0.620 | 0.620 | 0.850 | Minor | New 680 DIA Pipe | | 387700 | 1 | 1 | | 13.2 | 1570 |
| RI-3-1 | | RI-3-1 | 37 | 0.028 | 0.203 | 0.529 | 0.529 | 0.529 | 0.650 | Minor | New 600 DIA Pipe | | 99900 | 1 | 2 | | 17.2 | 638 |
| RI-5 | | RI-3-1 | 32 | 0.003 | 0.048 | 0.108 | 0.108 | 0.108 | 0.450 | Minor | New 450 DIA Pipe | | 88100 | 1 | 1 | | 13.2 | 422 |
| Sub Priority | | | | | | | | | | | | | | | | | | |
| Catchment Summary | | | | | | | | | | | | | | | | | | |
| Network Accumulated Cost | | | | | | | | | | | | | | | | | | |
| Accr. 10% Contingencies | | | | | | | | | | | | | | | | | | |
| Accr. 15% Professional Fees and cost | | | | | | | | | | | | | | | | | | |
| Accr. 15% VAT | | | | | | | | | | | | | | | | | | |
| Estimated Cost for Networks | | | | | | | | | | | | | | | | | | |
| Catchment Prioritization | | | | | | | | | | | | | | | | | | |

After the stormwater drainage networks have been prioritised, the estimated costs calculated in Section 8: Stormwater drainage network costing (Part 3) shall be refined and phased over time, in conjunction with the CoT Roads and Transport Department.

10. FEASIBILITY STUDIES (PART 5 SMP)

This section provides typical guidelines when defining and evaluating proposed remedial measures to existing drainage systems, or identifying new or additional drainage systems required for drainage problems identified in Sections 6 (Part 1 SMP) and Section 7 (Part 2 SMP) of this document, or otherwise identified or required.

Note: Notwithstanding the guidelines below, the scope of work and proposed items to be included in the study shall first be discussed with the CoT Roads and Transport Department prior to the start of the study.

10.1 IDENTIFICATION AND DESCRIPTION OF DRAINAGE PROBLEM

- Indicate the location of the problem.
- Discuss the extent of the problem in terms of number of people affected, depth of flooding, frequency of problem, complaints received, maintenance issues, erosion, water quality, pollution, sediment, etc.
- Indicate the above on drawings where applicable.

10.2 EVALUATION OF EXISTING DRAINAGE SYSTEMS

- Determine the inadequacy of the existing drainage system in terms of hydrological standards (runoff, recurrence interval, etc.), hydraulic standards (flow velocity, system layout, etc.) and other standards (materials, workmanship, etc.).
- Determine the environmental shortcomings in terms of legislative requirements.

10.3 REQUIREMENTS OF NEW OR IMPROVED DRAINAGE SYSTEMS IN TERMS OF DESIGN STANDARDS

- Remedial measures shall be identified to reduce the risk of flooding to acceptable limits based on the design criteria in Section 4,
- Determine and discuss the hydrological, hydraulic, environmental and all other requirements of the proposed drainage solution,
- Perform a gap analysis to determine requirements of the preferred solution.

10.4 ALTERNATIVE SOLUTIONS

- Identify at least 3 or more workable solutions to address the problem.
- Perform conceptual designs for each alternative.
- Investigate flood attenuation measures to reduce the post-development peak flow rate to that of the pre-development rate.

Flood attenuation is a cost-effective means of reducing the impact of the increased runoff on downstream watercourses and reduces infrastructure costs.

Attenuation shall be based on a cost-benefit analysis.

- Water quality has become an increasing problem due to the dense urbanisation and increased runoff. The control and improvement of water quality shall be considered when conceptualising remedial measures.
- Investigate the project life cycle cost i.e., take future maintenance costs into account.
- Prepare cost estimates for each alternative.
- Investigate the environmental impact of each alternative.
- Prepare drawings indicating the proposed solutions.

10.5 INVESTIGATION OF ALTERNATIVES

- Prepare cost benefit analyses where required.
- Discuss the advantages and disadvantages of each alternative.
- Prepare risk analysis where required.
- Conduct an economic viability assessment to ensure a positive net benefit is obtained for the proposed remedial measures, if required by the CoT Roads and Transport Department.

The net benefit is a measure of potential flood damage reduction less the capital expenditure required for the reduction over a design life of 50 years.

