

WATER AND SANITATION DEPARTMENT



TENDER REFERENCE: **WS 15 2024/25**

APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT DATE.

VOLUME 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works



EXPANDED PUBLIC WORKS PROGRAMME

A Tender for **Level 7** Category Electrical Engineering Works - Infrastructure
(**EP**) or higher CIDB Registered Contractors

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

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standards for
uniformity

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL COMPONENTS OF TEMBA WASTEWATER TREATMENT WORKS AND UPGRADING OF BABELEGI WASTEWATER TREATMENT PLANT FOR CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT DATE.

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Contract No: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date.

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Part T1: Tender Procedures

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTEWATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTEWATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE.**

PORTION 1 : TENDER

PART T1 : TENDERING PROCEDURES

T1 TENDERING PROCEDURES

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T1.1 TENDER NOTICE AND INVITATION TO TENDER

CITY OF TSHWANE WATER AND SANITATION DEPARTMENT



CONTRACT WS 15 2024/25: APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL COMPONENTS OF TEMBA WASTEWATER TREATMENT WORKS AND UPGRADING OF BABELEGI WASTEWATER TREATMENT PLANT FOR CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT DATE.

Tenders are hereby invited for the above services.

Tenderers should have a Construction Industry Development Board (CIDB) contractor grading designation **Level 7 Electrical Engineering Works - Infrastructure (EP) or higher**.

Tenders will be evaluated on the basis of awarding points for the **90/10 Preference** Point System will be applied to this tender.

The tender documents will be obtainable for download on www.tshwane.gov.za and www.etender.gov.za from the 24th of June 2025.

A COMPULSORY CLARIFICATION MEETING with a representative of the Employer will take place at Admin Building of Temba Waste Water Treatment Works on 14th of July 2025 at 10:00. Coordinates: 25°23'02.32"S 28°16'23.06"E.

The lowest or any tender will not necessarily be accepted, and the Municipality reserves the right to accept a tender as a whole or in part.

Tenders must remain valid for a period of **90 days** after the closing date for the submission of tenders, during which period a tender may not be amended or withdrawn and may be accepted at any time by the Municipality. The City reserves the right to extend the validity period after consultation with the concerned parties.

The closing time for receipt of tenders is 12 August 2025 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 CHIEF FINANCIAL OFFICER: FINANCIAL SERVICES DEPARTMENT, SUPPLY CHAIN MANAGEMENT, PRETORIA, 0001 and must be submitted in the tender box situated at the (at the entrance to the Tshwane house), 320 Madiba Street, Pretoria central. Tenders will be opened at the latter address at the time indicated.

Only bidders registered on the central supplier database (CSD) and with a CSD number will be considered for this tender, as this is a requirement from the National Treasury.

"Note: Bidders are required to submit electronic copies of the bid either by memory stick/USB flash drive/CD/DVD together with the hard copy of the Bid/Proposals"

TECHNICAL ENQUIRIES:

Employer's Representative:
Telephone:
E mail:

Mr Simphiwe July
012 358 5796
simphiwej@tshwane.gov.za

**Mr Johan Mettler
CITY MANAGER**

NOTICE 15 of 2025

T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in Annex C of the Construction Industry Development Board (CIDB) Board Notice 423 of 2019 (contained in Government Gazette No. 42622 of 08 August 2019), bound into section T1.3.

The Standard Conditions of Tender makes several references to the Tender Data. The Tender Data also contains project-specific amendments to the Standard Conditions of Tender applicable to this document. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the Standard Conditions of Tender.

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

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender
C.1.1	Actions	The Employer is THE CITY OF TSHWANE . The term “bid” in the context of this standard is synonymous with the term “tender”.
C.1.2	Tender documents	<p><u>Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works.</u></p> <p>This document in which are bound the Tender Procedures, Returnable Documents, Agreements and Contract Data</p> <p><u>Volume 2: Construction Specifications and Drawings</u></p> <p>This document in which are bound the Project Specifications and Drawings</p>
C.1.3	Interpretation	<p><i>Replace this sub-clause with the following:</i></p> <p>These Conditions of Tender, the Tender Data, List of Returnable Documents and Returnable Schedules and Bill of Quantities, which are required for tender evaluation purposes, shall form part of the Contract arising from the invitation to tender.</p>
C.1.3.2		
C.1.3	Interpretation	<p>Add the following new clauses:</p> <p>“C1.3.4 The Tender documents have been drafted in English. The contract arising from the invitation of tender shall be interpreted and construed in English.”</p> <p>“C1.3.5 The following words will have the same meaning:</p> <p style="text-align: center;"><i>CITY OF TSHWANE, City</i>”</p>
C.1.4	Communication	<p><i>Delete the first sentence of the clause and replace with the following:</i></p> <p>Verbal or any other form of communication, from the Employer, its employees, agents or advisors during site visits/clarification meetings or at any other time prior to the award of the Contract, will not be regarded as binding on the Employer, unless communicated by the Employer in writing to SUPPLY CHAIN MANAGEMENT.</p> <p>Representative: Lukkie Thobejane-Selowe Telephone: 012 358 6282</p>

Reference to relevant clauses in Standard Conditions of Tender	Addition or Variation to Standard Condition of Tender
	E mail: lukket@tshwane.gov.za
C.2.1	<p>Eligibility</p> <p>It is a mandatory requirement that tenderers must submit the following:</p> <p>The following Mandatory Requirements will be applicable and proof, in the form of certified qualifications or certificates where applicable, must be submitted in the submission for the bid to be compliant:</p> <ul style="list-style-type: none"> • Construction Industry Development Board (CIDB) Grading of 7 EP or higher. • Site Agent with a NQF Level 6 Electrical Engineering • Civil Team Leader with a NQF Level 6 qualification in a field related to the Civil Engineering. • Mechanical Team Leader with a NQF Level 6 qualification in a field related to the Mechanical Engineering. • Safety Officer with South African Council for the Project and Construction Management Professions (SACPCMP) Registration as a Construction Health and Safety Officer <p>Only those tenderers who are registered with the CIDB, or are capable of being so prior to the evaluation of submissions, in a contract grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a 7EP or higher class of construction work, are eligible to submit tenders.</p> <p>Joint ventures are eligible to submit tenders provided that:</p> <ol style="list-style-type: none"> 1. every member of a joint venture is registered with the CIDB within 21 days of the closing date of tenderers; 2. the lead partner has a contractor grading designation in the 6EP or higher class of construction work; and 3. The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor designation in accordance with the sum tendered for a 7EP or higher class of construction work or a value determined in accordance with Regulation 25(1B) or 25(7A) of the Construction Industry Development Regulations.
	<p>Cost of tendering</p> <p>Add the following to the sub-clause C2.2.1:</p> <p>“Accept that the Employer will not compensate the tenderer for any costs incurred in attending interviews in the office of the Employer or the Employer’s Agent (if required).”</p>
C2.5	<p>Reference Documents</p> <p>Add the following:</p> <p>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</i>”, <i>Third Edition, 2005</i>” issued by the General Manager: Roads and Stormwater of the City of Tshwane. www.tshwane.gov.za. • The document “<i>Conditions of Contract for Construction for Plant and Design-Build</i>” (<i>Fidic Yellow Book</i>) <i>First Edition, 1999</i>.

Reference to relevant clauses in Standard Conditions of Tender	Addition or Variation to Standard Condition of Tender
	<p>Tenderers, Contractors and Sub-contractors shall obtain their own copies of this document for tendering purposes and for use for the duration of the Contract from the International Federation of Consulting Engineers (FIDIC) via their website www.fidic.org.</p> <p>All international standard specifications and codes listed and referenced in the Project and Particular Specifications.</p>
C.2.7	<p>Clarification meeting</p> <p>Where applicable, details of the compulsory clarification meeting with a representative of the Employer are stated in the Tender Notice and Invitation to Tender (Section T1.1 of the document).</p> <p>Confirmation of attendance will be recorded on site in the attendance register to be signed by all tenderers and in the Site Inspection Certificate.</p> <p>Tenderers should be represented at the site/clarification meeting by a person who is suitably qualified and experienced to comprehend the implications of the work involved.</p> <p>Tender documents will not be made available at the site visit and/or clarification meeting. Detail relating to the collection of tender documents is indicated in the Tender Notice and Invitation to Tender (Section T1.1 of the document).</p>
C.2.8	<p>Seek clarification</p> <p>Replace the contents of the clause with the following:</p> <p>“Request clarification of the tender documents, if necessary, by notifying the Employer’s Official or the Employer’s Agent, indicated in the Tender Notice and Invitation to Tender, in writing at least seven working days before the closing time stated in the foregoing tender notice and clause C2.15.”</p>
C.2.9	<p>Insurance</p> <p>Add the following to the clause</p> <p>“Accept that the submission of a Tender shall be construed as an acknowledgement by the Tenderer that he is satisfied with, where applicable, the insurance cover the Employer will effect under the contract.”</p>
C2.10	<p>Pricing the tender offer</p> <p>Add the following sub-clause C2.10.5:</p> <p>“A digital copy of the Bill of Quantities can be obtained from the Employer’s Agent from the office of the Engineer upon sufficient notice.”</p>
C.2.11	<p>Alterations to documents</p> <p>Add the following to the clause:</p> <p><u>“In the event of a mistake having been made, it shall be crossed out in black ink and the corrected entry made above in black ink and shall be accompanied by the full signatures of the authorised signatories next to every correction.</u></p> <p><u>No correction fluid may be used</u>. If correction fluid has been used, the tender as a whole will not be considered.</p> <p>The Municipality will reject the bid if corrections are not made in accordance with the above.”</p>
C.2.12	<p>Alternative tender offers</p> <p>Replace sub-clause C2.12.1 with:</p>

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender
		<p><u>“Alternative</u> offers will only be considered if tenderer(s) have submitted a fully completed main offer. For alternative offers, a complete separate detailed activity, quantities and bill/price schedule must be submitted as a separate document.</p> <p>Tenderers must provide for each offer a typed copy on CD (Word and PDF format) of the above schedule with their offers.”</p>
C.2.13	Submitting a Tender Offer	
C.2.13.2		<p>Replace the contents of the clause with the following:</p> <p>“Return all volumes of the tender document to the Employer after completion of the relevant sections of each volume in their entirety, either electronically (if they were issued in electronic format) or by writing in black ink.</p> <p>All volumes are to be left intact in its original format and no pages shall be removed or re-arranged.</p> <p>Each Tenderer is required to return the complete set of returnable documents as listed in Part T2 with all the required information supplied and completed in all respects.”</p>
C2.13.3		<p><u>Add the following</u> to the clause:</p> <p>“Submission of copies of the tender document is NOT required. Tenderer will be required to submit the completed ORIGINAL tender documents as listed above in C1.2 PLUS any required supporting documentation.”</p>
C.2.13.4		<p><u>Add the following</u> to the clause:</p> <p>“Only authorised signatories may sign the original and all copies of the tender offer where required in terms of C.2.13.3</p> <p>In the case of a ONE-PERSON CONCERN submitting a tender, this shall be clearly stated.</p> <p>In case of a COMPANY submitting a tender, include a copy of a <u>resolution by its board of directors</u> authorising a director or other official of the company to sign the documents on behalf of the company.</p> <p>In the case of a CLOSE CORPORATION submitting a tender, include a copy of a <u>resolution by its members</u> authorising a member or other official of the corporation to sign the documents on each member’s behalf.</p> <p>In the case of a PARTNERSHIP submitting a tender, <u>all the partners</u> 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 <u>proof of such authorisation</u> shall be included in the Tender.</p> <p>In the case of a JOINT VENTURE/CONSORTIUM submitting a tender, include <u>a resolution</u> 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.</p>

Reference to relevant clauses in Standard Conditions of Tender	Addition or Variation to Standard Condition of Tender
	<p>In cases where the Tenderer has not submitted proof of authorisation with the Tender, the Employer reserves the right to, at any time after the closure of the Tender, but before the award of the Tender, request the Tenderer to provide proof of authorisation within 7 (seven) calendar days from date of notification.</p> <p><u>Accept that failure to submit proof of authorisation to sign the tender shall result in a Tender Offer being regarded as non-responsive."</u></p>
C.2.13.5	<p>The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are as follows:</p> <p>Correct Tender Reference no. : WS 15 2024/25</p> <p>TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL COMPONENTS OF TEMBA WASTEWATER TREATMENT WORKS AND UPGRADING OF BABELEGI WASTEWATER TREATMENT PLANT FOR CONSTRUCTION DURATION OF 24 MONTHS FROM E</p> <p>Correct closing time : 10:00 Correct due date : 12 August 2025</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>TSHWANE HOUSE BUILDING 320 Madiba street Pretoria central This address is 24 hours available for delivery of Tender offers.</p> <p>The name and address of the tender shall be entered on the back of the envelope.</p>
C.2.13.6	A two-envelope procedure will not be followed.
C.2.13.10	<p>Add the following new sub-clause C2.13.10:</p> <p>Accept that all conditions, which are printed or written upon any stationary used by the Tenderer for the purpose of or in connection with the submission of a tender offer for this Contract, which is in conflict with the conditions laid down in this document shall be waived, renounced and abandoned.</p>
C.2.14	<p>Add the following to the clause:</p> <p>"The Tenderer is required to enter information in the following sections of the document:</p> <p>Section T2.2 : Returnable Schedules Section T2.3 : Technical Schedules Section C1.1 : Form of Offer and Acceptance Section C1.2 : Contract Data (Part 2) Section C2.2 : Bill of Quantities</p>

Reference to relevant clauses in Standard Conditions of Tender	Addition or Variation to Standard Condition of Tender
	<p>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.</p> <p>The Tenderer shall complete and sign the Form of Offer prior to the submission of a Tender Offer.</p> <p>The Schedule of Deviations (if applicable) shall be signed by the successful Tenderer after acceptance by the Employer of the Tender Offer.</p> <p>Accept that the Employer shall in the evaluation of tenders take due account of the Tenderer's past performance in executing for similar 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.</p> <p>Satisfy the Employer and Engineer as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, by furnishing details in Part T2 – Returnable Documents.</p> <p><u>Accept that failure to provide the information and data required in the Returnable Documents, including the Technical Schedules may result in a Tender Offer being regarded as non-responsive.</u></p> <p>Accept that the Employer is restricted in accordance with clause 5 (1) of the Construction Regulations, 2014, to only appoint a contractor whom he is satisfied has the necessary competencies and resources to carry out the work safely. Accept that submitting inferior and inadequate information relating to health and safety (as required in clause 2.23) shall be regarded as justifiable and compelling reasons not to accept the Tender Offer of the Tenderer scoring the highest number of tender evaluation points.</p>
C.2.15 C.2.15.1	<p>Closing Time</p> <p>Details of the closing time for submission of tender offers are stated in the Tender Notice and Invitation to tender (Section T.1.1 of the document).</p>
C.2.16 C.2.16.1	<p>Tender Offer validity</p> <p>The Tender Offer validity period is 90 days.</p> <p><u>Add the following</u> to the Clause</p> <p>"If the tender validity expires on a Saturday, Sunday or public holiday, the Tender Offer shall remain valid and open for acceptance until the closure of business on the following working day."</p>
C.2.16.5	<p><u>Add the following</u> new clause:</p> <p>Accept that should the Tenderer unilaterally withdraw his tender during the tender validity period, the Employer shall, without prejudice to any other rights he may have, be entitled to accept any less favourable tender for the Works from those received, or to call for fresh tenders, or to otherwise arrange for execution of the Works, and the Tenderer shall pay on demand any additional expense incurred by the Employer on account of the adoption of the said courses, as well as either the difference in cost between the tender withdrawn (as corrected in terms of clause 3.9 of the Conditions of Tender) and any less favourable tender accepted by the</p>

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender
		Employer or the difference between the tender withdrawn (as corrected) and the cost of execution of the Works by the Employer as well as any other amounts the Employer may have to pay to have the Works completed.
C.2.18 C.2.18.1	Provide other material	<p>Add the following to the clause:</p> <p>“Accept that if requested, the Tenderer shall within 7 days of the date upon which he is requested to do so, submit a full report from his banker as to his financial standing. The Employer may, in its discretion, and subject to the provisions of Section 4(1)(d) of the State Tender Board Act 86 of 1968, condone any failure to comply with the foregoing condition.</p> <p>Accept that the Employer or his agent reserves the right to approach the Tenderer’s banker or guarantor(s) as indicated in the tender document, or the bankers of each of the individual members of any joint venture that is constituted for purposes of this Contract, with a view to ascertaining whether the required guarantee will be furnished, and for purposes of ascertaining the financial strength of the Tenderer or of the individual member of such venture.”</p>
C.2.19	Inspections, tests and analysis	<p>Add the following at the end of the clause:</p> <p>“....or upon written request.”</p>
C.2.22	Return of other tender documents	Return all retained tender documents prior to the closing time for the submission of Tender Offers.
C.2.23	Certificates	Refer to part T2: Returnable Documents for a list of documents that are to be returned with the tender.
Add the following new clause: “C.2.24”	Canvassing and obtaining of additional information by tenderer	<p>“Accept that no Tenderer shall make any attempt either directly or indirectly to canvass any of the Employers 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.”</p> <p>“No Tenderer shall make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders.”</p>
Add the following new clause: “C.2.25”	Prohibitions on awards to persons in service of the state	<p>“Accept that the Employer is prohibited to award a tender to a person</p> <ul style="list-style-type: none"> a) who is in the service of the state; or 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 c) a person who is an advisor or consultant contracted with the municipality <u>or</u> municipal entity. <p>“In the service of the state” means to be –</p> <ul style="list-style-type: none"> a) a member of – <ul style="list-style-type: none"> • any municipal council; • any provincial legislature; or • 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;

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender
		<p>e) provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);</p> <p>f) a member of the accounting authority of any national or provincial public entity; or</p> <p>g) an employee of Parliament or a provincial legislature.”</p> <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 – Returnable Documents must be completed.”</p>
Add the following new clause: “C.2.26”	Awards to close family members of persons in the service of the state	<p>“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 C2.25), or has been in the service of the state in the previous twelve months, including –</p> <p>a) the name of that person;</p> <p>b) the capacity in which that person is in the service of the state; and</p> <p>c) the amount of the award.</p> <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 – Returnable Documents must be completed in full and signed.”</p>
Add the following new clause: “C.2.27”	Vendor registration	<p>“Accept that each contractor is required to register as a supplier / service provider on the City of Tshwane’s vendor register before any payment can be done. Accept that 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 https://vendorportal.tshwane.gov.za/</p> <p>Accept that all parties of a joint venture or consortium submitting a tender shall comply with the requirements of this clause.”</p>
Add the following new clause: “C.2.28”	Tax Clearance Certificate	<p>“In the case of a Joint Venture/Consortium the tax clearance certificate must be for the Joint Venture/Consortium or individual valid tax clearance certificates for all the members of the Joint Venture/Consortium.”</p>
C.3.1 C.3.1.1	Respond to requests from tenderer	<p>Replace the contents of the clause with the following:</p> <p>Respond to a request for clarification received up to ten (10) working days before the Tender closing time stated in the Tender Data and notify all Tenderers who provided their contact details on the attendance register at the Compulsory Clarification meeting within two (2) working days of the same date.</p>
C.3.4 C.3.4.1	Opening of Tender submissions	<p>The time and location for the tender submissions and details of the tender opening are stated in the Tender Notice and Invitation to Tender (Section T1.1 of the document).</p>
C.3.5	Two-envelope system	<p>A two-envelope procedure will not be followed.</p>

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender
C.3.8 C.3.8.1	Test for responsiveness	<p>Add the following to the sub-clause:</p> <p>Failure on the part of the Tenderer to submit a tender offer as stipulated in clause C2.13 prior to the closing time as stipulated in clause C2.15 shall be just cause for the Employer to consider the tender offer as being non-responsive.</p> <p>Failure on the part of the Tenderer to submit any one of the returnable documents or certificates listed in clause C2.23 within the period stipulated shall be just cause for the Employer to consider the tender offer as being non-responsive.</p>
C3.9	Arithmetical errors, omissions and discrepancies	<p>Replace the contents of the clause with the following:</p> <ol style="list-style-type: none"> Check responsive tenders for discrepancies between amounts in words and amount in figures. Where there is a discrepancy between the amounts in figures and the amounts in words, the amount in words shall govern. Check responsive tender offers for arithmetical errors, correcting them in the following manner: <ol style="list-style-type: none"> If a bill of quantities (or schedule of quantities or schedule of rates) applies and there is an error in the line item total resulting from the product of the unit rate and the quantity, the unit rate shall govern and the line item total shall be corrected. Where there is an error in the total of the prices, either as a result of other corrections required by this checking process or in the tenderer's addition of prices, the corrected total of the prices shall govern. Where there is a discrepancy between the amount indicated in the Tenderer's tender offer and the corrected amount obtained after completing the above steps, the corrected amount shall govern. Notify a tenderer upon written request received after the closing date of tenders of all arithmetical errors made by that particular tenderer.
C.3.11	Evaluation of Tenders	<p>Add the following to the sub-clause:</p> <p>Tenders received will be evaluated in the following stages:</p> <p>Stage 1: Administrative Compliance Stage 2: Mandatory Requirements Stage 3: Functionality Criteria Stage 4: Preference Point System</p> <p>The evaluation of all tender offers which fulfil the requirements of Stages 1 o 3 will be carried out in accordance with the following method – Functionality, and Preference point system:</p> <ol style="list-style-type: none"> Score functionality, rejecting all tender offers that fail to achieve the minimum number of points for functionality. Evaluate tenders that have achieved the minimum qualification score for functionality in terms of the following items b, c, and d Score tender evaluation points for price Score points for specific goals contribution Add the points scored for price and specific goals to obtain the total number of points scored.