- Select, discuss and motivate the best alternative.

10.6 PROPOSED SOLUTION

- Discuss the preferred solution.
- Prepare drawings detailing the preferred solution.
- Prepare final cost estimates for the preferred solution.
- Propose project phasing due to financial or seasonal construction constraints where applicable.
- Identify possible external funding options.

10.7 COMMUNITY LIAISON AND APPROVAL BY AUTHORITIES

- If required, the final preferred solution shall be forwarded to and discussed with the relevant councillor and community representatives for comment and feedback on the acceptability of the measures by the local community.
- Approval of the proposed remedial measures shall be obtained from authorities such as DWS (Department of Water and Sanitation), GDARD (Gauteng Department of Agriculture and Rural Development), Gautrans (Gauteng Department of Transport), Metrorail and others, as applicable.

10.8 ENVIRONMENTAL RISK ASSESSMENT

- Identify all listed activities in terms of prevailing environmental legislation, and all regulations applicable to such legislation.

- Obtain and include inputs from a professional environmental consultant on the listed activities, mitigation measures and alternatives.
- Include the environmental cost/benefit to the general cost/benefit as part of the consideration of the identified alternative solutions.
- Advise on the environmental licencing or authorisations required as part of the preferred alternative.

10.9 FINAL REPORT

A completion report reflecting all the work done as part of this section shall be compiled for the Part 5 SMP in terms of *Section 11: Requirements for reports and data storage* of this document.

The report shall be submitted, with hard and soft copies of all the drawings, to the CoT Roads and Transportation Department.

11. REQUIREMENTS FOR REPORTS AND DATA STORAGE

This section summarises the report sections and drawings required for each part of the SMP, as well as requirements for the storage of data.

11.1 GEODATABASE

All data needed to compile the Geodatabase shall be made available and based on the CoT Roads and Transport Department's requirements. Example of the current fields are included in *Annexure A* for reference.

11.2 DRAWING LAYOUTS & REQUIREMENTS (SMP PART 1, 2, & 4)

Drawings shall be compiled for Part 1, 2 and 4 of a SMP.

The following information shall be indicated on the drawings:

| SMP Part 1 and 2 drawings | SMP Part 4 drawings |
|-------------------------------|------------------------------|
| North Arrow | North Arrow |
| Cadastral (thin black line) | Cadastral (thin grey line) |
| Contours 1m (thin black line) | Contours 1m (thin grey line) |
| Ortho Photo | River |
| River | Road Names |
| Road Names | Nodes |
| Nodes | Prioritised Networks |
| Routes | Prioritised Sub-Catchments |
| Sub-Catchments | |
| Main Catchment | |

11.2.2 Part 4 drawings

The following information shall be indicated in the title block of the drawings of a Part 4 SMP:

NOTES:

1. FOR THE COMPLETE STORMWATER MASTER PLANNING REFER TO DRAWINGS SMP1S OR. RANKING INCLUDES ONLY MAJOR STORMWATER NETWORKS FOR THE 1:20 YEAR RECURRENCE INTERVAL.

2. RANKING PARAMETERS:

| Items | Minimum | Correlation | | Weight |
|------------------------|---------|-------------|------|--------|
| | | Min. | Max. | |
| 1 Peak Flow: | 0 | 5 | 5 | 3 |
| | 3 | 10 | 4 | |
| | 10 | 18 | 4 | |
| | 18 | 20 | 4 | |
| | 20 | | | 1 |
| 2 Recurrence Period: | 0 | 0.5 | 2 | 3 |
| | 0.5 | 0.5 | 3 | |
| | 2.4 | | | |
| 3 Topographical Slope: | | | | |
| Channels: | 0 | 0.003 | 4 | |
| | 0.003 | 0.039 | 1 | |
| | 0.039 | 0.087 | 3 | |
| | 0.087 | 0.1 | 4 | |
| | 0.1 | 0.1 | 4 | |
| Pipes/Canals: | 0 | 0.008 | 4 | |
| | 0.008 | 0.039 | 1 | |
| | 0.039 | 0.08 | 2 | |
| | 0.08 | 0.1 | 3 | |
| | 0.1 | 0.1 | 4 | |
| 4 Velocity: | 0 | 0.4 | 1 | |
| | 0.4 | 3.9 | 3 | |
| | 3.9 | 0 | 3 | |