Reference to relevant clauses in Standard Conditions of Tender	Addition or Variation to Standard Condition of Tender
	<p>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 and elaborated further in the Tender Data.</p> <p>Subject to paragraph C3.13 the contract must be awarded to the tender who scores the highest total number of points.</p> <p>The points scoring for price and specific goals contribution will be a function of the financial value in accordance with:</p> <ol style="list-style-type: none"> Clause C3.11.2 where the financial value inclusive of VAT of one or more responsive tender offers equals or is less than R50 000 000; or Clause C3.11.3 where the financial value inclusive of VAT of all responsive tenders received have a value in excess of R50 000 000.
<p>Add the following new clause:</p> <p>C.3.11.2</p> <p>90/10 Preference Point System</p>	<p>Add the following sub-clause:</p> <p>The 90/10 preference points system for acquisition of services, works or goods with a Rand value above 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 above R50 000 000 (all applicable taxes included):</p> $P_s = 90 \left(1 - \frac{P_t - P_{min}}{P_{min}} \right)$ <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 10 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>10 points for Specific goals (service provider to submit the certified copy of the specific goals). Refer to Table 2 below:</p>

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender		
		Specific goals	90/10 preference point system	Proof of specific goals to be submitted
		BB-BEE score of companies	<ul style="list-style-type: none"> • 4 Points • 3.5 Points • 3 Points • 2.5 Points • 2 Points • 1.5 Points • 1 Point • 0.5 Points 0 Points 	Valid Certified copy of BBBEE certificate. Sworn Affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate.
		EME and/ or QSE	1 Point	Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate
		At least 51% of Women-owned companies	1 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)
		At least 51% owned companies by People with disability	1 Point	Medical Certificate with doctor's details (Practice Number, Physical Address, and contact numbers) and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)
		At least 51% owned companies by Youth	1 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		Municipal Account

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender		
		<ul style="list-style-type: none"> City of Tshwane Gauteng National 	2 Points 1 Point 1 Point	statement/Lease agreement.
Add the following new clause: C.3.11.3				
Add the following new clause: C.3.11.4	Criteria & Scoring Functionality	1. The tender will be evaluated into four stages: 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 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		Was a Municipal Account Statement or landlord letter 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 all payment(s)

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender		
		not required to pay Rates and Taxes a letter from the local councillor confirming they are operating in that area		up to date (i.e. not in arrears for more than 90 days?
		d) In addition to the above, confirmation that all the bidding company's owners / members / directors / major shareholders rates and taxes are up to date: • Original or copy of Municipal Account Statement of all the South African based owners / members / directors / major shareholders not older than 3 months and the account/s may not be in arrears for more than ninety (90) days; or 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		Was a Municipal Account Statement or landlord letter 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 all payment(s) up to date (i.e. not in arrears for more than 90 days?
		e) Duly Signed and completed MBD forms (MBD 1, 4, 5, 8 and 9) The person signing the bid documentation must be 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. NB: Bidders must ensure that the directors, trustees,		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"

Reference to relevant clauses in Standard Conditions of Tender	Addition or Variation to Standard Condition of Tender			
		<p>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>corrections, no pencil, no other colour ink, or non-submission of the MBD forms, will 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. NB: The bidder must submit signed audited annual financial statements 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 not required by law to prepare signed annual financial statements for auditing purposes, then the bidder must submit proof that the bidder is not required by law to prepare audited financial statements.</p>		<p>Applicable for tenders above R10m in conjunction with MBD 5)</p> <p>Are Audited financial statements provided (Audited financials must be signed by auditor) Or proof 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</p>		<p>If applicable. JV agreement provided? JV agreement complete and relevant? Agreement signed by all parties? All required documents</p>

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender		
		addition to the above the bidder must submit a Joint Venture (JV) agreement signed by the relevant parties. 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.		as per (i.e. a to f) must be provided for all partners of the JV.
		h) Bidder attended a compulsory briefing session where applicable		A compulsory briefing register must be signed by the bidder. Bidders will be disqualified should they fail to attend compulsory briefing session
		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.		Incomplete pricing schedule results in totals being incomparable. Bidder must be disqualified. Bidder will be disqualified should they make corrections on the price schedule without attaching a signature or initialising thereto. Bidder will be disqualified should they use tippex/ correction ink, on the price schedule.
		Stage 2: Mandatory requirements		

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender																			
		<p>The following Mandatory Requirements will be applicable and proof, in the form of certified qualifications or certificates where applicable, must be submitted in the submission for the bid to be compliant:</p> <ul style="list-style-type: none">• Construction Industry Development Board (CIDB) Grading of 7 EP or higher;• Site Agent with a NQF Level 6 Electrical Engineering• Civil Team Leader with a NQF Level 6 qualification in a field related to the Civil Engineering;• Mechanical Team Leader with a NQF Level 6 qualification in a field related to the Mechanical Engineering;• Safety Officer with South African Council for the Project and Construction Management Professions (SACPCMP) Registration as a Construction Health and Safety Officer <p>Stage 3: Functionality criteria</p> <p>Bids will be evaluated in terms of functionality as described below. All bids that obtain the minimum score for functionality will subsequently be assessed in accordance with C3.11.2 and C3.11.3 for Price and Preference.</p> <p>Points for functionality shall be allocated as described below. Tenderers must achieve a minimum of 70 points as well as the minimum score per criteria in order to proceed to the final stage of tender evaluation.</p> <table><tr><th>CRITERIA</th><th>SUB-CRITERIA SCALE</th><th>SCALE</th><th>WEIGHT</th><th>HIGHEST POSSIBLE SCORE</th></tr><tr><td>Company Experience - Civil: Proof of project(s) successfully completed of relevant to the scope work (Construction, refurbishment or upgrade of wastewater or water treatment works). Final Approval or Completion Certificate of the relevant civil project(s) successfully completed to be attached. Certificate must display contract value, be signed by the Client and contain the Client’s contact details.</td><td>0 Projects 1 Project 2 Projects 3 Projects 4 Projects 5+ Projects</td><td>0 1 2 3 4 5</td><td>2</td><td>10</td></tr><tr><td>Company Experience - Mechanical: Proof of project(s) successfully completed of relevant to the scope work (Construction,</td><td>0 Projects 1 Projects 2 Projects 3 Projects 4 Projects 5+ Projects</td><td>0 1 2 3 4 5</td><td>2</td><td>10</td></tr></table>					CRITERIA	SUB-CRITERIA SCALE	SCALE	WEIGHT	HIGHEST POSSIBLE SCORE	Company Experience - Civil: Proof of project(s) successfully completed of relevant to the scope work (Construction, refurbishment or upgrade of wastewater or water treatment works). Final Approval or Completion Certificate of the relevant civil project(s) successfully completed to be attached. Certificate must display contract value, be signed by the Client and contain the Client’s contact details.	0 Projects 1 Project 2 Projects 3 Projects 4 Projects 5+ Projects	0 1 2 3 4 5	2	10	Company Experience - Mechanical: Proof of project(s) successfully completed of relevant to the scope work (Construction,	0 Projects 1 Projects 2 Projects 3 Projects 4 Projects 5+ Projects	0 1 2 3 4 5	2	10
CRITERIA	SUB-CRITERIA SCALE	SCALE	WEIGHT	HIGHEST POSSIBLE SCORE																	
Company Experience - Civil: Proof of project(s) successfully completed of relevant to the scope work (Construction, refurbishment or upgrade of wastewater or water treatment works). Final Approval or Completion Certificate of the relevant civil project(s) successfully completed to be attached. Certificate must display contract value, be signed by the Client and contain the Client’s contact details.	0 Projects 1 Project 2 Projects 3 Projects 4 Projects 5+ Projects	0 1 2 3 4 5	2	10																	
Company Experience - Mechanical: Proof of project(s) successfully completed of relevant to the scope work (Construction,	0 Projects 1 Projects 2 Projects 3 Projects 4 Projects 5+ Projects	0 1 2 3 4 5	2	10																	

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender				
		<p>refurbishment or upgrade of wastewater or water treatment works).</p> <p>Final Approval or Completion Certificate of the relevant mechanical project(s) successfully completed to be attached. Certificate must display contract value, be signed by the Client and contain the Client's contact details.</p>				
		<p>Company Experience - Electrical:</p> <p>Proof of project(s) successfully completed of relevant to the scope work (Construction, refurbishment or upgrade of wastewater or water treatment works).</p> <p>Final Approval or Completion Certificate of the relevant electrical project(s) successfully completed to be attached. Certificate must display contract value, be signed by the Client and contain the Client's contact details.</p>	<p>0 Projects</p> <p>1 Projects</p> <p>2 Projects</p> <p>3 Projects</p> <p>4 Projects</p> <p>5+ Projects</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	4	20
		<p>KEY STAFF:</p> <p>SITE AGENT AND ELECTRICAL TEAM LEADER</p> <p>Key Staff's experience that is relevant to the scope of work (Construction, refurbishment or upgrade of wastewater or water treatment works).</p> <p>Key Staff requirements: Nominated staff must hold an Electrical Qualification at National Qualification Framework (NQF) Level 6.</p> <p>Attach copies of both proof of electrical qualification and detailed Curriculum Vitae (CV) indicating years of experience &</p>	<p>≤ 2 yrs</p> <p>>2 to ≤4 yrs</p> <p>>4 to ≤6 yrs</p> <p>>6 to ≤8 yrs</p> <p>>8 to ≤10yrs</p> <p>>10 years</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p> <p>5</p>	4	20

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender				
		<i>details staff's experience of a similar nature are compulsory.</i>				
		CIVIL TEAM LEADER Key Staff's experience that is relevant to the scope of work (Construction, refurbishment or upgrade of wastewater or water treatment works). Key Staff requirements: Nominated staff must hold a Civil Qualification at National Qualifications Framework (NQF) Level 6. <i>Attach copies of both proof of civil qualification and detailed Curriculum Vitae (CV) indicating years of experience & details staff's experience of a similar nature are compulsory.</i>	≤ 2 yrs >2 to ≤4 yrs >4 to ≤6 yrs >6 to ≤8 yrs >8 to ≤10yrs >10 years	0 1 2 3 4 5	3	15
		MECHANICAL TEAM LEADER Key Staff's experience that is relevant to the scope of work (Construction, refurbishment or upgrade of wastewater or water treatment works). Key Staff requirements: Nominated staff must hold a Mechanical Qualification at National Qualifications Framework (NQF) Level 6. <i>Attach copies of both proof of mechanical qualification and detailed Curriculum Vitae (CV) indicating years of experience & details staff's experience of a similar nature are compulsory.</i>	≤ 2 yrs >2 to ≤4 yrs >4 to ≤6 yrs >6 to ≤8 yrs >8 to ≤10yrs >10 years	0 1 2 3 4 5	3	15
		OCCUPATIONAL HEALTH & SAFETY OFFICER Key Staff's experience that is relevant to the scope of work (Construction, refurbishment or	≤ 2 yrs >2 to ≤4 yrs >4 to ≤6 yrs >6 to ≤8 yrs >8 to ≤10yrs >10 years	0 1 2 3 4 5	2	10

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender				
		<p>upgrade of wastewater or water treatment works).</p> <p>Key Staff requirements:</p> <p>Nominated staff must hold a Occupational Health & Safety (OHS) qualification at NQF Level 6 and have a SACPCMP Registration as a Construction Health and Safety Officer (CHSO).</p> <p><i>Attach copies of both proof of OHS qualification and detailed Curriculum Vitae (CV) indicating years of experience & details staff's experience of a similar nature are compulsory.</i></p>				
		HIGHEST POSSIBLE SCORE				100
		<p>Points will be allocated based on scoring indicated above and the final score will be calculated out of 100. Tenderers scoring above the required 70 points for functionality as well as the minimum score per criteria and meeting the pre-qualifying criteria will be evaluated further. Tenderers who fall below the required minimum points and/or fail to meet the pre-qualifying criteria will be disqualified.</p> <p>Stage 4: 90/10 preferential points systems</p> <p>The preferential points to be used for evaluation will be the 90/10 points system in terms of the Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000) Regulations 2022.</p> <ul style="list-style-type: none"> 90 points for price 10 Specific Goals <p>SPECIFIC GOALS</p> <ol style="list-style-type: none"> Bidders are required to submit supporting documents for their bids to claim the specific goal points. Non-compliance with specific goals will not lead to disqualification but bidders will not be allocated specific goal points. Bidders will score points out of 90 for price only and zero (0) points out of 10 for specific goals. <p>Cot shall act against any bidder or person when it detects that the specific goals were claimed or obtained on a fraudulent basis</p>				

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender		
		Specific goals	90/10 preference point system	Proof of specific goals to be submitted
		BB-BEE score of companies		Valid Certified copy of BBEE certificate. Sworn Affidavit for B-BBEE
		<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"> 4 Points 3.5 Points 3 Points 2.5 Points 2 Points 1.5 Points 1 Point 0.5 Points 0 Points 	qualifying small enterprise or Exempt Micro Enterprises or CIPC BBEE certificate.
		EME and/ or QSE	1 Point	Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBEE certificate
		At least 51% of Women-owned companies	1 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)
		At least 51% owned companies by People with disability	1 Point	Medical Certificate with doctor's details (Practice Number, Physical Address, and contact numbers) and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)
		At least 51% owned companies by Youth	1 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 National 	2 Points 1 Point 1 Point	Municipal Account statement/Lease agreement.

Contract No: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date.

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Part T1: Tender Procedures

Reference to relevant clauses in Standard Conditions of Tender		Addition or Variation to Standard Condition of Tender
C.3.16	Registration of the award	Add the following to the clause: Notice of non-acceptance of the tender will not be sent to individual unsuccessful tenderers. Particulars of the accepted tender can be obtained from the Employer' Agent.
C.3.17	Provide Copies of Contract	One signed copy of the contract shall be provided by the Employer to the successful Tenderer.

T1.3 STANDARD CONDITIONS OF TENDER

CIDB STANDARD CONDITIONS OF TENDER

(August 2019 Edition)

(As contained in Annexure C of the CIDB Standard for Uniformity in Construction Procurement – August 2019)

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 required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

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

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

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

b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;

c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;

- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

C.1.4 Communication and employer's agent

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

C.1.5 Cancellation and Re-Invitation of Tenders

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

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

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

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

C.1.6 Procurement procedures

C.1.6.1 General

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

C.1.6.2 Competitive negotiation procedure

C.1.6.2.1 Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the employer shall announce only the names of the tenderers who make a submission. The requirements of C.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

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

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 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

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

C.2.5 Reference documents

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

C.2.6 Acknowledge addenda

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

C.2.7 Clarification meeting

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

C.2.8 Seek clarification

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

C.2.9 Insurance

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

C.2.10 Pricing the tender offer

- C.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable fourteen (14) days before the closing time stated in the tender data.
- C.2.10.2 Show VAT payable by the employer separately as an addition to the tendered total of the prices.
- C.2.10.3 Provide rates and prices that are fixed for the duration of the contract and not subject to adjustment except as provided for in the conditions of contract identified in the contract data.
- C.2.10.4 State the rates and prices in Rand unless instructed otherwise in the tender data. The conditions of contract identified in the contract data may provide for part payment in other currencies.

C.2.11 Alterations to documents

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

C.2.12 Alternative tender offers

- C.2.12.1 Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.
- C.2.12.2 Accept that an alternative tender offer must be based only on the criteria stated in the tender data or criteria otherwise acceptable to the employer.
- C.2.12.3 An alternative tender offer must only be considered if the main tender offer is the winning tender.

C.2.13 Submitting a tender offer

- C.2.13.1 Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.
- C.2.13.2 Return all returnable documents to the employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.
- C.2.13.3 Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the employer.
- C.2.13.4 Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.
- C.2.13.5 Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL". The package shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- C.2.13.6 Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- C.2.13.7 Seal the original tender offer and copy packages together in an outer package that states on the outside only the employer's address and identification details as stated in the tender data.
- C.2.13.8 Accept that the employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.
- C.2.13.9 Accept that tender offers submitted by facsimile or e-mail will be rejected by the employer, unless stated otherwise in the tender data.

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

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

C.2.15 Closing time

- C.2.15.1 Ensure that the employer receives the tender offer at the address specified in the tender data not later than the closing time stated in the tender data. Accept that proof of posting shall not be accepted as proof of delivery.
- C.2.15.2 Accept that, if the employer extends the closing time stated in the tender data for any reason, the requirements of these conditions of tender apply equally to the extended deadline.

C.2.16 Tender offer validity

- C.2.16.1 Hold the tender offer(s) valid for acceptance by the employer at any time during the validity period stated in the tender data after the closing time stated in the tender data.
- C.2.16.2 If requested by the employer, consider extending the validity period stated in the tender data for an agreed additional period with or without any conditions attached to such extension.
- C.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in C.2.16 lapses before the employer evaluating tender, the contractor reserves the right to review the price based on Consumer Price Index (CPI).

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

C.2.17 Clarification of tender offer after submission

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

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

C.2.18 Provide other material

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

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

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

C.2.19 Inspections, tests and analysis

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

C.2.20 Submit securities, bonds and policies

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

C.2.21 Check final draft

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

C.2.22 Return of other tender documents

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

C.2.23 Certificates

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

C.3 The employer's undertakings

C.3.1 Respond to requests from the tenderer

- C.3.1.1 Unless otherwise stated in the tender Data, respond to a request for clarification received up to five (5) working days before the tender closing time stated in the Tender Data and notify all tenderers who collected tender documents.
- C.3.1.2 Consider any request to make a material change in the capabilities or formation of the tendering entity (or both) or any other criteria which formed part of the qualifying requirements used to prequalify a tenderer to submit a tender offer in terms of a previous procurement process and deny any such request if as a consequence:
- a) an individual firm, or a joint venture as a whole, or any individual member of the joint venture fails to meet any of the collective or individual qualifying requirements;
 - b) the new partners to a joint venture were not prequalified in the first instance, either as individual firms or as another joint venture; or
 - c) in the opinion of the Employer, acceptance of the material change would compromise the outcome of the prequalification process.

C.3.2 Issue Addenda

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

C.3.3 Return late tender offers

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

C.3.4 Opening of tender submissions

- C.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.
- C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices.

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 specific goals. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

C.3.6 Non-disclosure

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

C.3.7 Grounds for rejection and disqualification

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

C.3.8 Test for responsiveness

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

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

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

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

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

C.3.9 Arithmetical errors, omissions and discrepancies

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

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

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

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

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

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

C.3.10 Clarification of 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 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.

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.

C.3.12 Insurance provided by the employer

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

C.3.13 Acceptance of tender offer

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

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

C.3.14 Prepare contract documents

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

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

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

C.3.15 Complete adjudicator's contract

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

C.3.16 Registration of the award

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

C.3.17 Provide copies of the contracts

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

C.3.18 Provide written reasons for actions taken

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

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Part T2: Returnable Documents

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTEWATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTEWATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

PORTION 1 : TENDER

PART T2 : RETURNABLE DOCUMENTS

Contract: WS 15 2024/25

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DATE**

T2.1 LIST OF RETURNABLE DOCUMENTS

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PART T2: RETURNABLE DOCUMENTS

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T2.1 LIST OF RETURNABLE DOCUMENTS

RD.A MANDATORY RETURNABLE DOCUMENTS

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

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Compulsory Enterprise Questionnaire	Form RD.A.1	
MBD 4: Declaration of interest in tender of persons in service of state	Form RD.A.2	
MBD 8: Declaration of tenderer's past supply chain management practises	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	
At least 51% Women owned companies and At least 51% owned companies by Youth	Form RD.B.5	
At least 51% owned companies by People with disability	Form RD.B.6	

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 and included in the tender)
Proof of registration on CSD with National Treasury	RD.C.1	
MBD 5: Declaration for procurement above R10 million (all applicable taxes included)	RD.C.2	
Status of concern submitting tender	RD.C.3	
Classification of business	RD.C.4	
Proof of Registration with CIDB	RD.C.5	
Evaluation Schedule: Tender's Experience	RD.D.6	
Schedule of Tenderer's experience	RD.C.7	
Key-Personnel	RD.C.8	
Curriculum vitae of key personnel	RD.C.9	
Compliance with OHSA (Act 85 of 1993)	RD.C.10	
Proof of registration in terms of the Project and Construction Management Profession Act 48 of 2000	RD.C.11	

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

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

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Record of addenda to tender documents	RD.D.1	
Schedule of proposed subcontractors	RD.D.2	
Cost Price Adjustment (CPA) IMPORTED CONTENT (FOREX)	RD.D.3	
Form of offer and acceptance	Section C1.1	
Data provided by the contractor	Section C1.2	

T2.2 RETURNABLE SCHEDULES

T2.2 RETURNABLE SCHEDULES

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FORM RD.A.1 COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of Enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: CSD number:

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

Name*	Identity Number*	Personal Income Tax Number*

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

Section 6: Particulars of companies and close corporations

Company registration number:

Close corporation number:

Tax reference number:

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

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

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

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

- authorizes the employer to verify the tenderers tax clearance status from the South African Revenue Services that it is in order;
- 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;
- 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;
- 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
- 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:			

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

1. No bid will be accepted from persons in the service of the state¹.
2. Any person, having a kinship with persons in the service of the state, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to persons in service of the state, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority.
3. **In order to give effect to the above, the following questionnaire must be completed and submitted with the bid.**
 - 3.1 Full name of bidder or his/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.

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.