3. CATCHMENT SUMMARY

| Drainage Catchment Number | Drainage Catchment Ranking | Drainage Catchment Priority |
|---------------------------|----------------------------|-----------------------------|
| 1 | 2 | 20.07 |
| 2 | 5 | 21.40 |
| 3 | 7 | 17.02 |
| 4 | 6 | 20.13 |
| 5 | 1 | 27.28 |
| 6 | 4 | 25.00 |
| 7 | 3 | 26.12 |

CATCHMENT LEGEND

- Catchment 1
- Catchment 2
- Catchment 3
- Catchment 4
- Catchment 5
- Catchment 6
- Catchment 7

CLIENT



PROJECT
TSHWANE STORMWATER MASTER PLANNING
PART 4 : NETWORK PRIORITISATION

TOWNSHIP
SUNDERLAND

DRAWING NO
SMP150/R/4/001

| | | |
|-----------------|-------------|--|
| SCALE 1 : 1 000 | DRAWN BY | |
| | DESIGNED BY | |
| | CHECKED BY | |

← Reference to the Part 1 or Part 2 drawings and which return period is ranked

← Reference to the parameters according to Section 8 of this document

← Catchment number, Catchment ranking, Catchment priority

← Catchment legend (Colour codes of each catchment)

← Latest COT logo

← Consultant logo and contact details

← Project description (i.e. Part 4 SMP)

← Township name

← Drawing number: SMP / Township prefix / Part 4 / Number sequence

← Scale, Design by, Drawn by, Checked by

Examples of Part 4 SMP drawings are available from the CoT Roads and Transport Department.

Each report for a Part 1 SMP, Part 2 SMP and a Part 4 SMP shall have a combination of the above drawings according to the scope of work.

11.3 DRAWING LAYOUTS & REQUIREMENTS (PART 5 SMP – FEASIBILITY STUDY)

Drawings for a feasibility study shall contain the following information:

| SMP Part 5 drawings |
|-------------------------------|
| North Arrow |
| Cadastral (thin black line) |
| Contours 1m (thin black line) |
| River |
| Road Names |
| Existing Stormwater Network |

A drawing shall be compiled for each alternative analysed in the feasibility study.

Examples of drawings for feasibility studies are available from the CoT Roads and Transport Department

11.4 REPORTS

Reports shall be compiled for Parts 1, 2, 4, and 5 SMPs. The Part 3 SMP will form part of the overall report. Not all the sections described below will necessarily be required in a report, but will be subject to the appointment or the scope of work. A report may also be a combination of more than one part of the SMP, as long as all the requirements below are incorporated into the report.

Final reports shall be in both hard and soft copy format, and shall be delivered to the CoT Roads and Transport Department for approval.

11.4.1 Required report sections

(a) Sections required for all reports

The following sections will be required for all reports:

- Executive summary
- Table on Contents
- Introduction
- Study Area
- General Drainage
- Site Verification

- CoT Stormwater Design Principles (in terms of Section 4)
- SMP Design Approach (in terms of Section 4, 5, 6 & 7)
- Runoff Calculation
- Costing and Unit Rates (Part 3)
- Drawings
- Conclusion
- Recommendations

(b) Additional sections required for Part 1 SMP report

- Major Stormwater Drainage Network Modelling
- Catchment Areas and Drainage Proposals

(c) Additional sections required for Part 2 SMP report

- Minor Stormwater Drainage Network Modelling
- Catchment Areas and Drainage Proposals

(d) Additional sections required for Part 4 SMP report

- Prioritisation Model (in terms of Section 9)
- Description of prioritisations networks (in terms of Section 9) and their rankings.

(e) Additional sections required for Part 5 SMP report

- Study framework
- Decision matrix
- Outcome of analysis
- Recommendations

11.5 DATA STORAGE

Data shall be stored in specific formats. A summary of the data types and formats is given in the Table below:

| Data Type | Data Format |
|--------------------|---|
| Spatial Data | ESRI shape files (*.shp) – to enable attribute data to be added directly to the Arc Map Geodatabase |
| Image Data | *.ecw, *.jpg, *.tif |
| Text Data | *.pdf and MS Word (*.doc) |
| Numeric Data | MS Excel (*.xls) |
| HEC-RAS Model data | Text File & *.prj |

12. TENDERING

This section provides guidelines to consultants when computing tender rates for performing work on various parts of a SMP.