3.8 Are you presently in the service of the state?

YES	NO
-----	----

If yes, furnish particulars _____

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

YES	NO
-----	----

If yes, furnish particulars _____

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

YES	NO
-----	----

If yes, furnish particulars _____

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

YES	NO
-----	----

If yes, furnish particulars _____

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

YES	NO
-----	----

If yes, furnish particulars _____

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

YES	NO
-----	----

If yes, furnish particulars _____

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

YES	NO
-----	----

If yes, furnish particulars _____

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

Full Name	Identity Number	State Employee Number

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

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

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

Item	Question	Response	
4.1	Is the tenderer, any of its directors listed on the National Treasurer's database as a company or persons prohibited from doing business with the public sector? (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 its directors listed on the Register for Tender Defaulters in terms of Section 29 of the Prevention and Combating of Corrupt Activities Act, 2004 (Act 12 of 2004)? (The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.)	YES	NO
	If so, furnish particulars:		
4.3	Was the tenderer or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	YES	NO
	If so, furnish particulars:		

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

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

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

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

1. This Municipal Bidding Document (MBD) must form part of all bids ³invited.
2. Section 4 (1) (b) (iii) of the Competition Act Nol. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive tendering (or bid rigging⁴). Collusive tendering is a *per se* prohibition meaning that it cannot be justified under any grounds.
3. Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:
 - a. Take all reasonable steps to prevent such abuse;
 - b. Reject the tender of any tenderer if that tenderer or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
 - c. Cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the tendering process or the execution of the contract.
4. This will serve as a certificate of declaration that would be used by institutions to ensure that, when tenders are considered, reasonable steps are taken to prevent any form of tender-rigging.
5. In order to give effect to the above, the attached Certificate of Tender Determination must be completed and submitted with the tender.

³ Includes price quotations, advertised competitive bids, limited bids and proposals.

⁴ Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting the accompanying tender:

in response to the invitation for the tender made by

City of Tshwane Metropolitan Municipality

WS 15 2024/25 Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Waste Water Treatment Works and upgrading of Babelegi Waste Water Treatment Plant for construction duration of 24 months

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

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

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

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.

- 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.
8. In addition, there have been no consultations, communications, agreements or arrangement with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this tender invitation relates.
9. The terms of the accompanying tender have not been, and will not be, disclosed by the tenderer, directly or indirectly, to any competitor, prior to the date and time of the official tender opening or to the awarding of the contract.
10. I am aware that, in addition and without prejudice to any other remedy provided to combat any restrictive practises related to tenders and contracts, tenders that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No. 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted form conduction business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and combating of Corrupt Activities Act No. 12 of 2004 or any other applicable legislation.

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.A.5 CERTIFICATE OF AUTHORITY OF SIGNATORY

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

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

Held at: _____ (place)

On: _____ (date)

RESOLVED that:

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

Tender Number:	WS 15 2024/25
Tender Description:	Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Waste Water Treatment Works and upgrading of Babelegi Waste Water Treatment Plant for construction duration of 24 months

- *Mr/Ms:

in *his/her capacity as

and who will sign as follow:

Proof signature	Proof signature
-----------------	-----------------

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

NAME	CAPACITY	SIGNATURE

Note:	Enterprise stamp
<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. 	

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

*Joint venture/consortium name: _____

We, the undersigned, are submitting this tender in a *joint venture/consortium and hereby authorise *Mr/Ms

_____ authorised signatory of the enterprise

_____ acting in the capacity of lead partner

to sign the tender, and any and all other documents and/or correspondence in connection with and relating to the tender for the *joint venture/consortium mentioned above.

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

Note:

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

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

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

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

1. GENERAL CONDITIONS

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

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

1.2 To be completed by the organ of state

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

b) The 90/10 preference point system will be applicable in this tender. The lowest/ highest acceptable tender will be used to determine the accurate system once tenders are received.

1.3 Points for this tender (even in the case of a tender for income-generating contracts) shall be awarded for:

- (a) Price; and
- (b) Specific Goals.

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	90
SPECIFIC GOALS	10
Total points for Price and SPECIFIC GOALS	100

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

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

2. DEFINITIONS

- (a) "tender" means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) "price" means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) "rand value" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes;
- (d) "tender for income-generating contracts" means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of

assets and concession contracts, excluding direct sales and disposal of assets through public auctions;
and

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

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 90/10 PREFERENCE POINT SYSTEMS

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

90/10

$$Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$$

Where

Ps = Points scored for price of tender under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

4. POINTS AWARDED FOR SPECIFIC GOALS

4.1. In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goals stated in table 1 below as may be supported by proof/ documentation stated in the conditions of this tender:

4.2. In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that, if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of—

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system; or

(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

Table 1: Specific goals for the tender and points claimed are indicated per the table below.

(Note to organs of state: Where either the 90/10 or 80/20 preference point system is applicable, corresponding points must also be indicated as such.)

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

The specific goals allocated points in terms of this tender	Number of points allocated (90/10 system) (To be completed by the organ of state)	Number of points claimed (90/10 system) (To be completed by the tenderer)
BB-BEE score of companies		
Level 1	4 Points	
Level 2	3.5 Points	
Level 3	3 Points	
Level 4	2.5 Points	
Level 5	2 Points	
Level 6	1.5 Points	
Level 7	1 Point	
Level 8	0.5 Points	
Non-compliant	0 Points	
EME and/or QSE	1	
At least 51% Women owned companies	1	
At least 51% owned companies by People with disability	1	
At least 51% owned companies by Youth	1	
Local Economic Participation		
City of Tshwane Participants	2	
Gauteng Participants	1	
National participants	1	

DECLARATION WITH REGARD TO COMPANY/FIRM

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

- 4.6. I, the undersigned, who is duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the specific goals as advised in the tender, qualifies the company/ firm for the preference(s) shown and I acknowledge that:
- i) The information furnished is true and correct;

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

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at

on this

day of

WITNESSES:

**(Full name in BLOCK letters and
signature)**

1.

2.

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

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

NOTE:

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

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

I, the undersigned

Full Name & Surname

Identity Number

-

-

-

Hereby declare under oath as follow:

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

Enterprise Name

Trading Name

Registration Number

Enterprise Address

- 3. I hereby declare under oath that:**

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

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

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

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

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

Deponent Signature:

Date:

**Commissioner of oaths
(Signature and stamp)**

FORM RD.B.4 PROMOTION OF LOCAL ENTERPRISES

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:

90/10 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 1)	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 2)	The tenderer's office resides within the boundaries of the Tshwane Metropolitan Municipality.

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

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

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

Person authorized to sign the tender:

Full name (in BLOCK letters):

Signature:

Date:

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% owend by Women or youth

	promotion 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.

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.B.6 At least 51% owned companies by People with disability

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

	Promotion of At least 51% owned companies by People with disability
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: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Waste Water Treatment Works and upgrading of Babelegi Waste Water Treatment Works for construction duration of 24 months starting from the commencement date

Volume 1: General Clauses, Tender Procedures and Contract Data

Portion 1: Tender

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.**

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

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

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

Indicate whether these have been included in the tender:

YES	NO
-----	----

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

YES	NO
-----	----

If so, state particulars

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

YES	NO
-----	----

If so, state particulars

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

YES	NO
-----	----

If so, state particulars

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

YES	NO
-----	----

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

<p>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.</p> <p>I accept that the state may act against me should this declaration prove to be false.</p> <p><u>Person authorized to sign the tender:</u></p> <p>Full name (in BLOCK letters): _____</p> <p>Signature: _____</p> <p>Date: _____</p>	
---	--

FORM RD.C.3 STATUS OF CONCERN SUBMITTING TENDER**1. General**

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

Public Company

Private Company

Closed Corporation

Partnership

Sole Proprietary

Joint Venture / Consortium

Co-operative

(Mark the appropriate option)

2. Information to be provided

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

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If the Tendering Entity is a:		Documentation to be submitted with the tender
		b) Each of the Partners in the Partnership Certified copy of the Partnership agreement.
6	<u>Co-operative</u>	CIPRO CR2 - Certified copies of Company registration document.
7	<u>Joint Venture / Consortium</u>	All the documents (as described above) as applicable to each partner in the joint venture / consortium as well as a certified copy of the joint venture / consortium agreement.

Note:

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

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

Yes

☐

No

☐

(Make an X in the appropriate space)

REGISTRATION NO: _____

FORM RD.C.4 CLASSIFICATION OF BUSINESS

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

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

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

YES	NO
-----	----

(Tick appropriate box)

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

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

ii. Size or class:

iii. Total full-time equivalent of paid employees:

iv. Total annual turnover:

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

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

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

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

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

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

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SCHEDULE OF SECTORS

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

Medium	200	R 13 mil	R 6 mil
Small	50	R 6 mil	R 3 mil
Very Small	20	R 1mil	R 600 000
Micro	5	R 200 000	R 100 000

FORM RD.C.5 PROOF OF REGISTRATION WITH THE CIDB

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

Firm	CRS Number	CIDB Grading	Lead Partner (Indicate with X)
Combined CIDB Grading for Joint Venture / Consortium:			

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

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.6 EVALUATION SCHEDULE: TENDER'S EXPERIENCE

The experience of the tenderer or joint venture partners in the case of an unincorporated joint venture or consortium as opposed to the key staff members / experts in similar projects or similar areas and conditions in relation to the relevant scope of work (Construction, refurbishment or upgrade of wastewater or water treatment works).

Tenderers must complete Form RD.C.5: Schedule of Tender's Experience to comply with this schedule.

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

	Tenderer's experience
0 project (score 0)	Tenderer did not respond or comply to the the submission of relevant (Construction, refurbishment or upgrade of wastewater or water treatment) project. A score of 0 will also be awarded for any misrepresentation made in the schedule of experience.
1 project (score 4)	Tenderer has completed 1 relevant (Construction, refurbishment or upgrade of wastewater or water treatment) project.
2 Projects (score 8)	Tenderer has completed 2 relevant (Construction, refurbishment or upgrade of wastewater or water treatment) projects.
3 Projects (score 12)	Tenderer has completed 3 relevant (Construction, refurbishment or upgrade of wastewater or water treatment) projects.
4 Projects (score 16)	Tenderer has completed 4 relevant (Construction, refurbishment or upgrade of wastewater or water treatment) projects.
5 Projects (score 20)	Tenderer has completed 5 and more relevant (Construction, refurbishment or upgrade of wastewater or water treatment) projects.

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.7 SCHEDULE OF TENDERER’S EXPERIENCE

The following is a statement of similar work successfully executed by myself/ourselves. Final Approval or Completion Certificate of the relevant projects successfully completed to be attached. Certificate must display contract value, be signed by the Client and contain the Client’s contact details.

Employer, contact person and telephone number	Description of contract	Final Approval Certificate	Completion Certificate

(Attach additional pages if more space is required)

FORM RD.C.8 KEY PERSONNEL

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

Refer to clause C.2.1 of Part T1: Eligibility (mandatory requirements)

Note: Form RD.C.8 must be complete for each person listed below. The Tenderer shall insert in the spaces below, the name of key personnel to be engaged on the Contract.

	NAME	CATEGORY *	QUALIFICATION	EXPERIENCE (YEARS RELEVANT)
1.		SITE AGENT AND ELECTRICAL TEAM LEADER		
2.		CIVIL TEAM LEADER		
3.		MECHANICAL TEAM LEADER		
4.		HEALTH AND SAFETY OFFICER		
5.				
6.				
7.				

(Attach additional pages if more space is required.)

* The Contractor shall fill in the various categories, e.g. Foreman, Trainers, Plant Operators, Clerks, Technicians, Laboratory Assistants, etc as required.

Note: *Failure to comply with the mandatory requirements of keystaff will result in disqualification of your tender.*

Note: *Please ensure that a CV for all the key personnel entered in the table above is attached on submission of your tender document.*

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

Person Authorized to sign Tender:

FULL NAME (BLOCK LETTERS):

SIGNATURE:

DATE:

FORM RD.C.10 COMPLIANCE WITH OHSA (ACT 85 OF 1993)

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

(Tick applicable box)

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

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.11 PROFESSION OF REGISTRATION IN TERMS OF SACPCMP ACT 48 OF 2000

The tenderer must provide proof of persons in their **full-time employ** that are registered in terms of Construction Management Profession Act, 2000 (Act 48 of 2000). The tenderer must confirm that registered employees are in their full-time employ by means of a declaration to this effect on the company's letterhead and duly signed.

NAME	REGISTRATION			Confirm full time employed
	Professional Category	Discipline	SACPCMP Number	

(Attach required documentary proof to this page)

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.D.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			

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:	_____

FORM RD.D.2 SCHEDULE OF PROPOSED SUBCONTRACTORS

You, the client, are hereby notified that it is our intention to employ the following Subcontractors for work on this contract. If we are awarded a contract, we agree that this notification does not change the requirement for us to submit the names of proposed Subcontractors in accordance with requirements in the contract for such appointments. If there are no such requirements in the contract, then your written acceptance of this list shall be binding between us.

	NAME AND ADDRESS OF PROPOSED SUBCONTRACTOR	NATURE AND EXTENT OF WORK
1.		
2.		
3.		
4.		
5.		

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

Person Authorized to sign Tender:

FULL NAME (BLOCK LETTERS):

SIGNATURE:

DATE:

FORM RD.D 3 COST PRICE ADJUSTMENT (CPA) IMPORTED CONTENT (FOREX)

Is/Are the tender price/s firm until the end of contract period? (YES/NO)

If not:

IMPORTED CONTENT:

When the price/s is/are subject to the rate of exchange, submit the price basis on which the exchange rate will be based (e.g. F.O.B. value, fixed value in respect of foreign exchange, etc.)

(i) exchange rate upon which the bid price is based

.....

.....

.....

.....

(ii) What portion of the bid price (percentage or amount) will be affected by variations in the exchange rate?

.....

.....

.....

.....

NB: *Tenderers are also required to submit a bank statement or an auditor's report regarding the actual exchange rate in respect of the transaction value paid to the overseas supplier.*

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

Person Authorized to sign Tender:

FULL NAME (BLOCK LETTERS):

SIGNATURE:

DATE:

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Waste Water Treatment Works and upgrading of Babelegi Waste Water Treatment Plant for construction duration of 24 months from the commencement date

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Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion T1: Tender

Part T2: Returnable Documents

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

T2.3. TECHNICAL SCHEDULES

PART T2.3: TECHNICAL SCHEDULES

The proper completion of the technical schedules under this section is critical.

Once the Contract has been awarded to the successful bidder, equipment shall be supplied as recorded in the technical schedules and the Contractor's Proposal, unless written acceptance of any variances thereto is issued by the Engineer.

Tenderers shall note that equipment in accordance with the relevant Specifications and with a proven track record with local operational installations shall be proposed as required. Failure to adhere to this requirement implies that the equipment offered does not meet tender prescriptions and may lead to disqualification of the bid.

SCHEDULES:

T2.3.1 TECHNICAL SCHEDULES – ELETRICAL & ELECTRONIC WORK

T2.3.1 TECHNICAL SCHEDULES (ELECTRCAL WORKS)

Section	Description	Page
1.	RING MAIN UNITS.....	1
2.	MOTOR CONTROL CENTRES AND FLOOR STANDING DISTRIBUTION BOARDS	3
3.	FLUSH / SURFACE MOUNTED DISTRIBUTION BOARDS.....	6
4.	PROGRAMMABLE LOGIC CONTROLLERS	7
5.	UNINTERRUPTABLE POWER SUPPLIES.....	9
6.	INSTRUMENTATION	10
7.	MEDIUM VOLTAGE CABLES	11
8.	MULTI CORE CABLES & INSTRUMENTATION CABLE	11
9.	LOW VOLTAGE CABLES	13
10.	SCHEDULE OF PRICES FOR VARIATIONS TO THE ELECTRICAL AND ELECTRONIC ENGINEERING WORKS.....	14

1. RING MAIN UNITS

No	Item description	Units	Specified	Offered
2.	RING MAIN UNITS			
2.1	General Information	xxxxxxxxxxx		
2.1.1	Country of origin	xxxxxxxxxxx		
2.1.2	Manufacturer	xxxxxxxxxxx		
2.1.3	Compliance Standard (latest edition)	xxxxxxxxxxx	IEC 62271-200	
2.1.4	Manufacturers type designation	xxxxxxxxxxx	CVV	
2.1.5	Internal arc test requirements	xxxxxxxxxxx	YES	
2.1.5.1	Current Rating (Ip)	kA	52.5	
2.1.5.2	Voltage Rating (Ur)	kV	12	
2.1.5.3	Duration	sec	3	
2.1.5.4	Accessibility	Type A		
2.1.5.5	Arc Classification	IAC AFL	20kA, 0.5s	
2.2	Dimensions & Information			
2.2.1	Dimensions (Maximum)	mm	(765 mm (D)) (1021 mm (W)) (1336 mm (H))	
2.2.2	Weight	kg		
2.3	Tests Results	xxxxxxxxxxx	YES	
2.3.1	Is an indoor or outdoor unit required?	Outdoor / Indoor	Indoor	
2.3.2	Extensible or non-extensible unit	xxxxxxxxxxx	Non-extensible	
2.3.3	Is an extensible or non- extensible unit offered?	xxxxxxxxxxx		
2.3.4	Degree of protection of unit offered? 11kV live parts SF6 tank Front cover mechanism Cable covers	xxxxxxxxxxx	IP67 IP2X IP 3X	
2.3.5	Cable test facility requirements.	xxxxxxxxxxx	Integral cable test facilities	
2.3.7	Type of cable test facility offered?	xxxxxxxxxxx		
2.3.8	Rated normal current (Ir)	A	630	
2.3.9	The insulating and/or interrupting medium of switch disconnectors	xxxxxxxxxxx	SF6	
2.3.10	The insulating and/or interrupting medium of switch disconnectors offered?	xxxxxxxxxxx		
2.3.11	Circuit Breakers status indication.	xxxxxxxxxxx	Direct on moving contact	
2.3.12	Interruption medium of circuit breakers	xxxxxxxxxxx	Vacuum	

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Section T2.3: Technical Schedules – Electrical and Electronic Work

No	Item description	Units	Specified	Offered
2.3.13	Method of providing reliable indication of the main circuit breaker contact position in the case of non-visible contacts?	xxxxxxxxxxx		
2.3.14	Does the circuit breaker panel include in-line off-load disconnectors?	xxxxxxxxxxx	YES	
2.3.15	Is the circuit breaker (for the tee-off) connected in series with a three-position disconnecter-earthing switch?	xxxxxxxxxxx	YES	
2.3.16	Is the operation between the circuit breaker and disconnecter-earthing switch interlocked?	xxxxxxxxxxx	YES	
2.3.17	Rated normal current of the circuit breaker	A	630	
2.3.18	Type of protection tripping of circuit breaker required	xxxxxxxxxxx	Battery powered relays	

2. MOTOR CONTROL CENTRES AND FLOOR STANDING DISTRIBUTION BOARDS

No	Item description	Units	Specified	Offered
	General			
	Manufacturer			
	Type			
	Supplier			
	Panel Material		3CR12	
	Access	Back/Front	Front	
	Gland Plate		3CR12 Unpainted	
	Form of Separation		Form 3B	
	Type test certificate to IEC/ SANS 61439 – Copy Attached	Yes/No	Yes	
	Measuring instrumentation compliant to IEC 60051	Yes/No	Yes	
	Minimum thickness of assembly material of construction (mm)		2 mm	
	Exterior paint colour	All	"LIGHT ORANGE" B26 of SANS 1091	
	Exterior paint colour for standby power section	All	"SIGNAL RED", SANS 1091	
	Exterior paint colour for UPS sections	All	"DARK VIOLET", colour F06	
	Interior paint colour		"LIGHT ORANGE" B26 of SANS 1091, with white equipment chassis plate	
	Electrical System			
	Earthing system		TNS	
	Rated voltage U_n (Volts)		400/230 \pm 10% 3/N/PE	
	Control voltage (Volts)		230 VAC \pm 10% 1/N/PE	
	Rated frequency f_n (Hz)		50 Hz \pm 2%	
	Fault Level Rating			
	MCCs (Main Works)	kA	25	
	MCC1 (Inlet Works)	kA	25	
	MCC2 (Inlet Works)	kA	25	
	Electrical Equipment			
	<u>Busbar</u>			
	Material		Copper	

	Current Density	A/mm ²	1.3	
	Dimensions	mm		
 Auxiliary Busbar		One set (Live and Neutral)	
	<u>Air Circuit Break</u>			
	Manufacturer			
	Type			
	Compliant to IEC/ SANS 60947-2		Yes	
 Type test certificate		Attached	
	Withdrawable	Yes/No	Yes	
	Auxiliary Contacts for remote monitoring	Yes/No	Yes	
	<u>Moulded case circuit breakers</u>			
	Manufacturer			
	Model			
	Compliant to IEC/ SANS 60947-2		Yes	
	Quick break under overload or short circuit conditions		Yes	
	Temperature rise under full load conditions as per specification		Yes	
	<u>Combination fuse switches</u>			
	Manufacturer			
	Model			
	Compliant to IEC/ SANS 60947-2		Yes	
	Independent manual operation		Yes	
	IP Rating as per IEC/ SANS 60529		IP21	
	<u>Switch operators</u>			
	Manufacturer			
	Model			
	Pad lockable to "off" position		Yes	
	<u>HRC fuse links</u>			
	Manufacturer			
	Model			
	Compliant to IEC/ SANS 60269		Yes	
	<u>Contactors</u>			
	Manufacturer			
	Model			
	Compliant to IEC/ SANS 60947-4		Yes	
	<u>Auxiliary relays</u>			
	Manufacturer			