12.1 RATES AND PAYMENT

The tendered rates for all parts of a SMP, except Part 5 (Feasibility Studies), shall be a unit rate per node, irrespective of the location or study area size. Final payment for a completed part of a Part 1, 2, 3 and 4 SMP will be based on the final number of nodes analysed in the hydrological model (excluding the outlets).

Payment for a Part 5 SMP study shall be a time-based cost. Hourly rates will be calculated according to the prevailing tariffs of the *Department of Public Service and Administration (DPSA) – Hourly Fee Rates for Consultants*, unless otherwise specified in the tender documents.

Provision for sub-consultants (i.e. for environment authorisations), contract administration, etc. may be required, as applicable. Requirements thereof shall be in terms of the tender document and specifications.

12.2 SCOPE OF WORK

The unit rates to be tendered for the Part 1 to Part 4 SMP studies are indicated in *Table 12.4.1: Unit rate per node*. The scope of work to be provided for in the unit rates is described and defined in the various sections of these specifications and guidelines.

12.3 DETERMINATION OF UNIT RATES

For tender purposes, the unit rate per node for the Part 1 to 4 SMP shall be determined to make provision for the following:

- Professional staff costs.
- The cost of the entire project team and its members.
- Disbursement costs like printing, plotting, meetings, site visits, etc.
- All other costs not provided for separately in the tender.

12.4 PRESENTATION OF UNIT RATES

Unit rates per node for the Part 1 to 4 SMP shall be calculated in terms of *Clause 12.3: Determination of Unit Rates* and indicated in *Table 12.4.1: Unit rate per node* below:

Table 12.4.1: Unit rate per node

| Item | Cost (R/node) | VAT | Total Cost per node |
|--|---------------|-----|---------------------|
| Part 1 (SMP for major stormwater network) | | | |
| Part 2 (SMP for minor stormwater network) | | | |
| Part 3 (Stormwater network costing) | | | |
| Part 4 (Prioritisation of stormwater networks) | | | |

12.5 APPLICATION OF UNIT RATES

The approved unit rate per node will be multiplied by the number of nodes in the SMP.

Payment for a completed Part 1 to 4 SMP will be based on the number of nodes in the SMP for the area under consideration.

12.6 TIME BASED FEES (PART 5 SMP AND ANY ADDITIONAL SERVICES)

Time based fees, expenses and costs will be dealt with in terms of the Guideline for Services and Processes for Estimating Fees for Persons Registered in terms of the Engineering Professional Act (Act 46 of 2000), Board Notice 243 of 2013 or from similar guidelines as set out in the tender specifications. Refer to the tender document for more specific conditions.

The maximum hourly rates for employees will be as determined annually by the *Department of Public Service and Administration (DPSA)* and can be obtained from DPSA. The following categories are defined by DPSA:

| Category | Description | DPSA category |
|----------|---|---------------|
| A | Technical International Specialist (Senior Partner/Director) | 15/16 B1.1 |
| B | Technical Specialist (Principal Consultant) | 14/15 B1.1 |
| C | Technical Specialist (Senior Consultant) | 13/14 B1.1 |
| D | Technical Assistant to Engineer | 12/13 B1.1 |
| E | Administrative Assistant | 9/10 B1.1 |

12.6.1 Discount offered on time-based fees

The Consultant may state a percentage (%) discount offered on the time-based fees described in Clause 12.6, subject to the tender conditions.

The hourly rate published by DPSA for each category of employees, will be multiplied by the hours worked. The sum of the fees claimed for all categories, shall be subject to the percentage discount offered.

12.7 OTHER PRICING DATA TO BE PRESENTED

In addition to the Unit Rates and the Time-Based Fees, other pricing data may be required subject to tender specific requirements.

12.8 SPECIALIST AND OTHER PARTIES

The successful tenderer may be requested to perform specialist studies or investigations done by others. The consultant shall obtain at least 3 quotations by reputable companies and present it with motivation and a recommendation to the CoT Roads and Transport department for approval before any work commences.

ANNEXURE A: GEODATABASE FIELDS AND CALCULATIONS

A.1 OUTPUT DATA REQUIRED FOR STORMWATER NODES (SMP PART 1 AND 2)

The following data shall be captured and shown in the geodatabase for all stormwater nodes:

Table A.1.1: Output data requirements for stormwater nodes

| FIELD | UNIT | DESCRIPTION | CALCULATION |
|---------------|--------------|--|--|
| Node Name | - | Node name (e.g. HAT1_R1) | Refer to Section 6.1 and 7.1 |
| Node Type | - | Select between "Node", "Outlet", "Pond" or "Diversion" | |
| Surface level | m (mamsl) | Surface level for node from ArcGIS / Lidar surface | |
| Invert level | m (mamsl) | Invert level for conduit from model | Typically "Surface Level" - 2.0m. Level selected to force slope between 0.5 and 10% |

Table A.1.2: Geodatabase fields for stormwater nodes

| FEATURE CLASS TYPE | | Point features |
|--------------------|----------------|--|
| FIELD | GDB FIELD NAME | TYPE |
| Node Name | NAME | Data type: Text Allow NULL values: Yes Length: 50 |
| Node Type | TYPE | Data type: Text Allow NULL values: Yes Length: 50 |
| Surface level | SURFACE_LEVEL | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Invert level | INVERT_LEVEL | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |

A.2 OUTPUT DATA REQUIRED FOR STORMWATER ROUTES (SMP PART 1, 2 AND 3)

The following data shall be captured and shown in the geodatabase for all stormwater routes:

Table A2.1: Output data requirements for stormwater routes

| FIELD | UNIT | DESCRIPTION | CALCULATION |
|---------------------------|-------------------|---|--|
| Route name | - | Upstream node name | Refer to Section 6.1 & 7.1 |
| Downstream node name | - | Downstream node name | Refer to Section 6.1 & 7.1 |
| Length | m | Length of route | Result from analysis |
| Slope | % | Slope of route | Result from analysis |
| Existing conduit | m | Existing conduit size | From as-built data: PIPES - use nominal pipe diameter in mm (e.g. 450, 525, etc.) CUVLERTS - use AA X BB in m (e.g. 1.2X1.5) CHANNELS - use equivalent pipe size |
| Existing conduit capacity | m ³ /s | Existing conduit capacity | Calculated at: 80% d/D for pipes 100mm freeboard on channels and culverts |
| Include road capacity | - | Yes / No | "Yes" if route is along existing or planned Class 4(b) or 5 road |
| Existing road capacity | m ³ /s | Existing road capacity | Calculated at: 100mm flow depth up to kerb height Manning n = 0.012 |
| Major route | - | Yes / No | "Yes" if (1) road capacity is excluded, and/or (2) $Q_2 > Q_{road}$ |
| 1-in-2-year flow | m ³ /s | 1:2yr routed peak flow | Result from analysis |
| 1-in-20-year flow | m ³ /s | 1:20yr routed peak flow | Result from analysis |
| 1-in-20-year velocity | m/s | Peak flow velocity | Result from analysis |
| Design flow | m ³ /s | Ideal design flow for single conduit | Biggest value between: Q_2 , and $Q_{20} - Q_{road}$ |
| Excess flow | m ³ /s | Design flow for new or additional conduit | Design flow - Existing conduit capacity |
| Proposed new conduit | - | Refer to external calculation | Do calculation and determine whether "new", "replace" or "add": "NEW" - where there is no existing conduit "ADD" - if the additional conduit is smaller than a 675mm pipe "REPLACE" - if the additional conduit is larger than a 675mm pipe |
| Cost (excluding roadway) | R | Value of construction | Based on prevailing unit rates. Refer to Section 8 |
| Cost (including roadway) | R | Value of construction including road cost | Road cost calculated with prevailing tariff for 7.4m road with kerbs. |
| Cost year | - | Year of calculation | |

Table A.2.2: Geodatabase fields for stormwater routes

| FEATURE CLASS TYPE | | Line features |
|---------------------------|----------------|--|
| FIELD | GDB FIELD NAME | TYPE |
| Route name | ROUTE_NAME | Data type: Text Allow NULL values: Yes Length: 50 |
| Downstream node name | DOWN_NODE | Data type: Text Allow NULL values: Yes Length: 50 |
| Length | LENGTH | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Slope | SLOPE | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Existing conduit | COND_EX | Data type: Text Allow NULL values: Yes Length: 50 |
| Existing conduit capacity | COND_EX_Q | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Include road capacity | INC_RD_CAP | Data type: Text Allow NULL values: Yes Length: 50 |
| Existing road capacity | RD_EX_Q | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Major route | MJR_ROUTE | Data type: Text Allow NULL values: Yes Length: 50 |
| 1-in-2-year flow | Q_2YR | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| 1-in-20-year flow | Q_20YR | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| 1-in-20-year velocity | V_20YR | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Design flow | COND_DES_Q | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Excess flow | EXCES_FLOW | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |



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| | | |
|-----------------------|------------|--|
| Proposed new conduit | COND_PROP | Data type: Text Allow NULL values: Yes Length: 50 |
| Cost (excluding road) | COST_EX_RD | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Cost (including road) | COST_IN_RD | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Cost year | COST_YEAR | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |

A.3 OUTPUT DATA REQUIRED FOR STORMWATER CATCHMENTS (SMP PART 1 AND 2)

The following data shall be captured and shown in the geodatabase for all stormwater catchments:

Table A.3.1: Output data requirements for stormwater catchments

| FIELD | UNIT | DESCRIPTION | CALCULATION |
|---|-------------------|---------------------------|---|
| Catchment name | - | Name of sub-catchment | Refer to Section 6.1 and 7.1 |
| Drainage node | - | Drainage node ID | Refer to Section 6.1 and 7.1 |
| 1-in-2-year flow | m ³ /s | | |
| 1-in-20-year flow | m ³ /s | | |
| Area | ha | Surface area of catchment | |
| Length | m | | Average characteristic length across catchment (typically Area / Width) |
| Width | m | | Width of sheet flow over catchment |
| Average catchment slope | % | | From surface calculation in ArcGIS |
| Impervious area | % | | Refer to Table A.5.1 below |
| Impervious area - no depression storage | % | | Refer to Table A.5.1 below |
| Impervious area - depression depth | mm | | Refer to Table A.5.1 below |
| Impervious area - Manning n | - | | Refer to Table A.5.1 below |
| Pervious area - depression depth | mm | | Refer to Table A.5.1 below |
| Pervious area - Manning n | - | | Refer to Table A.5.1 below |
| Curve number | - | | Refer to Section 2.10 and Table A.4.1 below |
| Maximum infiltration rate (Horton) | mm/hr | | Refer to Section 2.10 |
| Minimum infiltration rate (Horton) | mm/hr | | Refer to Section 2.10 |
| Drying time (Horton) | days | | Refer to Section 2.10 |
| Decay constant (Horton) | 1/hr | | Refer to Section 2.10 |
| Maximum volume (Horton) | mm | | Refer to Section 2.10 |



**SPECIFICATIONS AND GUIDELINES:STORMWATER MASTER PLANS
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Table A.3.2: Geodatabase fields for stormwater catchments

| FEATURE CLASS TYPE | | Polyline features |
|---|----------------|---|
| FIELD | GDB FIELD NAME | TYPE |
| Catchment name | NAME | Data type: Text Allow NULL values: Yes Length: 50 |
| Drainage node | NODE | Data type: Text Allow NULL values: Yes Length: 50 |
| 1-in-2-year flow | Q_2YR | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| 1-in-20-year flow | Q_20YR | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 9 |
| Area | AREA | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 10 |
| Length | LENGTH | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 11 |
| Width | WIDTH | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 12 |
| Average catchment slope | AVG_SLOPE | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 13 |
| Impervious area | IMP_AREA | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 14 |
| Impervious area - no depression storage | IMP_NO_DEP | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 15 |
| Impervious area - depression depth | IMP_DEP_DT | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 16 |
| Impervious area - Manning n | IMP_MANN | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 17 |
| Pervious area - depression depth | PER_DEP_DT | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 18 |



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| | | |
|------------------------------------|------------|---|
| Pervious area - Manning n | PER_MANN | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 19 |
| Curve number | CURVE_NR | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 20 |
| Maximum infiltration rate (Horton) | MAX_INFIL | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 21 |
| Minimum infiltration rate (Horton) | MIN_INFIL | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 22 |
| Drying time (Horton) | DRYING_TIM | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 23 |
| Decay constant (Horton) | DECAY_CNST | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 24 |
| Maximum volume (Horton) | MAX_VOLUME | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 25 |

A.4 OUTPUT DATA REQUIRED FOR PRIORITISED NETWORKS (SMP PART 4)

The following data shall be captured and shown in the geodatabase for all prioritised stormwater networks:

Table A.4.1: Output data requirements for prioritised stormwater networks

| FEATURE CLASS TYPE | | Line features |
|--------------------|----------------|--|
| FIELD | GDB FIELD NAME | TYPE |
| SMP name | SMP_NAME | Data type: Text Allow NULL values: Yes Length: 50 |
| Network name | NETWORK | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Network ranking | NTW_RANK | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Network priority | NTW_PRIORITY | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Network type | TYPE | Data type: Text Allow NULL values: Yes Length: 50 |
| Network cost | COST | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Cost year | COST_YEAR | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Current cost | COST_CURRENT | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |

Table A.4.2: Output data requirements for prioritised stormwater network catchments

| FEATURE CLASS TYPE | | Polygon features |
|--------------------|----------------|--|
| FIELD | GDB FIELD NAME | TYPE |
| SMP name | SMP_NAME | Data type: Text Allow NULL values: Yes Length: 50 |
| Catchment number | CATCH_NO | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Catchment ranking | CATCH_RANK | Data type: Double Allow NULL values: Yes Precision: 38 Scale: 8 |
| Network name | NETWORK | Data type: Text Allow NULL values: Yes Length: 50 |

A.5 SELECTION DATA FOR CONTINUOUS MODELLING

The following selection data shall be adopted in consultation with the City, which criteria shall form the basis for catchment modelling.

Table A.5.1: Basic catchment parameters

| LAND USE | DCIA | TIA | % NO DEPRESSION STORAGE | | ROUTED FLOW | MANNING N | | | DEPRESSION STORAGE | | |
|----------------------------------|---|-----|-------------------------|------------------|------------------|--------------|--------------|----------|--------------------|--------------|---------------------|
| | | | COVER-AGE | NDS | | PERVIOUS | IMPER-VIOUS | PERVIOUS | IMPERVIOUS | | |
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| <i>Refer to most-recent RSDF</i> | | | <i>From scheme</i> | <i>(4) / (3)</i> | <i>(3) - (2)</i> | <i>RURAL</i> | <i>URBAN</i> | | <i>RURAL</i> | <i>URBAN</i> | |
| Commercial | 56 | 95 | 60 | 63 | 39 | 0.055 | 0.075 | 0.013 | 5 | 4 | Dimp = 7.696*S^0.49 |
| Industrial | 76 | 95 | 75 | 79 | 19 | 0.055 | 0.075 | 0.013 | 5 | 4 | |
| High-density residential | 51 | 80 | 60 | 75 | 29 | 0.055 | 0.075 | 0.013 | 5 | 4 | |
| Medium-density residential | 38 | 70 | 50 | 71 | 32 | 0.055 | 0.075 | 0.013 | 5 | 4 | |
| Low-density residential | 19 | 60 | 50 | 83 | 41 | 0.055 | 0.075 | 0.013 | 5 | 4 | |
| Low-income residential | 30 | 80 | 70 | 88 | 50 | 0.055 | 0.075 | 0.013 | 5 | 3 | |
| Institutional | 34 | 30 | 30 | 100 | 0 | 0.055 | 0.075 | 0.013 | 5 | 4 | |
| Agricultural | 2 | 5 | 0 | 0 | 0 | 0.055 | 0.075 | 0.013 | 5 | 4 | |
| Forest | 1.9 | 1 | 0 | 0 | 0 | 0.055 | 0.075 | 0.013 | 5 | 4 | |
| Open urban land | 11 | 1 | 0 | 0 | 0 | 0.055 | 0.075 | 0.013 | 5 | 4 | |
| Road (incl. reserve) | 52 | 68 | 0 | 0 | NA | 0.045 | 0.045 | 0.017 | 5 | 3.5 | |
| DCIA | Directly Connected Impervious Areas | | | | | | | | | | |
| TIA | Total Impervious Areas | | | | | | | | | | |
| NDS | No Depression Storage | | | | | | | | | | |
| ROUTED FLOW | Percentage of TIA internally routed to pervious areas | | | | | | | | | | |

Table A.5.2: Proposed Curve Numbers as applied to SCS-infiltration method

| CURVE NUMBERS | |
|-------------------------------|---------------------|
| RFMIS Hydrological soil Group | SCS-SA Curve number |
| A | 39 |
| A/B | 51 |
| B | 61 |
| B/C | 68 |
| C | 74 |
| C/D | 78 |
| D | 80 |