	Model			
	Field convertible contact configuration		Yes	
	Compliant to IEC/ SANS 60947-5-1		Yes	
	<u>Current transformers</u>			
	Manufacturer			
	Model			
	Compliant to IEC/ SANS 60044-1		Yes	
	Test blocks for Ammeter CTs		Yes	
	<u>Voltage transformers</u>			
	Manufacturer			
	Model			
	Compliant to IEC/ SANS 60044-2		Yes	
	<u>Pushbuttons and selector switches</u>			
	Manufacturer			
	Model			
	Contact Rating		10 A, 230 VAC	
	<u>Indicator lamps</u>			
	Manufacturer			
	Model			
	Type		LED	
	Voltage Rating		230 VAC \pm 10%	
	<u>Control circuit and auxiliary transformer</u>			
	Manufacturer			
	Model			
	Type			
	<u>Surge Protection Devices (Power Circuit)</u>			
	Manufacturer			
	Model			
	Type		1+2	
	Compliant to IEC/ SANS 61643			
	<u>Surge Protection Devices (Control Circuit)</u>			
	Manufacturer			
	Model			
	Type		2	
	Compliant to IEC/ SANS 61643		Yes	
	<u>Surge Protection Devices (Instrumentation)</u>			
	Manufacturer			

	Model			
	Compliant to IEC/ SANS 61643		Yes	
	Power Factor Correction Panel			
	Manufacturer			
	Rating			
	Number of steps			
	Type of capacitors			
	Power factor meter			
	Type pf monitor relay			
	Maximum capacitor voltage			
	Capacitor Protection			
	Variable Speed Drive			
	Manufacturer			
	Model			
	Rated supply Voltage	Volt	380....480V	
	Output frequency	Hz	Up to 500Hz	
	Prospective line Isc	kA	50	
	Integrated safety function	Yes/No	Yes	
	Modular Design	Yes/No	Yes	
	Number of Analog inputs	No.	3	
	Number of Analog outputs	No.	2	
	Number of Digital Inputs	No.	6	
	Number of Relay outputs	No.	3	
	Communication module		Ethernet	
	Data sheets must be provided with tender	Yes/No	Yes	
	Direct On Line: All in one Starter			
	Manufacturer			
	Model			
	Short-Circuit protection at 400V	kA	50	
	Control Voltage	Volt	230	
	Communication Module		Modbus	
	Data sheets must be provided with tender	Yes/No	Yes	

3. FLUSH / SURFACE MOUNTED DISTRIBUTION BOARDS

No	Item description	Units	Specified	Offered
	Manufacturer			

	Type			
	Supplier			
	Panel Material		3CR12	
	Access	Front	Front	
	Gland Plate		3CR12 Unpainted	

4. PROGRAMMABLE LOGIC CONTROLLERS

No	Item description	Units	Specified	Offered
	Manufacturer			
	Model			
	Central Processing Unit			
	Embedded communication service		Ethernet TCP/IP	
	Memory description internal RAM	kB	4096	
	Memory description internal RAM for data	kB	256	
	Memory description internal RAM for program constants and symbols	kB	3584	
	Standards		EN 61000-6-2, EN 61000-6-4, EN 61131-2 & EN 61010-2-201	
	Programming Language		IEC 61131	
	Spare I/O	%	25%	
	Data sheets must be provided with tender	Yes / No	Yes	
	<u>Power Supply Unit</u>			
	Model			
	Type			
	Rated output current	Amp		
	Rated output power	W		
	Rated output voltage	V		
	Rated input power [full load]	W		
	Efficiency Factor	%		
	Mains voltage variation	%		
	Primary peak current	A		
	Heat dissipation	W		

	Protective Rating		IP20 according to EN60529, IEC 529	
	Data sheets must be provided with tender	Yes / No	Yes	
	<u>Digital Input Modules</u>			
	Model			
	Type		Current Sink	
	Isolation	Yes/No	Yes	
	Input Voltage	VDC	24	
	Data sheets must be provided with tender	Yes / No	Yes	
	<u>Digital Output Modules</u>			
	Model			
	Type		Solid State	
	Output Logic	Positive/ Negative	Positive	
	Output Voltage	VDC	24	
	Data sheets must be provided with tender	Yes / No	Yes	
	<u>Analogue Input Modules</u>			
	Model			
	Type	Current	4...20 mA	
	Isolation between channels	Yes/No	Yes	
	Data sheets must be provided with tender	Yes / No	Yes	
	<u>Analogue Output Modules</u>			
	Model			
	Type	Current	4...20 mA	
	Isolation between channels	Yes/No	Yes	
	Data sheets must be provided with tender	Yes / No	Yes	
	<u>Ethernet Module</u>			
	Model			
	Type			
	Port Ethernet		10BASE-T/100BASE-TX	
	Integrated connection type		Ethernet RJ45 10/100 Mbit/s 4	

			twisted pairs transparent ready class B30	
	Data sheets must be provided with tender	Yes / No	Yes	
	<u>Managed Switch</u>			
	Manufacturer			
	Model			
	Security features based on IEC 62443	Yes / No	Yes	
	Ports	No		
	Speed	Mbit	100/1000	
	Protocols Supported		EtherNet/IP, PROFINET, Modbus TCP	
	Power Supply	VDC	24VDC	
	Warranty	Years	5	
	Data sheets must be provided with tender	Yes / No	Yes	
	Human Machine Interface			
	Manufacturer			
	Supplier			
	Rated input voltage			
	Screen type		Colour TFT	
	Display size		15 inches	
	Resolution	Pixels	1280x1024	
	Type of touch screen	Capacitive/ Resistive	Capacitive	
	Integrated connection type		Ethernet RJ45	
	Protocol		Modbus, TCP/IP, Ethernet	
	SD Card Slot	Yes / No	Yes	
	Position of Installation		Flush Fronted	
	Operating System			
	Data sheets must be provided with tender	Yes / No	Yes	

5. UNINTERRUPTABLE POWER SUPPLIES

No	Item description	Units	Specified	Offered
	Manufacturer			
	Model			
	Supplier			
	Rated Power	VA	2000	
	Input voltage	Volt	230	
	Output voltage	Volt	230	
	Standby time on full load	Minutes	15	
	Rack mount	Yes/No	Yes	
	Communication		Modbus TCP/IP	
	Data sheets must be provided with tender	Yes / No	Yes	

6. INSTRUMENTATION

No	Item description	Units	Specified	Offered
	Ultrasonic Open channel Flow meter			
	Manufacturer			
	Model			
	Data sheets must be provided with tender	Yes / No	Yes	
	Electromagnetic Flow meter			
	Manufacturer			
	Model			
	Data sheets must be provided with tender	Yes / No	Yes	
	pH meter			
	Manufacturer			
	Model			
	Data sheets must be provided with tender	Yes / No	Yes	
	Dissolved Oxygen Meters			
	Manufacturer			
	Model			

	Type			
	Data sheets must be provided with tender	Yes / No	Yes	
Area Velocity Flow Meters		6		
	Manufacturer			
	Model			
	Type			
	Data sheets must be provided with tender	Yes / No	Yes	

7. MEDIUM VOLTAGE CABLES

No	Item description	Units	Specified	Offered
	Manufacturer			
	Supplier			
	Installation contractor			
	Paper insulated Cables	PILC	11kV - Table 18 [11kV / 11kV] or 22kV Table 20 [12.7kV / 22kV]	
	XLPE	XLPE	XLPE insulated, copper tape screened, PVC bedded, galvanised steel wire armoured, and PVC sheathed 11kV - [6.35kV / 11kV] or 22kV - [12.7kV / 22kV]	

8. MULTI CORE CABLES & INSTRUMENTATION CABLE

No	Item description	Units	Specified	Offered
	Manufacturer			
	Supplier			
	Installation contractor			
	Instrument cables	Make	Plain annealed class 4 bunched copper Crosslink	

			<p>polyethylene - Temperature rating 105°C White Cores, Black numbered.</p> <p>Aluminium Mylar Screen Over Individual Pairs, Tinned Copper Drain Wire, Overall Aluminium Mylar Screen, PVC LH Bedding, Steel Wire Armour, and PVC LH Sheath.</p>	
	CAT 6 Cables [4 Pair]	Make	4pr twisted PVC, Non-Woven Tape + alu Foil (Industrial CAT6)	
	Profibus PVC	Make	Flame retardant and self-extinguishing. Largely resistant to grease, coolant fluids and lubricants, resistant to oil.	
	Fibre Cables	Make	<p>In Sleeves / Aerial- High quality optical fibres suitable for operation at 850nm & 1300nm. The fibres conform to international standard ITU-T G651.</p> <p>Not in Sleeves / Ground - Made with high quality optical fibres suitable for operation at 850nm & 1300nm. The fibres conform to international</p>	

			standard ITU-T G651 armoured.	
	Submersible Pump Cable	Make	High conductivity bunch plain flexible copper conductors to SANS 1411-1. Cores insulated and bedded with Flexible PVC Grade. Final protection is given by a flexible PVC outer sheath to SANS 1411-2.	

9. LOW VOLTAGE CABLES

No	Item description	Units	Specified	Offered
	Manufacturer			
	Supplier			
	Installation contractor			
	600/1000V Armoured	Make	SANS 1507/3 - Plain copper conductors to SANS 1411 Part 1, Class 5. Three or four cores insulated with XLPE PVC bedded, steel wire armoured and sheathed with general purpose fire retardant PVC.	
	300/500V Surfex	Make	SANS 1507-2 - Copper conductors to SANS 1411-1, PVC insulated to SANS 1411-2, laid up with a bare copper earth conductor between them, UV stable PVC sheathed to SANS 1411-2.	

	300/500V Surfex with aluminium / vinyl laminate		SANS 1507-2 - Copper conductors to SANS 1411-1, PVC insulated to SANS 1411-2, laid up with a bare tinned copper earth wire in contact with a longitudinal aluminium / vinyl laminate, UV stable PVC sheathed to SANS 1411-2.	
	600/1000V Single Core Wiring		SANS 1574-3 - High conductivity bunched plain flexible copper conductors to SANS 1411-1. Insulated with general purpose flexible grade PVC in all colours to SANS 1411-2.	

10. SCHEDULE OF PRICES FOR VARIATIONS TO THE ELECTRICAL AND ELECTRONIC ENGINEERING WORKS

This schedule must be completed by all Tenderers and only provides for amounts to be added to or deducted from the contract amount depending on whether the relevant item is to be supplied and installed as an extra to or has to be omitted from the contract.

All items provided for in this schedule shall comply in all respects with the requirements laid down in the specification and all unit prices shall provide for the complete supply and installation including all the necessary material, accessories, labour and transport but excluding VAT.

CONDUIT (GALVANISED)

Supply and installation of welded, galvanised, screwed conduit per meter length, including waste, couplings and sets.

Conduit Size	Cast in concrete (R/m)	Fixed on surface (R/m)	Built into brick (R/m)	Chased into concrete (R/m)
20 mm				

Conduit Size	Cast in concrete (R/m)	Fixed on surface (R/m)	Built into brick (R/m)	Chased into concrete (R/m)
25 mm				
40 mm				
50 mm				

PAIR OF ENDS (CONDUIT)

Terminate one pair of ends, including 2 locknuts and bush at one end and one box, either round or 100 x 100 mm or 100 x 50 mm and locknuts and bush at the other end:

Description	Completely installed (R each)
20 mm (Including box)	
25 mm (Including box)	
32 mm (Bushes and locknuts only)	
40 mm (Bushes and locknuts only)	
50 mm (Bushes and locknuts only)	

LIGHT FITTINGS

Supply and installation of the following light fittings complete with lamps:

Description	Completely installed (R each)
Type A as specified	
Type B as specified	
Type C as specified	
Type D as specified	
Type E as specified	
Type F as specified	
Type G as specified	
Type H as specified	

Description	Completely installed (R each)
Type I as specified	
Type J as specified	
Type K as specified	
Type L as specified	
Type M as specified	
Type N as specified	
Type O as specified	

WIRING

PVC Insulated and bare copper conductors in conduit:

Supply and installation of one meter of PVC insulated or bare copper conductor including for wastage.

(Measured from point to point).

Earth wire conductor Size (mm ²)	PVC Insulated conductor (R/m)	Bare copper (R/m)
1,5		
2,5		
4		
6		
10		
16		
25		
50		
70		

PVC SWA PVC CABLES

Supply and installation of multicore PVC SWA PVC or 11 kV cable as specified per meter length, including wastage. Measurements must include tails. Also unit price for making off of cable ends complete with glands, lugs and connecting up of cores.

Cable Size (mm ²)	No of cores	Laid in ducts (R/m)	Laid in ground (R/m)	Cable fixed on trays (R/m)	Cable ends each (R/m)	Cable joints complete (R/m)
2,5	3					
2,5	4					
4	4					
1,0	2pr					
1,0	4pr					
1,0	8pr					
1,0	18pr					
1,0	24pr					
6	4					
10	4					
16	4					
25	4					
35	4					
50	4					
70	4					
95	4					
150	3					
240	4					

Cable Size (mm ²)	No of cores	Laid in ducts (R/m)	Laid in ground (R/m)	Cable fixed on trays (R/m)	Cable ends each (R/m)	Cable joints complete (R/m)
70 PILC 11kV	3					
Fibre Optic (Single Mode)	4					
Fibre Optic (Multi mode)	4					

SOCKET OUTLETS

Supply, fitting and connecting of the following complete with box, cover plate and plug top where applicable per unit:

Unit Box	Flush mounted (R/m)	Surface Mounted (R/m)
20 Amp 3-pin single phase switched socket outlet		
40 Amp 5-pin 3-phase welding plug complete with isolator and plug top		

CIRCUIT BREAKERS

Supply, mounting and connecting in a pre-fitted distribution board per unit:

Description	Completely installed (R each)
Up to 30 Amp SP (5 kA)	
Up to 20 Amp TP (5 kA)	
20 Amp up to 60 Amp TP (5 kA)	
50 Amp MCB	
225Amp MCCB	
250Amp MCCB	
320Amp MCCB	
400Amp MCCB	
630Amp MCCB	

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Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

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Section T2.3: Technical Schedules – Electrical and Electronic Work

Description	Completely installed (R each)
Digital time switch	
20Amp SP + N Earth Leakage	
40Amp SP + N Earth Leakage	
63Amp SP + N Earth Leakage	
40Amp TP Earth Leakage	
63Amp TP Earth Leakage	

ISOLATORS

Supply, mounting and connecting in a pre-fitted distribution board per unit:

Description	Completely installed (R each)
80Amp TP	
100Amp TP	
200Amp TP	
320Amp TP	
400Amp TP	
630Amp TP	

MISCELLANEOUS EQUIPMENT

Supply, installation and connecting up of the following:

Description	Completely installed (R each)
Grade 304 S/S pedestal for lock stop switch	
Lock stop switch with Grade 304 S/S pedestal	
Weatherproof isolator with pillar	
Complete 1-4 kW DOL starter panel as specified	
Complete 5-11 kW DOL starter panel as specified	

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Section T2.3: Technical Schedules – Electrical and Electronic Work

Description	Completely installed (R each)
15 kW DOL starter panel as specified	
18,5 kW DOL starter panel as specified	
22kW Direct-on-line starter panel as specified	
55kW Variable Speed Drive panel as specified	
45kW Variable Speed Drive panel as specified	
22kW Variable Speed Drive panel as specified	
15kW Soft Starter panel as specified	
22kW Soft Starter panel as specified	
30kW Soft Starter panel as specified	
45kW Soft Starter panel as specified	
ISonic-A level transmitter	
Ultrasonic level MSP900SH sensor	
NewElec KC motor protection relay	
NewElec KE motor protection relay	
NewElec Newcode motor protection relay	
NewElec Newcode LCD Display Unit	

PLC EQUIPMENT

Supply, installation and connecting up of the following:

Description	Completely installed (R each)
Processor High Performance	
Power supply Module	

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Description	Completely installed (R each)
Ethernet TCP/IP Network Communication Module	
24V DC input module (16 inputs)	
24V DC input module(32 outputs)	
24V DC input module (64 inputs)	
24V DC output module(16 outputs)	
24V DC output module(32 outputs)	
24V DC output module(64 outputs)	
24V AC Input module(16 outputs)	
24V DC output module(16 outputs)	
Analog input module (4 channel)	
Analog input module (8 channel)	
Analog output module (4 channel)	
Analog output module (8 channel)	
RTD module (8 Channel)	
RTD module (16 Channel)	
Managed Switch (2x 2fiber Ports)	

SURGE ARRESTORS

Supply, installation and connecting up of the following:

Description	Completely installed (R each)
DEHN guards CAT No. DV M TT 255 FM	
DEHN guards CAT No. DG M TT 275	
DEHN Blitzductor Cat No. BXT ML4 BE HF 5	

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Description	Completely installed (R each)
DEHN Blitzductor Cat No. BXT ML4 BC EX 24	

DAYWORK

The following rates are for work not covered by any scheduled rates:

	Normal time (R/Hour)	Overtime (R/Hour)
Electrician and Labourer		
Electrician and apprentice		
Labourer		

TRANSPORT, MATERIALS AND EXCAVATIONS

The following rates are for work not covered by any scheduled rates:

	Per unit
Traveling for vehicles not exceeding 1000 kg capacity	R/Km
Materials, nett cost plus	%
Excavations:	
i) In soft pickable soil.	per m ³
ii) In soft rock (use of power tools)	per m ³
iii) In hard rock per m ³ (use of explosives)	per m ³

TENDERER

Signature :

Name :

Duly authorised to sign on behalf of :
.....

Telephone :

Fax :

Date :

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM COMMENCEMENT DATE**

T2.3 MECHANICAL TECHNICAL SCHEDULES

PART T2.3: TECHNICAL SCHEDULES

The proper completion of the technical schedules under this section is critical.

Once the Contract has been awarded to the successful bidder, equipment shall be supplied as recorded in the technical schedules and the Contractor's Proposal, unless written acceptance of any variances thereto is issued by the Engineer.

Tenderers shall note that equipment in accordance with the relevant Specifications and with a proven track record with local operational installations shall be proposed as required. Failure to adhere to this requirement implies that the equipment offered does not meet tender prescriptions and may lead to disqualification of the bid.

SCHEDULES:

T2.3.2 TECHNICAL SCHEDULES (MECHANICAL WORKS)

MECHANICAL TECHINCAL DATA SCHEDULES

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BABELEGI SEWAGE PUMP - DATA SCHEDULE.....	18
SUBSOIL DRAINAGE PUMP - TECHNICAL SCHEDULE.....	21
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PREAMBLE TO THE TECHNICAL DATA SCHEDULES

In completing the Technical Schedules, Tenderers shall take, inter alia, the following into consideration:

1. GENERAL

- (a) Attention is drawn to the following sections of the tender documents that are to be read and referred to in conjunction with the Technical Schedules:
 - (i) Particular Specifications (Standard Specifications) for Mechanical Works
 - (ii) PSM: Project Specifications (Detail Specifications) for Mechanical Works
- (b) General directions and descriptions of work and material given in the Project Specifications are not necessarily repeated in the Technical Schedules. Reference must be made to the documents in question for this information.
- (c) The Technical Schedules are to be fully completed in black ink. The use of correcting fluids is not acceptable and all errors and amendments must be crossed out with a single line and replaced with an initialled entry.

2. INFORMATION TO BE SUPPLEMENTED

All Technical Schedules concerning equipment incorporating proprietary brand products or units, shall be fully supplemented by the inclusion of applicable brochures, pamphlets, additional explanatory specifications, descriptions or notes in that order of availability and shall be submitted with a covering letter and bound separately, to the Engineer for comments and approval.

3. TECHNICAL SCHEDULE PRO-FORMAS

The Technical Schedules that follow are pro-formas only. Data of specific equipment shall be entered on copies of these pro-formas. One pro forma shall be used for each separate item of equipment.



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Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS DEGRITTING PUMP SYSTEM DEGRITTING PUMP - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE		PAGE	
			ENGINEER: MIMSHAK PARTNERS		REV. 0	
TI: TYPE OF A - PRELIMINARY C - FOR KNOWLEDGE E - FOR CONSTRUCTION G - AS BUILT ISSUE B - FOR APPROVAL D - FOR QUOTATION F - AS PURCHASED H - CANCELLED						
Rev.	Revision Description	By	REV.	APP.	Aut.	Date
B	FOR APPROVAL	EN				08/03/2023
Instructions on Filling Out This Form I - Potential Suppliers should fill out the left column of the "Proposed" field with one of the following options: "MR" (Meets Requirements) or "D" (Deviation). II - Suppliers must list any items marked "D" and any other clarifications in the "Deviations List", of the Technical Requisition. To include information in addition to the contents of this DATA SCHEDULE, suppliers should proceed in the same manner. III - The explanatory notes at the end of the Data Sheet are to be filled out by the Issuer and not by Suppliers.						
Supplier:			Proposal:			
Item	Description	Unit	Specified	Proposed		
1	PUMP DETAILS					
1.1	Manufacturer					
1.2	Model					
1.3	Type (axial, centrifugal, etc.)		Submersible-centrifugal pump			
1.4	Number of stages	No	1			
1.5	Rotational speed	rpm	1435			
1.6	DE bearing					
1.7	NDE bearing					
1.7	Method of lubrication		Grease			
1.9	Solids size handling capability (minimum)	mm	75			
1.10	Outlet diameter	mm				
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123			
1.12	Inlet diameter	mm				
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		N/A			
1.14	Seal type (mechanical, gland, etc.)		Mechanical			
1.15	Type of coupling		Direct-integral			
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)					
1.17	DE bearings temperature probe fitted	Yes/No	No			
1.18	NDE bearings temperature probe fitted	Yes/No	No			
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No			

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Section T2.3.2.: Technical Schedules – Mechanical Works

Item	Description	Unit	Specified	Proposed	Item
1.20	Shaft balance disc temperature probe fitted (if applicable)	Yes/No	N/A		
1.21	Suction & Discharge pressure gauges	Yes/No	No		
1.22	Pump Painting	Yes/No	No		
2	MOTOR DETAILS				
2.1	Manufacturer				
2.2	Motor shaft output at site conditions	kW			
2.3	Rotational speed	rpm	1435		
2.4	Full load current	A			
2.5	Voltage	V	400		
2.6	Enclosure rating (IP rating)		IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No	N/A		
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting		Yes		
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	No		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	Unit	1.4		
3.2	Delivery at duty point	L/s	15.7		
3.3	Head at duty point	m	10		
3.4	Guaranteed efficiency at duty point	%	57		
3.5	Power absorbed at duty point	KW			
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m³/hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion/abrasion resistant		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-			
6	HEALTH & SAFETY				
6.1	Noise	dB			

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Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

6.2	Vibration	Hz			

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filling the proposed column.

03 -Supplier to provide detailed pump orientation drawings with quotation, together with efficiency, power absorbed and NPSH curves.

Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS



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Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS BALANCING POND PUMP STATION RAW SEWAGE PUMP - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE
			ENGINEER: MIMSHAK PARTNERS			REV. 0
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED						
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Supplier:			Proposal:			
Item	Description	Unit	Specified	Proposed		
1	PUMP DETAILS					
1.1	Manufacturer					
1.2	Model					
1.3	Type (axial, centrifugal, etc.)		Immersible-centrifugal pump			
1.4	Number of stages	No	1			
1.5	Rotational speed	rpm	1490			
1.6	DE bearing					
1.7	NDE bearing					
1.7	Method of lubrication		Grease			
1.9	Solids size handling capability (minimum)	mm	127 x 110 mm Dia			
1.10	Outlet diameter	mm				
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123			
1.12	Inlet diameter	mm				
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		N/A			
1.14	Seal type (mechanical, gland, etc.)		Mechanical			
1.15	Type of coupling		Direct-integral			
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)					
1.17	DE bearings temperature probe fitted	Yes/No	No			
1.18	NDE bearings temperature probe fitted	Yes/No	No			
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Item	Description	Unit	Specified	Proposal	
1.20	Shaft balance disc temperature probe fitted (if applicable)	Yes/No	N/A		
1.21	Suction & Discharge pressure gauges	Yes/No	No		
1.22	Pump Painting	Yes/No	No		
2	MOTOR DETAILS				
2.1	Manufacturer				
2.2	Motor shaft output at site conditions	kW			
2.3	Rotational speed	rpm			
2.4	Full load current	A			
2.5	Voltage	V	400		
2.6	Enclosure rating (IP rating)		IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No	N/A		
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting		Yes		
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	Yes		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	l/s	1.1		
3.2	Delivery at duty point	L/s	360		
3.3	Head at duty point	m	25		
3.4	Guaranteed efficiency at duty point	%	76		
3.5	Power absorbed at duty point	KW			
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m ³ /hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion/abrasion resistant		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-	ISO 9906 Grade 2 (if needed)		
6	HEALTH & SAFETY				
6.1	Noise	dB			
6.2	Vibration	Hz			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filling the proposed column.

03 - Supplier to provide detailed pump orientation drawings with quotation, together with efficiency, power absorbed and NPSH curves.

Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS BALANCING POND PUMP STATION INLET ISOLATION VALVE - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE		PAGE	
			ENGINEER: MIMSHAK PARTNERS		REV. 0	
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED						
TI	Revision Description	By	REV.	APP.	Aut.	Date
B	FOR APPROVAL	EN				08/03/2023
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Supplier:			Proposal:			
Identification (TAG):			Quantity:			
Item	Description	Unit	Specified	Proposed		
1	VALVE DETAILS					
1.1	Manufacturer.....	-				
1.2	Model	-				
1.3	Size	mm	500			
1.4	Gate Type (wedge, resilient seal, knife, etc).....	-	RSV			
1.5	Operating Pressure.....	bar	1			
1.6	Rated Pressure.....	bar	10			
1.7	Body Test pressure.....	bar				
1.8	Seat Test pressure.....	bar				
1.9	Flanges (BS, SABS, ANSI, etc.)	-	SANS 1123 T1000/3			
1.10	Raised Faced Flanges.....	(Yes/No)	Yes			
1.11	Face to Face distance.....	mm				
1.12	Hand wheel operated.....	(Yes/No)	Yes			
1.13	Gearbox.....	(Yes/No)	No			
1.14	Rising-, non-rising spindle.....	-	Rising spindle			
1.15	Welded-, bolted bonnet.....	-	Bolted			
1.16	Actual inner bore.....	mm				
1.17	Loss coefficient $K = (h_m)/(V^2/(2g))$	K				

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

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Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

2.1	Manufacturer.....	-	N/A		
2.2	Motor shaft output at site conditions.....	kW	N/A		
2.3	Motor torque.....	N.m	N/A		
2.4	Rotational speed.....	rpm	N/A		
2.5	Full load current.....	A	N/A		
2.6	Voltage.....	V	N/A		
2.7	Enclosure rating (IP rating).....	IP	N/A		
2.8	Communication Module (Digital).....	-	N/A		
3	CONSTRUCTION MATERIALS				
3.1	Body material (CI, DI, CS, etc).....	-	Cast Iron		
3.2	Body Seat Trim (Stainless Steel, Copper Alloy, etc)	-			
3.3	Door material (CS, etc).....	-			
3.4	Door Seat Trim (Stainless Steel, Copper Alloy, etc)	-			
3.5	Type of interior lining (EPDM, FBE, etc).....	-			
4	GENERAL DETAILS				
4.1	Total weight of valve (valve and actuator).....	kg			
4.2	Main dimensions of valve.....	mm			

Explanatory Notes

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REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW						
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS BALANCING POND PUMP STATION DISCHARGE ISOLATION VALVE - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE 		
			ENGINEER: MIMSHAK PARTNERS			REV. 0		
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED								
TI	Revision Description			By	REV.	APP.	Aut.	Date
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Supplier:				Proposal:				
Identification (TAG):				Quantity:				
Item	Description			Unit	Specified		Proposed	
1	VALVE DETAILS							
1.1	Manufacturer.....			-				
1.2	Model			-				
1.3	Size			mm	400			
1.4	Gate Type (wedge, resilient seal, knife, etc).....			-	RSV			
1.5	Operating Pressure.....			bar	1			
1.6	Rated Pressure.....			bar	10			
1.7	Body Test pressure.....			bar				
1.8	Seat Test pressure.....			bar				
1.9	Flanges (BS, SABS, ANSI, etc.)			-	SANS 1123 T1000/3			
1.10	Raised Faced Flanges.....			(Yes/No)	Yes			
1.11	Face to Face distance.....			mm				
1.12	Hand wheel operated.....			(Yes/No)	Yes			
1.13	Gearbox.....			(Yes/No)	No			
1.14	Rising-, non-rising spindle.....			-	Rising spindle			
1.15	Welded-, bolted bonnet.....			-	Bolted			
1.16	Actual inner bore.....			mm				
1.17	Loss coefficient K = (hm)/(V ² /(2g))			K				
2	ACTUATOR DETAILS							
2.1	Manufacturer.....			-	N/A			
2.2	Motor shaft output at site conditions.....			kW	N/A			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

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Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

2.3	Motor torque.....	N.m	N/A		
2.4	Rotational speed.....	rpm	N/A		
2.5	Full load current.....	A	N/A		
2.6	Voltage.....	V	N/A		
2.7	Enclosure rating (IP rating).....	IP	N/A		
2.8	Communication Module (Digital).....	-	N/A		
3	CONSTRUCTION MATERIALS				
3.1	Body material (CI, DI, CS, etc).....	-	Cast Iron		
3.2	Body Seat Trim (Stainless Steel, Copper Alloy, etc)	-			
3.3	Door material (CS, etc).....	-			
3.4	Door Seat Trim (Stainless Steel, Copper Alloy, etc)	-			
3.5	Type of interior lining (EPDM, FBE, etc).....	-			
4	GENERAL DETAILS				
4.1	Total weight of valve (valve and actuator).....	kg			
4.2	Main dimensions of valve.....	mm			

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filing the proposed column.

REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS BALANCING POND PUMP STATION NON-RETURN VALVE - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE		PAGE 	
			ENGINEER: MIMSHAK PARTNERS		REV. 0	
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED						
TI	Revision Description		By	REV.	APP.	Aut.
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Supplier:			Proposal:			
Identification (TAG):			Quantity:			
Item	Description	Unit	Specified	Proposed		
1	VALVE DETAILS					
1.1	Manufacturer	-				
1.2	Model #	-				
1.3	Size	mm	400			
1.4	Door Type (single, double, nozzle, etc)	-	Double door			
1.5	Method of closing (nozzle, counter weight, spring, etc)	-	Counterweight			
1.6	Operating Pressure	bar				
1.7	Rated Pressure	bar	10			
1.8	Body Test pressure	bar				
1.9	Seat Test pressure	bar				
1.10	End Connections (Flanged, Wafer, Screwed)	-	Flanged			
1.11	Face to Face distance	mm				
1.12	Actual inner bore	mm				
1.13	Loss coefficient $K = (h_m)/(V^2/(2g))$	K				
2	CONSTRUCTION MATERIALS					
2.1	Body material (CI, DI, CS, etc)	m				
2.2	Body Seat Trim (Stainless Steel, Copper Alloy, etc)	-				
2.3	Door material (CS, etc)	-				
2.4	Door Seat Trim (Stainless Steel, Copper Alloy, etc)	-				
2.5	Type of interior lining (EPDM, FBE, etc)	-				
3	GENERAL DETAILS					
3.1	Total weight of valve (valve and actuator)	kg				

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

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Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

3.2	Main dimensions of valve	mm			
3.3	Life expectancy (# open/close cycles)	No			

Explanatory Notes

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02 - Supplier shall confirm and/or provide all equipment data while filing the proposed column.

REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS BALANCING POND PUMP STATION STEEL PIPE - TECHNICAL SCHEDULE			CLIENT			PAGE
			CITY OF TSHWANE			
			ENGINEER:			REV.
			MIMSHAK PARTNERS			0
TI: TYPE OF A - PRELIMINARY C - FOR KNOWLEDGE E - FOR CONSTRUCTION G - AS BUILT ISSUE B - FOR APPROVAL D - FOR QUOTATION F - AS PURCHASED H - CANCELLED						
TI	Revision Description	By	REV.	APP.	Aut.	Date
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Supplier:			Proposal:			
Identification (TAG):			Quantity:			
Item	Description	Unit	Specified	Proposed		
1	PIPE DETAILS					
1.1	Type of pipe (SANS 719, SANS 62-1, etc.)	-	SANS 719			
1.2	Pipe nominal bore	mm	400-500			
1.3	Pipe wall thickness	mm	6			
1.4	Actual outer diameter	mm				
1.5	Actual inner diameter	mm				
1.6	Material grade (X42, X52, etc.)	-	Grade C			
1.7	Operating pressure rating	bar	10			
2	COATING & LINER DETAILS					
2.1	Type of exterior coating (bitumen, PU, etc.)	-	FBE or Paint			
2.2	Type of interior coating (sintakote, FBE, etc)	-				
3	PIPE TESTING					
3.1	Hydraulic pipe testing	Yes/No				
3.2	Test pressure	bar				
3.3	X-ray testing	Yes/No				
4	GENERAL DETAILS					
4.1	Total length of pipe required	m				
4.2	Pipe ends (flanged, bevelled, etc.)	-	Flanged			
4.3	Connection Type (SANS 1123, BS4504, BSP, NPT)	-	SANS 1123 T1000/3			
5	COATING & LINER DETAILS					
5.1	Exterior coating thickness	mm				

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

5.2	Interior coating thickness	mm			
6	GENERAL DETAILS				
6.1	Pipe lengths	m			
6.2	Allowable tolerance on pipe length	mm			
7	GENERAL DETAILS				
7.1	Total weight of pipe per length (pipe and coating)...	kg			

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

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REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW BABELEGI WWTW PUMP SUMP OLD REACTOR SUPPLY PUMP SYSTEM RAW SEWAGE PUMP - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE
			ENGINEER: MIMSHAK PARTNERS			REV. 0
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED						
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Supplier:			Proposal:			
Item	Description	Unit	Specified	Proposed		
1	PUMP DETAILS					
1.1	Manufacturer					
1.2	Model					
1.3	Type (axial, centrifugal, etc.)		Submersible centrifugal pump			
1.4	Number of stages	No	1			
1.5	Rotational speed	rpm	1490			
1.6	DE bearing					
1.7	NDE bearing					
1.7	Method of lubrication		Grease			
1.9	Solids size handling capability (minimum)	mm	63-70			
1.10	Outlet diameter	mm				
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123			
1.12	Inlet diameter	mm				
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		N/A			
1.14	Seal type (mechanical, gland, etc.)		Mechanical			
1.15	Type of coupling		Direct-integral			
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)					
1.17	DE bearings temperature probe fitted	Yes/No	No			
1.18	NDE bearings temperature probe fitted	Yes/No	No			
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No			
1.20	Shaft balance disc temperature probe fitted (if applicable).....	...Yes/No	N/A			
1.21	Suction & Discharge pressure gauges	Yes/No	No			
1.22	Pump Painting	Yes/No	No			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Item	Description	Unit	Specified	Proposed	Item
2	MOTOR DETAILS				
2.1	Manufacturer				
2.2	Motor shaft output at site conditions	kW			
2.3	Rotational speed	rpm			
2.4	Full load current	A			
2.5	Voltage	V	400		
2.6	Enclosure rating (IP rating)		IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No	N/A		
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting		Yes		
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	No		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	l/s	1.1		
3.2	Delivery at duty point	L/s	30-40		
3.3	Head at duty point	m	6-10		
3.4	Guaranteed efficiency at duty point	%	65		
3.5	Power absorbed at duty point	KW			
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m³/hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion/abrasion resistant		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-	ISO 9906 Grade 2 (if needed)		
6	HEALTH & SAFETY				
6.1	Noise	dB			
6.2	Vibration	Hz			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filling the proposed column.

03 -Supplier to provide detailed pump orientation drawings with quotation, together with efficiency, power absorbed and NPSH curves.

Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW			
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS BALANCING POND SUBSOIL DRAIN SUMP SUBSOIL DRAINAGE PUMP - TECHNICAL SCHEDULE		CLIENT CITY OF TSHWANE			PAGE
		ENGINEER: MIMSHAK PARTNERS			REV. 0
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED					
Rev.	Revision Description	By	REV.	APP.	Aut. Date
B	FOR APPROVAL	EN			08/03/2023
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Supplier:			Proposal:		
Item	Description	Unit	Specified	Proposed	
1	PUMP DETAILS				
1.1	Manufacturer				
1.2	Model				
1.3	Type (axial, centrifugal, etc.)		Submersible centrifugal pump		
1.4	Number of stages	No	1		
1.5	Rotational speed	rpm	1350-1450		
1.6	DE bearing				
1.7	NDE bearing				
1.7	Method of lubrication		Grease		
1.9	Solids size handling capability (minimum)	mm	10		
1.10	Outlet diameter	mm			
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123		
1.12	Inlet diameter	mm			
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		N/A		
1.14	Seal type (mechanical, gland, etc.)		Mechanical		
1.15	Type of coupling		Direct		
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)				
1.17	DE bearings temperature probe fitted	Yes/No	No		
1.18	NDE bearings temperature probe fitted	Yes/No	No		
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No		
1.20	Shaft balance disc temperature probe fitted (if applicable)	Yes/No	N/A		
1.21	Suction & Discharge pressure gauges	Yes/No			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

1.22	Pump Painting	Yes/No	No		
Item	Description	Unit	Specified	Proposed	Item
2	MOTOR DETAILS				
2.1	Manufacturer				
2.2	Motor shaft output at site conditions	kW			
2.3	Rotational speed	rpm	1350-1450		
2.4	Full load current	A			
2.5	Voltage	V	380		
2.6	Enclosure rating (IP rating)		IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No			
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting		Yes		
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	No		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	Unit	1.0		
3.2	Delivery at duty point	L/s	5		
3.3	Head at duty point	m	10		
3.4	Guaranteed efficiency at duty point (minimum)	%	50		
3.5	Power absorbed at duty point	KW			
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m ³ /hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion resistant (St. steel)		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-			
6	HEALTH & SAFETY				
6.1	Noise	dB			
6.2	Vibration	Hz			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filling the proposed column.

03 - Supplier to provide detailed pump orientation drawings with quotation, together with efficiency, power absorbed and NPSH curves.

Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS BALANCING POND PUMP STATION SUMP DRAINAGE PUMP - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE
			ENGINEER: MIMSHAK PARTNERS			REV. 0
TI: TYPE OF A – PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED						
Rev.	Revision Description	By	REV.	APP.	Aut.	Date
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Supplier:			Proposal:			
Item	Description	Unit	Specified	Proposed		
1	PUMP DETAILS					
1.1	Manufacturer					
1.2	Model					
1.3	Type (axial, centrifugal, etc.)		Submersible centrifugal pump			
1.4	Number of stages	No	1			
1.5	Rotational speed	rpm	2780			
1.6	DE bearing					
1.7	NDE bearing					
1.7	Method of lubrication		Grease			
1.9	Solids size handling capability (minimum)	mm	40			
1.10	Outlet diameter	mm				
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123			
1.12	Inlet diameter	mm				
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		N/A			
1.14	Seal type (mechanical, gland, etc.)		Mechanical			
1.15	Type of coupling		Direct-integral			
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)					
1.17	DE bearings temperature probe fitted	Yes/No	No			
1.18	NDE bearings temperature probe fitted	Yes/No	No			
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No			
1.20	Shaft balance disc temperature probe fitted (if applicable)	Yes/No	N/A			
1.21	Suction & Discharge pressure gauges	Yes/No	No			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

1.22	Pump Painting	Yes/No	No		
Item	Description	Unit	Specified	Proposed	
2	MOTOR DETAILS				
2.1	Manufacturer				
2.2	Motor shaft output at site conditions	kW			
2.3	Rotational speed	rpm	2780		
2.4	Full load current	A			
2.5	Voltage	V	400		
2.6	Enclosure rating (IP rating)		IP 55/IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No	N/A		
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting		Yes		
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	No		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	Unit	1.0		
3.2	Delivery at duty point	L/s	5.66		
3.3	Head at duty point	m	10.6		
3.4	Guaranteed efficiency at duty point	%	55		
3.5	Power absorbed at duty point	KW			
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m ³ /hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion resistant (St. steel)		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-			
6	HEALTH & SAFETY				
6.1	Noise	dB			
6.2	Vibration	Hz			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filling the proposed column.

03 -Supplier to provide detailed pump orientation drawings with quotation, together with efficiency, power absorbed and NPSH curves.

Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS


Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		<h2 style="margin: 0;">Temba-Babelegi WWTW</h2>				
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS DEGRITTING SYSTEM SCREENINGS WASH WATER PUMP - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE
			ENGINEERS: MIMSHAK PARTNERS			REV. 0
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT						
ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED						
Rev.	Revision Description	By	REV.	APP.	Aut.	Date
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Supplier:		Proposal:				
Item	Description	Unit	Specified	Proposed		
1	PUMP DETAILS					
1.1	Manufacturer					
1.2	Model					
1.3	Type (axial, centrifugal, etc.)		Submersible-Vortex Impeller			
1.4	Number of stages	No				
1.5	Rotational speed	rpm	1450			
1.6	DE bearing					
1.7	NDE bearing					
1.7	Method of lubrication		Grease			
1.9	Solids size handling capability (minimum)	mm	40			
1.10	Outlet diameter	mm				
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123			
1.12	Inlet diameter	mm	To be confirmed			
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		N/A			
1.14	Seal type (mechanical, gland, etc.)		Mechanical			
1.15	Type of coupling		Direct-integral			
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)					
1.17	DE bearings temperature probe fitted	Yes/No	No			
1.18	NDE bearings temperature probe fitted	Yes/No	No			
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No			
1.20	Shaft balance disc temperature probe fitted (if applicable)	Yes/No	No			
1.21	Suction & Discharge pressure gauges	Yes/No	No			
1.22	Pump Painting	Yes/No	Yes			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Item	Description	Unit	Specified	Proposed	
2	MOTOR DETAILS				
2.1	Manufacturer				
2.2	Motor shaft output at site conditions	kW			
2.3	Rotational speed	rpm	1450		
2.4	Full load current	A			
2.5	Voltage	V	400		
2.6	Enclosure rating (IP rating)		IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No	N/A		
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting				
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	No		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	Unit	1.1		
3.2	Delivery at duty point	L/s	5 -7		
3.3	Head at duty point	m	11		
3.4	Guaranteed efficiency at duty point	%	50		
3.5	Power absorbed at duty point	KW			
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m ³ /hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion & abrasion resistant		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-			
6	HEALTH & SAFETY				
6.1	Noise	dB			
6.2	Vibration	Hz			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filling the proposed column.

03 -Supplier to provide detailed pump orientation drawings with quotation, together with efficiency, power absorbed and NPSH curves.

Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW			
TITLE TEMBA-BABELEGI WWTW TEMBA SLUDGE DEWATERING SLUDGE FEED PUMP SYSTEM SLUDGE FEED PUMP - TECHNICAL SCHEDULE		CLIENT CITY OF TSHWANE		PAGE	
		ENGINEERS: MIMSHAK PARTNERS		REV. 0	
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED					
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Supplier:			Proposal:		
Item	Description	Unit	Specified	Proposed	
1	PUMP DETAILS				
1.1	Manufacturer				
1.2	Model				
1.3	Type (axial, centrifugal, etc.)		Positive Displacement Screw		
1.4	Number of stages	No	1		
1.5	Rotational speed	rpm	1350-1450		
1.6	DE bearing				
1.7	NDE bearing				
1.7	Method of lubrication		Oil/Grease		
1.9	Solids size handling capability (minimum)	mm	25		
1.10	Outlet diameter	mm			
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123		
1.12	Inlet diameter	mm	To be confirmed		
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		To be confirmed		
1.14	Seal type (mechanical, gland, etc.)		Mechanical		
1.15	Type of coupling		Direct		
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)				
1.17	DE bearings temperature probe fitted	Yes/No	No		
1.18	NDE bearings temperature probe fitted	Yes/No	No		
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No		
1.20	Shaft balance disc temperature probe fitted (if applicable)	Yes/No	No		
1.21	Suction & Discharge pressure gauges	Yes/No	Yes		

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

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Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

1.22	Pump Painting	Yes/No	Yes		
Item	Description	Unit	Specified	Proposed	
2	MOTOR DETAILS				
2.1	Manufacturer				
2.2	Motor shaft output at site conditions	kW			
2.3	Rotational speed	rpm			
2.4	Full load current	A			
2.5	Voltage	V	380		
2.6	Enclosure rating (IP rating)		IP 55/IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No	N/A		
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting		Yes		
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	No		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	Unit	1.0		
3.2	Delivery at duty point	m ³ /hr	To match Dewatering Press		
3.3	Head at duty point	m	TBA		
3.4	Guaranteed efficiency at duty point	%	50		
3.5	Power absorbed at duty point	KW	To be confirmed		
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m ³ /hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion resistant		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-	ISO 9906 Grade 2 (if needed)		
6	HEALTH & SAFETY				
6.1	Noise	dB			
6.2	Vibration	Hz			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

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Section T2.3.2.: Technical Schedules – Mechanical Works

Explanatory Notes

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Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS



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Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA INLET WORKS FLOODED FLOW METER CHAMBERS PORTABLE DRAINAGE PUMP - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE
			ENGINEER: MIMSHAK PARTNERS			REV. 0
TI: TYPE OF A - PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H - CANCELLED						
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Supplier:			Proposal:			
Item	Description	Unit	Specified	Proposed		
1	PUMP DETAILS					
1.1	Manufacturer					
1.2	Model					
1.3	Type (axial, centrifugal, etc.)		Immersible Water pump			
1.4	Number of stages	No	1			
1.5	Rotational speed	rpm	1350-1450			
1.6	DE bearing					
1.7	NDE bearing					
1.7	Method of lubrication		Grease			
1.9	Solids size handling capability (minimum)	mm	5			
1.10	Outlet diameter	mm				
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123			
1.12	Inlet diameter	mm				
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		N/A			
1.14	Seal type (mechanical, gland, etc.)		Mechanical			
1.15	Type of coupling		Direct-integral			
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)					
1.17	DE bearings temperature probe fitted	Yes/No	No			
1.18	NDE bearings temperature probe fitted	Yes/No	No			
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No			
1.20	Shaft balance disc temperature probe fitted (if applicable).....	...Yes/No	N/A			
1.21	Suction & Discharge pressure gauges	Yes/No	No			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

1.22	Pump Painting	Yes/No	No		
Item	Description	Unit	Specified	Proposed	
2	MOTOR DETAILS				
2.1	Manufacturer				
2.2	Motor shaft output at site conditions	kW			
2.3	Rotational speed	rpm			
2.4	Full load current	A			
2.5	Voltage	V	380		
2.6	Enclosure rating (IP rating)		IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No	N/A		
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting		Yes		
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	No		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	Unit	1.0		
3.2	Delivery at duty point	m ³ /hr	10-20		
3.3	Head at duty point	m	10 (to be confirmed)		
3.4	Guaranteed efficiency at duty point	%	50		
3.5	Power absorbed at duty point	KW	To be confirmed		
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m ³ /hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion resistant (St. steel)		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-	ISO 9906 Grade 2 (if needed)		
6	HEALTH & SAFETY				
6.1	Noise	dB			
6.2	Vibration	Hz			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filling the proposed column.

03 -Supplier to provide detailed pump orientation drawings with quotation, together with efficiency, power absorbed and NPSH curves.

Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

 		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA SLUDGE DEWATERING SLUDGE DEWATERING BUILDING BELT PRESS - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE
			ENGINEER: MIMSHACK PARTNERS			
						REV. 0
TI: TYPE OF A – PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H – CANCELLED						
Rev.	Revision Description	By	REV.	APP.	Aut.	Date
B	FOR APPROVAL	EN	SN			23/08/2024
Instructions on Filling Out This Form I – Potential Suppliers should fill out the left column of the "Proposed" field with one of the following options: "MR" (Meets Requirements) or "D" (Deviation). II – Suppliers must list any items marked "D" and any other clarifications in the "Deviations List", of the Technical Requirement. To include information in addition to the contents of this DATA SCHEDULE, suppliers should proceed in the same manner. III – The explanatory notes at the end of the Data Sheet are to be filled out by the Issuer and not by Suppliers.						
Supplier:		Proposal:				
Item	Description	un.	Specified	Proposed		
1	BELT PRESS DETAILS					
1.1	Manufacturer					
1.2	Model					
1.3	Application		Municipal waste water			
1.4	Type of sludge		sludge from ponds and sludge age of 30+ days			
1.5	Number of units		1			
1.6	Design solids loads	kg Ds/h	250			
1.7	Inlet concentration	%	5 – 10%			
1.7	Design hydraulic flow rate		5 m3/h (at 5% DS), 2.5m3/h (at 10% DS)			
1.9	Expected polymer consumption	kg/ton DS	up to 3-5kg/ton DS of active product			
1.10	Expected minimum cake solids	%	16% after belt press			
1.11	Expected solids capture	%	≥ 90%			
1.12	Expected solids in the wash water & filtrate	mg DS/l	1000 (max)			
1.13	Other		Fully enclosed cascade system type			
2	GENERAL DETAILS					
2.1	Length (approx.)	mm				
2.2	Width (approx.)	mm	T2.3.2-36			
2.3	Height (approx.)	mm				
2.4	Weight (approx.)	tons				
2.5	Motor (for drive)	kW				



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

 Mimshak Business CONSULTING & PARTNERS	 CITY OF TSHWANE TOWN & COUNTRY DEVELOPMENT	<h2 style="margin: 0;">Temba-Babelegi WWTW</h2>
Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba-Babelegi WWTW		
TITLE Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from 01/01/2023 to 31/12/2024		CLIENT CITY OF TSHWANE
TEMBA-BABELEGI WWTW Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works		
TEMBA-BABELEGI WWTW Section T2.3.2: Technical Schedules – Mechanical Works		ENGINEERS:
BELT WASH WATER BOOSTER PUMP SYSTEM BELT WASH WATER PUMP - TECHNICAL SCHEDULE		REV. 0

TI: TYPE OF A – PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT						
ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H – CANCELLED						
Rev.	Revision Description	By	REV.	APP.	Aut.	Date
B	FOR APPROVAL	EN				08/03/2023

Instructions on Filling Out This Form

IV - Potential Suppliers should fill out the left column of the "Proposed" field with one of the following options: "MR" (Meets Requirements) or "D" (Deviation).

V - Suppliers must list any items marked "D" and any other clarifications in the "Deviations List", of the Technical Requisition. To include information in addition to the contents of this DATA SCHEDULE, suppliers should proceed in the same manner.

VI - The explanatory notes at the end of the Data Sheet are to be filled out by the Issuer and not by Suppliers.

Supplier:	Proposal:
------------------	------------------

Item	Description	Unit	Specified	Proposed
1	PUMP DETAILS			
1.1	Manufacturer			
1.2	Model			
1.3	Type (axial, centrifugal, etc.)		Centrifugal	
1.4	Number of stages	No	1	
1.5	Rotational speed	rpm	1350-1450	
1.6	DE bearing			
1.7	NDE bearing			
1.7	Method of lubrication		Oil/Grease	
1.9	Solids size handling capability (minimum)	mm	10	
1.10	Outlet diameter	mm		
1.11	Outlet flange drilling (SANS1123, BS4504, BS10, etc)		SANS 1123	
1.12	Inlet diameter	mm	To be confirmed	
1.13	Inlet flange drilling (SANS1123, BS4504, BS10, etc)		To be confirmed	
1.14	Seal type (mechanical, gland, etc.)		Mechanical	
1.15	Type of coupling		Direct	
1.16	Load speed-torque characteristics (i.e. square torque law, constant torque, etc.)			
1.17	DE bearings temperature probe fitted	Yes/No	No	
1.18	NDE bearings temperature probe fitted	Yes/No	No	
1.19	Shaft float electrical measuring fitted (if applicable)	Yes/No	No	
1.20	Shaft balance disc temperature probe fitted (if applicable)	Yes/No	No	
1.21	Suction & Discharge pressure gauges	Yes/No	Yes	
1.22	Pump Painting	Yes/No	Yes	
Item	Description	Unit	Specified	Proposed
2	MOTOR DETAILS			
2.1	Manufacturer			
2.2	Motor shaft output at site conditions	kW		
2.3	Rotational speed	rpm		
2.4	Full load current	A		
2.5	Voltage	V	380	

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

2.6	Enclosure rating (IP rating)		IP 55/IP 68		
2.7	Recommended type of starter (DOL/ STAR-DELTA)		DOL		
2.8	Power factor at duty point				
2.9	Thermal protection fitted (thermistor/ PT100)	Yes/No	No		
2.10	Heater fitted	Yes/No	N/A		
2.11	DE bearings temperature probe fitted (PT100)	Yes/No	No		
2.12	NDE bearings temperature probe fitted (PT100)	Yes/No	No		
2.13	Zorc's Fitted	Yes/No	No		
2.14	Motor Painting (B26 to SANS 1091)	Yes/No	Yes		
2.15	Guard Painting		Yes		
2.16	Insulation class of cable				
2.17	VSD driven motor	Yes/No	No		
2.18	Instrumentation voltage	V	220		
3	PUMP CHARACTERISTICS				
3.1	SG of medium being pumped	Unit	1.0		
3.2	Delivery at duty point	m ³ /hr	To match Dewatering Press		
3.3	Head at duty point	m	TBA		
3.4	Guaranteed efficiency at duty point	%	50		
3.5	Power absorbed at duty point	KW			
3.6	Guaranteed Minimum Pump best efficiency	%			
3.7	Delivery at best efficiency point	m ³ /hr			
3.8	Head at best efficiency point	m			
3.9	NPSHreq (Max)	m			
3.10	Maximum Casing Pressure	m			
4	PUMP CONSTRUCTION MATERIALS				
4.1	Pump casing		Cast Iron		
4.2	Impeller		Corrosion resistant		
4.3	Shaft				
4.4	Mechanical seal faces				
5	GENERAL DETAILS				
5.1	Total weight of pump, motor and base-frame	kg			
5.2	Plinth size required	m x m			
5.3	Performance test to be conducted to	-	ISO 9906 Grade 2 (if needed)		
6	HEALTH & SAFETY				
6.1	Noise	dB			
6.2	Vibration	Hz			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

Explanatory Notes

01 - Supplier shall refer to reference documents listed on the requisition to complete equipment specification.

02 - Supplier shall confirm and/or provide all equipment data while filling the proposed column.

03 -Supplier to provide detailed pump orientation drawings with quotation, together with efficiency, power absorbed and NPSH curves.

Deviations from specification:

List all the deviations from the specification

REFERENCE DOCUMENTS



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

 		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA SLUDGE DEWATERING SLUDGE DEWATERING BUILDING POLY DOSING SYSTEM- TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE
			ENGINEER: MIMSHACK PARTNERS			
			REV. 0			
TI: TYPE OF A – PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H – CANCELLED						
Rev.	Revision Description	By	REV.	APP.	Aut.	Date
B	FOR APPROVAL	EN	SN			23/08/2024
Instructions on Filling Out This Form I – Potential Suppliers should fill out the left column of the "Proposed" field with one of the following options: "MR" (Meets Requirements) or "D" (Deviation). II – Suppliers must list any items marked "D" and any other clarifications in the "Deviations List", of the Technical Requisition. To include information in addition to the contents of this DATA SCHEDULE, suppliers should proceed in the same manner. III – The explanatory notes at the end of the Data Sheet are to be filled out by the Issuer and not by Suppliers.						
Supplier:		Proposal:				
Item	Description	un.	Specified	Proposed		
1	POLYMER MAKE-UP & STORAGE					
1.1	Polymer make-up tank size	L	2500 Ltr tank equipped with mixer			
1.2	No. of make up tanks required	2				
1.3	Manufacturer/model					
1.4	Tank mixer motor size	kW				
1.5	Polymer solution Transfer pump Model					
1.6	Polymer solution Transfer pump type		Mono pump (DOL)			
1.7	Transfer pump delivery flow	l/s	3			
1.7	Transfer pump delivery head	m	5 to 20			
1.9	Transfer pump motor size	kW	5.5			
2	POLY DOSING PUMP SYSTEM					
2.1	Polymer Feed Pump Model					
2.2	Polymer Feed Pump type		Mono pump (VSD controlled)			
2.3	Poly Feed Pump delivery flow	l/h	250 (max)			
2.4	Poly Feed Pump delivery head	m				
2.5	No. of Poly Feed pumps required	No.	2 (duty/standby)			
2.6	Feed pumps motor size	kW	1.1			
2.7	Poly feed flow measurement type		T2.3.2-41 Magflow meter			
2.8	Poly dosing pipework/valves		25mm Class 9 uPVC			
2.9	Other		Feed pipework includes inline mixer			

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works



Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

 		Temba-Babelegi WWTW				
TITLE TEMBA-BABELEGI WWTW TEMBA SLUDGE DEWATERING SLUDGE DEWATERING & SLUDGE DRYING BEDS SKID STEER - TECHNICAL SCHEDULE			CLIENT CITY OF TSHWANE			PAGE
			ENGINEER: MIMSHACK PARTNERS			REV. 0
TI: TYPE OF A – PRELIMINARY C – FOR KNOWLEDGE E – FOR CONSTRUCTION G – AS BUILT						
ISSUE B – FOR APPROVAL D – FOR QUOTATION F – AS PURCHASED H – CANCELLED						
Rev.	Revision Description	By	REV.	APP.	Aut.	Date
B	FOR APPROVAL	EN	SN			23/08/2024
Instructions on Filling Out This Form						
I – Potential Suppliers should fill out the left column of the "Proposed" field with one of the following options: "MR" (Meets Requirements) or "D" (Deviation).						
II – Suppliers must list any items marked "D" and any other clarifications in the "Deviations List", of the Technical Requisition. To include information in addition to the contents of this DATA SCHEDULE, suppliers should proceed in the same manner.						
III – The explanatory notes at the end of the Data Sheet are to be filled out by the Issuer and not by Suppliers.						
Supplier:		Proposal:				
Item	Description	un.	Specified	Proposed		
1	SKID STEER LOADER DETAILS					
1.1	Manufacturer					
1.2	Model		FW550-FOURWAY or Similar			
1.3	Application		Dried sludge cake handling/turning			
1.4	Rated Power for the engine	hp (kW)	50hp (37kW), minimum			
1.5	Number of units		1			
1.6	Overall width of machine & bucket	mm	1700 (max)			
1.7	Ground clearance	mm	200 (min)			
1.7	Bucket Capacity (minimum)	m ³	0.3			
1.9	Operating Capacity (minimum)	kg	500			
1.10	Other details		Equipment to be compatible with standard agricultura rotoator to turn over saturated sludge on concrete			
2	GENERAL DETAILS					
2.1	Length (approx.)	mm				
2.2	Width (approx.)	mm				
2.3	Height (approx.)	mm				
2.4	Weight (approx.)	tons				
2.5	Other details		T2.3.2-43			
Explanatory Notes						

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 1: Tender

Section T2.3.2.: Technical Schedules – Mechanical Works

TENDERER

Signature :

Name :

Duly authorised to sign on behalf of :

.....

Telephone :

Fax :

Date :

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 2: Contract

Part C1: Agreements and Contract Data

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

PORTION 2: CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

C1 AGREEMENTS AND CONTRACT DATA

INDEX

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C1.2	CONTRACT DATA	C1.2-1
C1.3	FORM OF GUARENTEE	C1.3-1
C1.4	GUARANTEE (CASH DEPOSIT)	C1.4-1
C1.5	HEALTH AND SAFETY AGREEMENT	C1.5-1

C1.1 FORM OF OFFER AND ACCEPTANCE

OFFER

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

STAMP

CONTRACT: WS 15 2024/25

TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT DATE

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

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

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

R (in figures)

..... (in words)

This Offer may be accepted by the Employer by signing the Acceptance part of this Form of Offer and Acceptance and returning one copy of this document to the Tenderer before the end of the period of validity stated in the Tender Data, whereupon the Tenderer becomes the party named as the Contractor in the Conditions of Contract identified in the Contract Data.

NAME(s): (in block letters)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

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

1.

2.

ACCEPTANCE

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

The terms of the contract, are contained in

Part T1 Tendering Procedures

Part T2 Returnable Documents

Part C1 Agreements and Contract Data, (which includes this Agreement)

Part 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.

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

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

1.

2.

SCHEDULE OF DEVIATIONS

Notes:

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

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

NAME(s): (in block letters)

.....

CAPACITY of authorized agents:

.....

SIGNATURE(s) of authorized agents:

.....

SIGNED at on this day of

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

1.

.....

2.

.....

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

NAME(s): (in block letters)

.....

CAPACITY of authorized agents:

.....

SIGNATURE(s) of authorized agents:

.....

SIGNED at on this day of

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

1.

.....

2.

.....

C1.2. CONTRACT DATA

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C1.2.1	GENERAL CONDITIONS OF CONTRACT.....	C1.2-1
C1.2.2	VARIATIONS AND ADDITIONS TO THE GENERAL CONDITIONS OF CONTRACT (PARTICULAR CONDITIONS OF CONTRACT).....	C1.2-2
C1.2.3	APPENDIX TO TENDER (CONTRACT DATA COMPLETED BY THE EMPLOYER).....	C1.2-10
C1.2.4	APPENDIX TO TENDER (CONTRACT DATA PROVIDED BY THE CONTRACTOR).....	C1.2-12
	ANNEXURE A: EMPLOYERS INSURANCE POLICY	

C1.2.1 GENERAL CONDITIONS OF CONTRACT

The General Conditions of Contract applicable to this Contract shall be the *Conditions of Contract for Plant and Design – Build, for Electrical and Mechanical Plant, and for Buildings and General Engineering Works, Designed by the Contractor (FIDIC (Yellow Book) Second Edition, 2017)*, which shall be read together with the Variations and Additions to the Conditions of Contract (referred to as Particular Conditions of Contract) as well as the Data provided by Employer and the Contractor.

Tenderers, Contractors and Subcontractors shall obtain their own copies of the abovementioned document for tendering purposes and for use for the duration of the Contract from the International Federation of Consulting Engineers (FIDIC) (refer to website www.fidic.org) and shall bear all expenses in this regard.

The Annexes and Forms bound in the Conditions of Contract (Yellow Book) shall not apply to this Contract and shall be replaced with the documentation bound into this tender document.

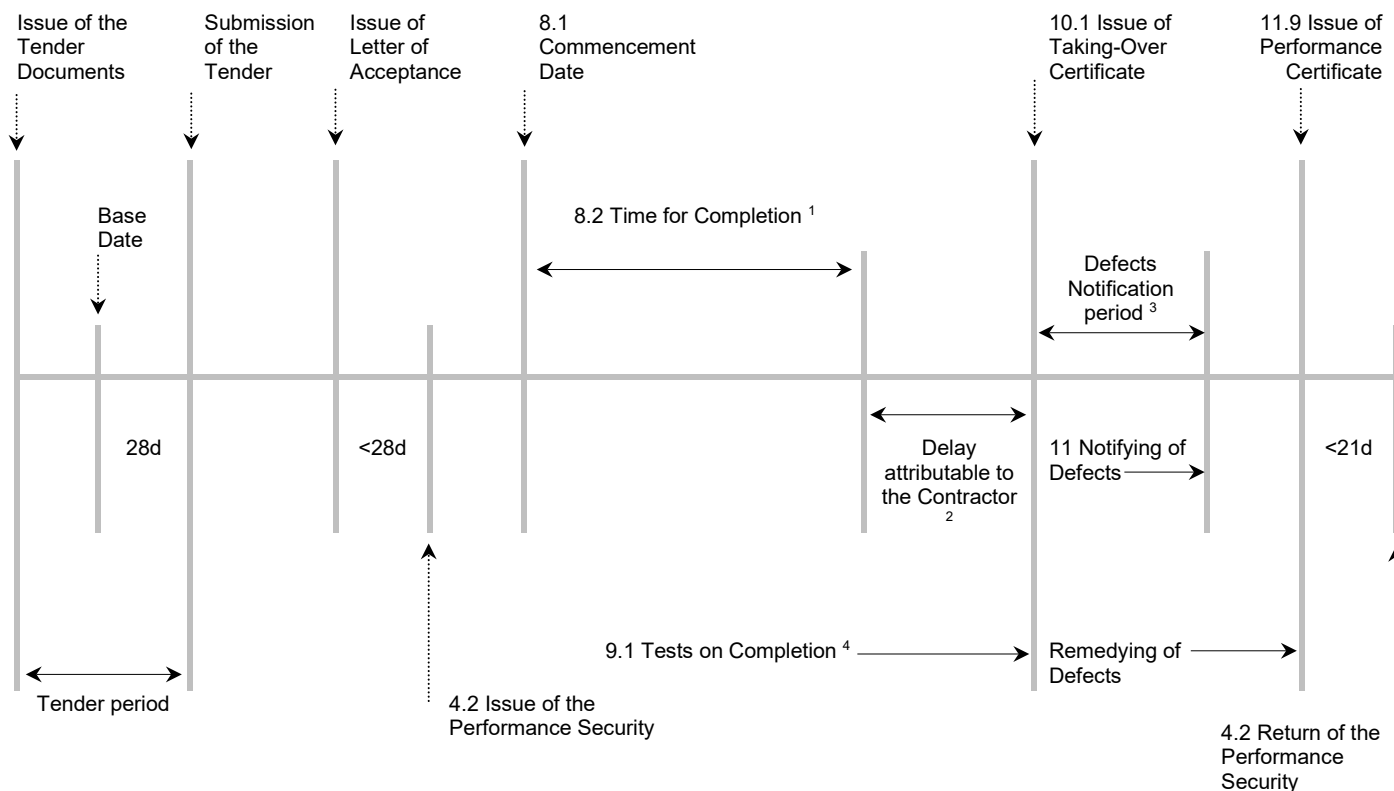
The General Conditions make reference to the Appendix to Tender and Particular Conditions (contained in the Contract Data) which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the General Conditions of Contract.

The General Conditions shall be read in conjunction with the variations, amendments and additions set out in the Appendix to Tender and Particular Conditions below. Each item of data given below is cross-referenced to the Clause or Sub-Clause in the General Conditions to which it mainly applies.

The Foreword to the Conditions of Contract (Yellow Book) concludes with the following:

“In order to clarify the sequence of Contract activities, reference may be made to the charts on the next two pages and to the Sub-Clauses listed below (some Sub-Clause numbers are also stated in the charts). The charts are illustrative and must not be taken into consideration in the interpretation of the Conditions of Contract.

1.1.3.1	&	13.7	Base Date
1.1.3.2	&	8.1	Commencement Date
1.1.6.6	&	4.2	Performance Security
1.1.4.7	&	14.3	Interim Payment Certificate
1.1.3.3	&	8.2	Time for Completion (as extended under 8.4)
1.1.3.4	&	9.1	Tests on Completion
1.1.3.5	&	10.1	Taking-Over Certificate
1.1.3.6	&	12.1	Tests after Completion (if any)
1.1.3.7	&	11.1	Defects Notification Period (as extended under 11.3)
1.1.3.8	&	11.9	Performance Certificate
1.1.4.4	&	14.13	Final Payment Certificate”



TYPICAL SEQUENCE OF PRINCIPAL EVENTS DURING CONTRACTS FOR PLANT AND DESIGN-BUILD

Notes:

1. The Time for Completion is stated (in the Appendix to Tender) as a number of days, to which is added any extensions of time under Sub-Clause 8.4.
2. In order to indicate the sequence of events, the above diagram is based upon the example of the Contractor failing to comply with Sub-Clause 8.2.
3. The Defects Notification Period is stated (in the Appendix to Tender) as a number of days, to which is added any extensions under Sub-Clause 11.3.
4. Depending on the type of Works, Tests after Completion may also be required, if provided for in the Contract

C1.2.2 VARIATIONS AND ADDITIONS TO THE GENERAL CONDITIONS OF CONTRACT (PARTICULAR CONDITIONS)

In terms of Clause 1(1) of the **General Conditions of Contract for Plant and Design - Build for Electrical and Mechanical Plant, and for Building and General Works, Designed by the Contractor – FIDIC (Yellow Book) Second Edition (2017)**, the following Particular Conditions shall apply to the Contract. Certain standard forms of agreement that are contained in the FIDIC Yellow Book are replaced by new forms of agreement bound into this document.

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
1.1.1.1	<p><i>Replace this Sub-Clause with:</i></p> <p>“Contract” means the Form of Offer and Acceptance, Contract Data, these Conditions, the Employer’s Requirements, the Drawings, the Schedules, and the further documents (if any), which are listed in the <i>Form of Offer and Acceptance</i>, and further includes drawings and documents or parts thereof, which any of the aforesaid documents incorporate by reference.</p>
1.1.1.2	<p><i>Replace this Sub-Clause with:</i></p> <p>“Contract Agreement” means the document called <i>C1.1 Form of Offer and Acceptance</i>.</p>
1.1.1.3	<p><i>Replace the Sub-Clause with:</i></p> <p>“Letter of Acceptance” means that section of <i>C1.1 Form of Offer and Acceptance</i> called ‘Acceptance’.</p>
1.1.1.4	<p><i>Replace the Sub-Clause with:</i></p> <p>“Letter of Tender” means that section of Form <i>C1.1 Offer and Acceptance</i> called ‘Offer’.</p>
1.1.1.5	<p><i>Replace the Sub-Clause with:</i></p> <p>“Employer’s Requirements” means the section of the documents entitled “Part C3: <i>Scope of Works</i>”, as included in the Contract, and any additions and modifications to such document in accordance with the Contract. Such document specifies the Works and any further documents that form part of the Contract and includes the Specifications.</p>
1.1.1.6	<p><i>Replace the Sub-Clause with:</i></p> <p>“Schedules” means the document(s) entitled Tender Schedules, completed by the Contractor and submitted with his Tender Offer, as included in the Contract. Such document(s) may include the Returnable Schedules and the Schedule of Quantities, data, lists and schedules of rates and/or prices.</p>
1.1.1.7	<p><i>Replace the Sub-Clause with:</i></p> <p>“Contractor’s Proposal” means the information which the Contractor submitted with the Form of Offer and Acceptance, as included in the Contract.</p>
1.1.1.8	<p><i>Replace the Sub-Clause with:</i></p> <p>“Tender” means that section of the Form of Offer and Acceptance called ‘Offer’ and all other documents which the Contractor submitted as Returnable Documents, as included in the Contract.</p>
1.1.1.9	<p><i>Replace the Sub-Clause with:</i></p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	<p>“Appendix to Tender” means the completed pages entitled C1.2.3 - Data provided by the Employer and C1.2.4 - Data provided by the Contractor which form part of the Contract Data.</p>
1.1.3.1	<p><i>Replace the Sub-Clause with:</i></p> <p>“Base Date” means the month prior to the closing of bids.</p>
1.1.4.13	<p><i>Add the following Sub-Clause after Sub-Clause 1.1.4.12:</i></p> <p>“Reasonable Profit” means an amount not exceeding 10% of the cost of any item or activity</p>
1.1.5.6	<p><i>Replace the Sub-Clause with:</i></p> <p>“Section” means a part of the Works specified in the Appendix to Tender as a Section (if any), or a part of the Works specified as a Section during the course of the Contract by the Employer (such Section may be an item of Plant).</p>
1.4	<p>Law and Language</p> <p><i>Add the following at the end of paragraph 1:</i></p> <p>The law of the Contract shall be the law of the Republic of South Africa. The Parties hereby consent to the jurisdiction of the High Court of South Africa (North Gauteng Local Division) in respect of any proceedings instituted under this Contract.</p>
1.5	<p>Priority of Documents</p> <p><i>Replace the Sub-Clause with:</i></p> <p>“The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence:</p> <ul style="list-style-type: none"> (a) the Form of Offer and Acceptance; (b) the Appendix to Tender within the Contract Data; (c) the Particular Conditions within the Contract Data; (d) the General Conditions of Contract; (e) the Employer’s Requirements including Specifications – in descending order: Project Specification, Particular Specification, Standard Specification; (f) the Drawings; (g) the Schedules; and (h) any other documents forming part of the Contract. <p>If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.”</p>
1.6	<p>Contract Agreement</p> <p><i>Replace the Clause with:</i></p> <p>“The Contract Agreement comes into effect on the date when the Tenderer receives one fully completed copy of the Form of Offer and Acceptance, including the Schedule of Deviations (if any).</p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	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."
1.14	<p>Joint and Several Liability</p> <p><i>Add the following at the end of this Sub-Clause:</i></p> <p>"(d) In the case of a joint venture, the particular joint venture agreement which was included in the Tender and accepted by the Employer shall be incorporated in the Contract."</p>
3.1	<p>Engineer's Duties and Authority</p> <p><i>At the end of Sub-Clause 3.1 add the following:</i></p> <p>"(d) The Engineer shall obtain the specific approval of the Employer before carrying out the following duties in accordance with the Contract:</p> <ul style="list-style-type: none"> (i) Giving notice of the Commencement Date in terms of Sub-Clause 8.1. (ii) Issuing an instruction in terms of Sub-Clause 8.8 to suspend the progress of part or all of the Works (iii) Instructing or approving a Variation in terms of Sub-Clause 13.1, the estimated effect of which will be to increase the Contract Price by an amount exceeding R50 000. <p>Provided that such approval by the Employer shall not be required for instructions or notices which, in the sole opinion of the Engineer, are required to meet an emergency or are otherwise required to ensure the safety or security of the Works or of any person or property."</p>
4.1	<p>Contractor's General Obligations</p> <p><i>Add the following at the end of this Sub-Clause:</i></p> <p>Although the Engineer has specified the equipment to be provided for tendering purposes, the Contractor shall be responsible for the detail design of all proprietary Plant and Materials in order to ensure that these are appropriately selected for their intended use and installed to meet the particular installation conditions on Site.</p> <p>The Contractor shall submit the requisite 'as-built' information and operation and maintenance manuals prior to the issuance of a Taking-Over Certificate in terms of Sub Clause 10.1.</p>
4.2	<p>Performance Security</p> <p><i>Replace " , and shall be in the form annexed to the Particular Conditions" in the second paragraph with " , and shall be in the form included on the tender document under section C1.3. or C1.4"</i></p>
4.4	<p>Sub-Contractors</p> <p><i>Add the following to this Sub-Clause:</i></p> <p>Unless the Engineer approves in writing, the Contractor shall employ the specific Sub-Contractors proposed in the Schedules at tender stage and included in the Contract and he shall include these Sub-Contractor in his arrangements for the execution of the Works.</p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
4.8	<p>Safety Procedures</p> <p><i>Add the following sub-clauses:</i></p> <p>(f) The Contractor shall comply with the Occupational Health and Safety Specification prepared by the Employer in terms of the Construction Regulations, 2014 promulgated in terms of Section 43 of the Occupational Health and Safety Act (Act No. 85 of 1993).</p> <p>(g) The Contractor shall submit an approved Health and Safety Plan to the Engineer within 28 days from the date that the Agreement made in terms of the Form of Offer and Acceptance comes into effect.</p> <p>(h) Without limiting the Contractor's obligations in terms of the Contract, the Contractor shall before commencement of the Works or any part thereof, be in the possession of an approved Health and Safety Plan.</p> <p>(i) Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37 (2) of the Act</p>
4.12	<p>Unforeseeable Physical Conditions</p> <p>At the end of the first paragraph add after" ...<i>climatic conditions...</i>" the words "...<i>and conditions arising as a consequence of climatic conditions.</i>"</p>
4.22	<p>Security of the Site</p> <p><i>Add the following sub-paragraph:</i></p> <p>(c) The Contractor shall in connection with the Works provide and maintain at his own cost all lights, guards, fencing, watching and other appropriate security measures when and where necessary or required by the Engineer or by any competent statutory or other authority for the protection and security of the Works and the Contractor's Equipment, or for the safety and convenience of the public and for the protection of life and property.</p>
4.23	<p>Contractor's Operations on Site</p> <p><i>Add the following at the end of this Sub-Clause:</i></p> <p>The Contractor shall take note that the Site is located within the premises of an operational wastewater treatment facility and construction activities shall be scheduled and executed without interrupting the operation of the plant.</p> <p>In the event that a shut-down of the existing plant is required for the execution of the Contract, the Contractor shall submit a request for shut-down to the Engineer at least 7 days prior to the planned execution of the activity. The request shall be in writing and shall indicate the envisaged period that the shut-down will be required. The Engineer shall approve such a request in writing.</p>
6.7	<p>Health and Safety</p> <p><i>Add the following to this Sub-Clause:</i></p> <p>The Contractor shall comply with all applicable requirements of the Occupational Health and Safety</p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	Act (Act 85 of 1993) and shall be responsible for all safety on Site in accordance with the Contractor's approved health and safety plan compiled in terms of the Construction Regulations (2014).
8.4	<p>Extension of Time for Completion</p> <p><i>Add the following to the end of the clause:</i></p> <p>Notwithstanding anything to the contrary in the Contract, the Contractor shall not be entitled to an extension of the Time for Completion where he has not used all reasonable endeavours to prevent, reduce or mitigate the delay, including providing such temporary measures as may be necessary to enable work to continue and the Works and Contractor's Equipment to be protected during exceptionally adverse climatic conditions</p>
9.1	<p><i>Add the following at the end of this Sub-Clause:</i></p> <p>During the Trial Operation Period the Contractor shall carry out all necessary servicing and adjustments required. The Employer's staff may assist the Contractor in operating the Works or Section during this period and at this time the Contractor shall train the Employer's operational staff in the starting, operating and stopping of the Works or Section, and the Employer's maintenance staff on the maintenance requirements and procedures.</p>
11.6	<p>Further Tests</p> <p><i>At the end of Sub-Clause 11.6 add the following:</i></p> <p>In the case of any defect in the Plant for which the Contractor is liable which requires repair or replacement of the Plant or any part thereof the Defects Notification Period for such repaired or replaced Plant or part shall commence from the date on which such Plant or part has recommenced operation (any if necessary has passed any repeated Tests on Completion) and shall extend from such date for the Defects Notification Period specified in the Appendix to Tender.</p>
11.10	<p>Unfulfilled Obligations</p> <p><i>At the end of Sub-Clause 11.10 add the following paragraphs:</i></p> <p>Latent Defects: The liability period for latent defects shall be 10 years from the issuance of the Taking Over Certificate for the Whole of the Works or Section.</p> <p>Warranties: The Contractor shall warrant and guarantee the new Works and Goods, as specified in any and all warranties provided for specific Works and Goods by others, with a minimum period of three years from issue of Taking-Over Certificate.</p>
13.1	<p>Right to Vary</p> <p><i>Add the following to Clause:</i></p> <p>The Employer may vary the Contract to suit available budgets and cash flows. The Contractor must ensure his rates are balanced and all-inclusive in the event quantities are varied and re-measured.</p> <p>This is not a Lump Sum Contract and re-measured payments will only be made for goods and services actually delivered and provided in accordance with the Bill of Quantities and the scheduled rates.</p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
13.3	<p>Variation Procedure</p> <p><i>Replace the last sentence of the last paragraph with:</i></p> <p>“These adjustments shall be made in accordance with the rates in the Bill of Quantities which shall remain valid for the full duration of the Contract and without any adjustment. If there is more than one rate for a particular type of work, the Engineer shall either derive the rate from a similar rate or decide on the most applicable rate to value the Variation. If no rate exists for a particular type of work the variation shall be valued at Cost plus Reasonable Profit.”</p>
13.8	<p>Adjustment for Changes in Cost</p> <p><i>Replace this Sub Clause with the following:</i></p> <p>As sole compensation for all variations in the cost of labour and materials from any cause whatsoever, excluding variations in rate of exchange for imported goods, subsequent to the date of tendering, Price Adjustment Factors shall be calculated for all items as detailed below.</p> <p>The amounts payable to the Contractor shall be adjusted for rises or falls in the cost of labour and materials by applying the formulae, indices and coefficients specified in this sub clause.</p> <p>Until such time as each current cost index is available, the Engineer shall determine a provisional index for the issue of Interim Payment Certificates. Request for price adjustments must be submitted within 30 days after the price indices are available with reference to the date of the original invoice applicable to the City of Tshwane for payment.</p> <p>All price adjustments applicable to a specific financial year of the City of Tshwane must be submitted to the City of Tshwane for that specific financial year within 5 days after the closure of the specific financial year to ensure correct statement of creditor as well as inventory values as on 30 June of each financial year. (CoT financial year cycles ranges from 1 July to 30 June the following years).</p> <p>Price adjustments received more than 6 months after price indices were available for that specific financial year will not be considered for payment except when negligence can be shown on the side of the CoT.</p> <p>(a) Civil Engineering and Building Works</p> <p>For the calculation of the applicable Price Adjustment, the following general formula shall apply for civil and building works:</p> <p>(i) The value of the Civil Engineering works portion of the certificate issued in terms of Clause 14.3 hereof, shall be increased or decreased by the amount obtained by multiplying “Ac” defined in (ii) below by the Contract Price adjustment factor (f_1) determined according to the formula:</p> $f_1 = (1 - x) \left(a \frac{L_t}{L_o} + b \frac{P_t}{P_o} + c \frac{M_t}{M_o} + d \frac{F_t}{F_o} - 1 \right)$ <p>In which the symbols have the following meaning:</p> <p>(ii) “x” shall be the proportion of “Ac” which is not subject to adjustment. This proportion shall be 0.15</p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	<p>(iii) "a", "b", "c" and "d" shall be the coefficients nominated by the Employer in the Appendix to Tender (Section C1.2.3 Data provided by the Employer), which are deemed, irrespective of the actual constituents of the work, to represent the proportionate value of respectively, Labour, Contractor's Equipment, Materials and Fuel. The arithmetical sum of "a", "b", "c" and "d" shall in all cases be unity.</p> <p>(iv) "L" is the "Labour Index" and shall be the Consumer Price Index CPI for the province in which the site is located, as published by Statistics South Africa in the Statistical Release, P0141, Table A - Consumer Price Index: Main indices; Geographic indices.</p> <p>(v) "P" is the "Contractor's Equipment index" and shall be the "Plant and Equipment" indices, as published by Statistics South Africa in the Statistical Release, P0151.1 Table 4 - Mining and construction plant and equipment price index.</p> <p>(vi) "M" is the "Materials Index" and shall be the "Civil engineering material- total" as published by Statistics South Africa in the Statistical Release, P0151.1 Table 6 - Civil engineering material price indices.</p> <p>(vii) "F" is the "Fuel Index" and shall be the "Diesel" indices as published by Statistics South Africa in the Statistical Release, P0142.1, Table 1 - PPI for final manufactured goods; Coke, petroleum, chemical, rubber and plastic products.</p> <p>(viii) The suffix "o" denotes the base indices applicable to the base month which shall be the month prior to the month in which falls the closing date for the tender.</p> <p>(ix) The suffix "t" denotes the current indices applicable to the month in which falls the last day of the period to which the relevant payment certificate relates, which shall not be earlier than the twentieth day of the month unless otherwise agreed by the Engineer in writing.</p> <p>(x) For the purpose of calculating the adjustment to the value of the relevant certificates, the amount "Ac" shall be determined by the formula:</p> $Ac = T - S - D - E - Ap$ <p>in which the symbols have the following meanings:</p> <p>(xi) "T" shall be the total value of the portion of the certificate under consideration excluding any advance payments before the deduction of any retention monies, delay damages, or repayment of advances and before any adjustments made in terms of the Sub-Clause 13.8.</p> <p>(xii) "S" shall be the aggregate of (a), (b) and (c) referred to below and included in "T".</p> <p>(a) the value of any work done by Nominated Subcontractor/s and not subject to the Contractor price adjustment provision of the principal Contractor;</p> <p>(b) the value of any extra or additional work not subject to CPA;</p> <p>(c) the value of any work done against Provisional Sums;</p> <p>where special arrangements for price adjustments in respect of these amounts were made and recorded at the time the work was ordered.</p> <p>(xiii) "D" shall be the value of work included in "T" done at new rates or prices where those rates or prices are not based on labour, Contractor's Equipment or material costs in force at the time of tendering. When new rates or prices are based on tendered rates or prices applicable at the</p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	<p>base month of the indices, the value of work done at such new rates or prices shall not be included in the value of "D".</p> <p>(xiv) "E" shall be the amount included in "T" paid for any daywork executed at current rates plus percentage allowances as set out in Sub-Clause 13.6, where those rates are not based on Labour Contractor's Equipment or Material costs in force at the time of tendering and indicated in the Daywork Schedule which is included in the Bill of Quantities hereof. Generally, when Daywork rates are based on tendered rates or on current costs de-escalated to the base month of the indices, the value of work done at these rates shall not be included in the value of "E".</p> <p>(xv) "Ap" shall be the sum of "Ac" amounts determined in terms of this Sub-Clause for all certificates issued in accordance with Clause 14 preceding in time the certificate under consideration.</p> <p>(xvi) Save only for additional work or variations ordered to be carried out after the Time for Completion, (as extended, if applicable under Sub-Clause 8.4) if the Contractor fails to complete the Works within the Time for Completion, adjustment of prices thereafter shall be made using either</p> <ul style="list-style-type: none"> • each index or price appliance on the date 49 days prior to the expiry of the Time for Completion of the Works, or • the current index or price: whichever is more favourable to the Employer. <p>(xvii) If any index relevant to any particular certificate is not known at the time the certificate is valued the latest available index shall be used and an adjustment made when the index relevant to that particular certificate is published.</p> <p>(b) Mechanical and Electrical Works</p> <p>For the calculation of the applicable Price Adjustment, the following general formula shall apply for mechanical and electrical works:</p> <p>(i) The value of each Mechanical and Electrical portion of the certificate issued in terms of Clause 14 hereof, shall be increased or decreased by the amount obtained by multiplying "Ac" defined below by the Contract Price Adjustment factor (f1) determined according to the formulas:</p> <p>Formulae for supply and delivery items:</p> $f_1 = (1 - x) \left(a \frac{L I_t}{L I_o} + b \frac{M_t}{M_o} - 1 \right)$ <p>in which the symbols have the following meaning:</p> <p>(ii) "x" shall be the proportion of "Ac" which is not subject to adjustment. This proportion shall be 0.15.</p> <p>(iii) "a" and "b" shall be the coefficients nominated by the Engineer in the Appendix to Tender (Part A: Data provided by the Employer), which are deemed, irrespective of the actual constituents of the work, to represent the proportionate value of respectively, labour and materials. The arithmetical sum of "a" and "b" shall in all cases be unity.</p> <p>(iv) "L1" shall be the Labour Index and shall be the "SEIFSA Index of Actual Labour Cost" as published by SEIFSA in Table C-3, "All Hourly-Paid Employees".</p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	<p>(v) "M" shall be the materials index and shall be the index for "Engineering input price indices" published by SEIFSA in Table G ("Mechanical Engineering" or "Electrical Engineering"). There are two defined material components under the material category and shall be calculated independently from each other, based on the actual value incorporated in the payment certificate.</p> <p>(vi) The suffix "o" denotes the base indices applicable to the base month which shall be the month prior to the month in which falls the closing date for the tender.</p> <p>(vii) The suffix "t" denotes the current indices applicable to the month in which falls the last day of the period to which the relevant payment certificate relates, which shall not be earlier than the twentieth day of the month unless otherwise agreed by the Engineer in writing.</p> <p>(viii) For the purpose of calculating the adjustment to the value of the relevant certificates, the amount "Ac" shall be determined by the formula:</p> $Ac = T - S - D - E - Ap$ <p>in which the symbols have the following meanings:</p> <p>(ix) "T" shall be the total value of the portion of the certificate under consideration excluding any advance payments before the deduction of any retention monies, delay damages, or repayment of advances and before any adjustments made in terms of this Sub-Clause 13.8.</p> <p>(x) "S" shall be the aggregate of (a), (b) and (c) referred to below and included in "T"</p> <p>(a) the value of any work done by Nominated Subcontractor/s and not subject to the Contractor price adjustment provision of the principal Contractor;</p> <p>(b) the value of any extra or additional work not subject to CPA;</p> <p>(c) the value of any work done against Provisional Sums;</p> <p>(xi) where special arrangements for price adjustments in respect of these amounts were made and recorded at the time the work was ordered.</p> <p>(xii) "D" shall be the value of work included in "T" done at new rates or prices fixed where those rates or prices are not based on labour, Contractor's Equipment or material costs in force at the time of tendering. When new rates or prices are based on tendered rates or prices applicable at the base month of the indices, the value of work done at such new rates or prices shall not be included in the value of "D".</p> <p>(xiii) "E" shall be the amount included in "T" paid for any day work executed at current rates plus percentage allowances as set out in Sub-Clause 13.6, where those rates are not based on labour Contractor's Equipment or material costs in force at the time of tendering and indicated in the Daywork Schedule. Generally when Daywork rates are based on tendered rates or on current costs de-escalated to the base month of the indices, the value of work done at these rates shall not be included in the value of "E".</p> <p>(xiv) "Ap" shall be the sum of "Ac" amounts determined in terms of this Sub-Clause for all certificates issued in accordance with Clause 14 preceding in time the certificate under consideration.</p> <p>(xv) Save only for additional work or variations ordered to be carried out after the Time for Completion, (as extended, if applicable under Sub-Clause 8.4) if the Contractor fails to complete the Works or any Section thereof within the relevant Time for Completion, adjustment of prices thereafter shall be made using either</p>

CLAUSE/ SUB- CLAUSE	PARTICULAR CONDITION
	<ul style="list-style-type: none"> • each index or price applicable to the month in which the Time for Completion of that Section expires, • the current index or price, whichever is more favourable to the Employer. <p>(xvi) If any index relevant to any particular certificate is not known at the time the certificate is valued, the latest available index shall be used and an adjustment made when the index relevant to that particular certificate is published."</p>
14.8	<p>Interest on delayed payment</p> <p><i>Delete the clause and replace with:</i></p> <p>In the event of delayed payment, the Contractor may submit a formal claim in terms of Clause 20.1.</p>
14.9	<p>Payment of Retention Money</p> <p><i>Delete the last paragraph and replace with:</i></p> <p>The relevant contract value for each Section shall be determined by the Engineer, based on the Schedules of Quantities and any variations and adjustments thereto.</p> <p><i>Add the following:</i></p> <p>No interest shall be payable to the Contractor on any Retention Money retained in terms of the Contract.</p>
14.15	<p>The Contractor shall be paid at Pretoria in South African Rands. No payment shall be made in foreign currency.</p>
17.2	<p>Contractor's Care of the Works</p> <p><i>Add the following paragraph at the end of the Sub-Clause:</i></p> <p>The Contractor shall during the Defects Notification Period maintain and uphold the Works and inspect all equipment for operation and functioning at 3 months, 6 months, 9 months and 12 months intervals after Taking Over. The Contractor shall submit reports to the Engineer after each inspection visit.</p>
18.1	<p>The Employer shall, in the first instance, be the insuring Party to the extent described in the document included after the Appendix to Tender (C1.2.3 and C1.2.4) in Annexure A. The Contractor shall affect any additional insurance deemed necessary.</p> <p>Where the Employer is not able to provide such insurance timeously, the Contractor may then be required to be the insuring Party subject to formal agreement between the Parties.</p>
20.6	<p>Arbitration</p> <ul style="list-style-type: none"> • In the first paragraph line two, delete "<i>international</i>". • Sub-paragraph (a), delete "Arbitration of the International Chamber of Commerce" and insert "the Association of Arbitrators (Southern Africa)" • Sub-paragraph (b), delete "three arbitrators" and insert "one arbitrator"

C1.2.3 DATA PROVIDED BY EMPLOYER (APPENDIX TO TENDER)

Item	Clause	Entry
Employer's Name and Address	1.1.2.2 & 1.3	CITY OF TSHWANE PO Box 1022 Pretoria 0001
Engineer's Name and Address	1.1.2.4 & 1.3	Mimshak Business Consulting and Partners & PrTech Consulting Engineering (JV) N4 Gateway Industrial Park 97 Water House, Mokwa Avenue, Willow Park Manor – X65 RSA Private Bag X1, Melrose Arch, 2076 Tel: (086) 111 1212 Fax: (086) 620 6104 Email: obed.goza@consultant.com Attention: Obed Goza
Time for Completion of the Works	1.1.3.3	730 calendar days from Commencement Date.
Defects Notification Period	1.1.3.7	365 calender days
Electronic Transmission System	1.3	Facsimile and e-mail
Governing Law	1.4	Republic of South Africa
Ruling language	1.4	English
Language of communications	1.4	English
Time for access to the Site	2.1	30 days after the Commencement Date
Amount of Performance Security (Demand Guarantee)	4.2	10% of the Accepted Contract Amount up to the issue of the Performance Certificate for the whole of the Works or the last completed Section (if any)
Period for notifying unforeseeable errors, faults and defects in the Employer's Requirements	5.1	21 days
Normal working hours	6.5	Application of this shall comply with the requirements of the Basic Conditions of Employment Act and any other legislations and regulations. Non-working days include South African statutory holidays, Annual Builders' Break/holiday, Sundays and one additional off-day per month (typically Saturdays) for labour

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date
Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 2: Contract

Part C1: Agreements and Contract Data

Section C1.2 Contract Data

Item	Clause	Entry
Delay damages for the Works	8.7 & 14.15(b)	The delay damages shall be R 10 000 per calendar day.
Maximum Amount of Delay Damages	8.7	The maximum delay damages shall be 10% of the Accepted Contract Amount applicable.
Trial Operation Period	9.1	30 calendar days
Percentage for adjustment of Provisional Sums	13.5(b)	5% (default value unless a value is specified by the Contractor under Section C1.2.4)
Adjustment for Changes in Cost	13.8	<p>Contract Price Adjustment shall apply to this contract as described under this (amended) clause.</p> <p>For civil works:</p> <p>The value of 'x' shall be 0.15</p> <p>Value of coefficients:</p> <p>'a' = 0.25 (labour) 'b' = 0.15 (plant) 'c' = 0.55 (materials) 'd' = 0.05 (fuel)</p> <p>For mechanical and electrical works:</p> <p>The value of 'x' shall be 0.15</p> <p>Value of coefficients:</p> <p>'a' = 0.25 (labour) 'b' = 0.75 (materials)</p> <p>The urban area nearest to the Site is the City of Tshwane.</p>
Advance Payment	14.2	Not applicable to this Contract unless mutually agreed upon
Percentage of retention	14.3	10%
Limit of Retention Money	14.3	5% of Accepted Contract Amount
Schedule of Payments	14.4	Anticipated Schedule of Payments is required.
Plant and Materials for Payment when shipped en route to the Site	14.5(b)	50%
Plant and Materials for Payment when delivered to the Site	14.5(c)	80%

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date
Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 2: Contract

Part C1: Agreements and Contract Data

Section C1.2 Contract Data

Item	Clause	Entry
Minimum amount of Interim Payment Certificate	14.6	No minimum. The maximum will be as per the CoT requirements.
Currency of payment	14.15	South African Rand (ZAR)
Periods for submission of insurance: (a) Evidence of insurance (b) Relevant policies	18.1	Within 28 days
Minimum amount of third party insurance	18.3	Employer to insure (refer to Annexure to Appendix to Tender for general details of Employer's policy)
Date by which the DAB shall be appointed	20.2	Ad Hoc appointment (If/when required by parties)
The DAB shall be	20.2	The Dispute Adjudication Board (DAB) of one member
Appointment (if not agreed) to be made by	20.3	The President of Consulting Engineers South Africa (CESA)

C1.2.4 DATA PROVIDED BY CONTRACTOR (APPENDIX TO TENDER)

Item	Clause	Entry
Contractor's Name and Address	1.1.2.3 & 1.3
Percentage for Adjustment of Provisional Sums	13.5(b)	%..... Carried over to Pay Item PS001.07 in the Bill of Quantities/
Local Labour Rate charge allowed for by the Contractor	 R/hour

Signature

On behalf of

Date:

ANNEXURE A

EMPLOYER'S INSURANCE POLICY

THE ANNUAL INSURANCE RENEWAL TERMS OF THE CITY OF TSHWANE METROPOLITAN MUNICIPALITY INSURANCE PORTFOLIO REGARDING THE IMPLEMENTATION OF CONTRACT WORKS DECLARATION AND CLAIMS REPORTING PROCEDURES

- 1. DECLARATION OF CONTRACT WORKS WITHIN THE MAXIMUM ANY ONE CONTRACT VALUE OF R50-MILLION EACH (EXCLUDING VAT) AND THE ESTIMATED CONTRACT PERIOD AT COMMENCEMENT OF THE CONTRACT NOT EXCEEDING 24 MONTHS AS STIPULATED IN THE PRINCIPAL CONTROLLED CONTRACTORS ALL RISK POLICY**
- 1.1 All Contract Works within the maximum any one contract value of R50-million each (excluding VAT) must be declared to the Department Finance, Section: Insurance and Risk Management, 30 (thirty) calendar days before the contractor may commence with site establishment and with the physical work thereafter.
- 1.2 The Contract Works must be declared on the Contract Declaration Form that is available at Tshwane or the internet and a copy of the Letter of Appointment issued to the Contractor must be attached to the completed Contract Declaration Form. The Project Manager and Contractor must sign off the completed Contract Declaration Form included and excluded.
- 1.3 The Principal Controlled Contractors All Risk Policy is arranged on the basis that the Principal (the Council) and not the contractor awarded the contract arranges Insurance where Principal controlled insurance is adopted.
- 1.4 The following Perils are covered under the Principal Controlled Contractors All Risk Policy:
 - Contract Works
Storm, Earthquake, Flood, Fire, Lightning, Theft, etc.
 - Public Liability
Loss or damage to third party property or injury or death to third parties.
 - Defects Contingency
Cost necessary to replace or repair or rectify any component or individual item of the property which is defective in design plan specification materials or workmanship.
- 1.5 The following occurrences are not covered under the Principal Controlled Contractors All Risk Policy:
 - Deliberate damage.
 - Defective workmanship and/or material.
 - Productivity – extended contract periods and costs.
 - Underpinning (contract must be declared separately)
 - Any wet risks (contract must be declared separately).
 - Specific contracts involved bridges, over water courses, tunnels, viaducts and dams (contract must be declared).
- 1.6 The extension of the contract period must be declared 30 (thirty) calendar days before the extension of the contract period commences to the Section: Insurance and Risk Management
- 1.7 The following deductibles will apply should a loss or damage incident occur:
 - Contract Works
R5 000-00 each and every occurrence
 - Own Surrounding Property
R5 000-00 each and every occurrence
 - Testing
R5 000-00 each and every occurrence
 - Liability

- R5 000-00 each and every occurrence
- Defects Contingency
- R25 000-00 each and every occurrence

2. DECLARATION OF CONTRACT WORKS EXCEEDING THE MAXIMUM ANY ONE CONTRACT VALUE OF R50-MILLION EACH (EXCLUDING VAT) AND FALLING OUTSIDE THE SCOPE OF WORK AND/OR 36 MONTH CONTRACT PERIOD AS STIPULATED IN THE SEPARATELY ARRANGED PRINCIPAL CONTROLLED CONTRACTORS ALL RISK POLICIES

The infrastructure contract types must be declared as per the declaration procedure irrespective of the value of the contract.

2.1 All Contract Works exceeding the maximum any one contract value of R50-million each (excluding VAT) must be declared to the Department Finance, Section: Insurance and Risk Management, 30 (thirty) calendar days before the contractor may commence with site establishment and with the physical work thereafter.

2.2 The following information must be provided in a formal letter and the relevant Strategic Executive Officer or Head of the Department must sign the letter:

- Contract Number;
- Contract Title;
- Contractor(s) including sub-contractors awarded to;
- Budgeted Tender Price (inclusive of VAT and contingencies);
- Value of free issue material;
- Anticipated contract period until final handover;
- Construction contract or Maintenance contract;
- Maintenance period of the contract;
- Testing period;
- If lateral support actions will be under taken, details thereof;
- Details of City of Tshwane and third party surrounding property.

2.3 The following documentation must be attached to the letter:

- (i) Full tender documentation plan and specifications as completed by the tenderer and submitted by the Project Manager;
- (ii) Bill of quantities;
- (iii) Work plan schedules;
- (iv) If blasting is applicable, certificate of blasting and method of blasting;
- (v) Information regarding the security at premises e.g. fencing, security guards, central stores where high valued items are stored etc;
- (vi) In the case of open trenches: average depth and average open length;
- (vii) In the case of road works: exposed base works – length at any one time; and/or
- (viii) When applicable Geo technical reports for each site and or civil works involving dolomite.

- 2.4 All Contract Works that are not declared before the commencement dates of the contracts are not insured until all the above documentation has been submitted to the Section: Insurance and Risk Management and the quotation issued by the Insurer have been accepted by the relevant department.
- 2.5 All Contract Works exceeding the maximum any one contract value of R50-million (excluding VAT) each must be declared and insured separately and quotations with deductible structures to be obtained by the Insurance Broker from 3 (three) Insurers and the recommended quotation with the deductible structure to be approved by the relevant Strategic Executive Officer or Head of department prior to inception of insurance cover.
- 2.6 The Project Manager must ensure that the quotation and conditions of the insurance policy recommended by the Employers' insurance broker be signed by the Contractor/Sub-contractor, Project Manager and the Strategic Executive Officer within 5 (five) days after the quotations were submitted by the Section: Insurance and Risk Management to the Project Manager and the signed documentation must be returned to the Section: Insurance and Risk Management within 2 (days).

3. CONTRACT WORKS CLAIMS REPORTING PROCEDURES

3.1 REPORTING OF INCIDENTS

In the event of an occurrence, which is likely to give rise to a claim under the insurance policy affected by the Employer, the Contractor/Sub-contractors and Project Manager will adhere to the following procedures:

- a) In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Project Manager of every occurrence within 48 (forty-eight) hours giving the circumstances, nature and an estimate of the loss or damage.
- b) The Project Manager will be responsible to complete and submit the relevant claim documentation for each incident within 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Project Manager more than 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management, the claim will only be considered if the claim documentation is accompanied by a letter from the relevant Strategic Executive Officer motivating the reason(s) for the late reporting of the incident, but the Project Manager must take note the Insurer might repudiate the loss if it is found that the insurers rights have been compromised as a result of the late reporting.
- c) The following documentation must be included with the claim documentation:
 - Photos of damages caused or suffered as proof or substantiation of the claims.
- d) In the event of Insured Property being damaged during the Contract Works beyond economical repair, the property must be safeguarded and be handed over to the Employer's insurer for salvage.
- d) The Section: Insurance and Risk Management will inform the Employer's insurer of the incident. The Contractor/Subcontractor shall afford all reasonable access to the Site to the Employer, the Project Manager, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.

3.2 REPORTING OF CATASTROPHIC INCIDENTS

In the event of an occurrence, which is likely to give rise to a claim, under the insurance policy effected by the Employer, with an estimated loss or damage of more than R250 000,00, the Contractor and the Project Manager will adhere to the following procedures:

- a) In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Project Manager of every occurrence within 24 (twenty-four) hours giving the circumstances, nature and an estimate of the loss or damage.
- b) The Project Manager must notify the Section: Insurance and Risk Management on the same day that the Contractor/Sub-contractor has notified the Project Manager of the incident.
- c) The Section: Insurance and Risk Management will notify the Employer's insurer of the incident. The Contractor/Sub-contractor shall afford all reasonable access to the Site to the Employer, the Project Manager, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.
- d) The Project Manager will be responsible to complete and submit the relevant claim documentation for each incident within 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Project Manager more than 30 (thirty) days after the incident occurred to the Section: Insurance and Risk Management, the claim will only be considered if the claim documentation is accompanied by a letter from the relevant Strategic Executive Officer motivating the reason(s) for the late reporting of the incident. Should the relevant claim documentation not be submitted within 30 (thirty) days, the claim will be repudiated.

3.3 REPORTING OF CRIME RELATED INCIDENTS

All crime related incidents, losses or shortages irrespective of the value, must be reported within 24 (twenty-four) hours by the person who was involved or who has discovered the incident to the nearest South African Police Services (SAPS) station. The name of the Police Station, Investigation Officer and the Case number must be obtained and stated on the Contractor Claim Form. Should the incident not be reported to the SAPS, the claim will be repudiated.

3.4 CLAIM DOCUMENTATION

The Project Manager must obtain all relevant information from the Contractor/Sub-contractor and complete the Contractor Claim Form. The project number must be stated on the Contractor Claim Form.

The Project Manager must submit with the Contractor Claim Form a detailed cost sheet indicating the estimate of the loss or damage.

Any misrepresentation, mis-description or non-disclosure of material facts, at the option of the insurers, can result in claims submitted being declared null and void.

3.5 CONTRACTOR TO PAY DEDUCTIBLES

Any claim in terms of the insurance affected by the Employer shall be subject to the Contractor being responsible for the payment of the amount stated in the Annexure to the Policies as being the deductible (first amount payable or Excess) as defined in the Certificate of Insurance issued by the Employer's insurer in terms of the Policy.

3.6 SETTLEMENT OF CLAIMS

The Contractor shall negotiate for the settlement of claims with the Employer or the Employer's insurer through the Section: Insurance and Risk Management. The Employer's Chief Financial Officer will authorize all settlements of claims. The Contractor will also sign the Agreement of Loss document issued by the Insurer in order to settle the claims.

Should action for the settlement of any such claim to the satisfaction of the Project Manager not be taken by the Contractor/sub-contractor within 30 (thirty) days after receipt of such claim by the Contractor/sub-contractor, the Employer or the Employer's insurer may settle any such claim, after giving the Contractor

notice of its intention to do so; provided that no such claim shall be settled by the Employer or the Employer's insurer without first consulting the Contractor/sub-contractor.

The foregoing provisions of this Sub-Clause shall apply *mutatis mutandis* to any such claim received by the Contractor directly.

It is distinctly understood that should the Employer or the Employer's insurer not settle any such claim at the earliest opportunity, it shall in no way prejudice the Employer or the Employer's insurer's rights to recover from the Contractor nor shall the Contractor raise any such defence against the Employer or the Employer's insurer.

Any moneys which become payable as a result of a claim under the insurance effected by the Employer shall be paid to the Employer after deduction of the deductible amount (first amount payable or Excess), who shall pay such amount to the Contractor or to the party rectifying, repairing or reinstalling or who has suffered the loss or damage, but this shall in no way affect the Contractor's obligations in terms of the Contract.

4. INSURANCE RELATING TO INSTALLATION, CONSTRUCTION, MAINTENANCE OR ENGINEERING CONTRACT WORKS

4.1 Employer to Insure

Without limiting the Contractor's/Sub-contractor's obligation in terms of the Contract, the Employer will effect and maintain for the duration of the Contract until the issuing of the Defects Certificate or the end of the Maintenance Period, the following insurances in the name of the Contractor (including all Subcontractors whether nominated or otherwise):

1. The Employer's insurer will indemnify the Contractor/Sub-contractor against physical loss of or damage to any part of the Property Insured not exceeding the maximum contract value or the final contract value estimated at inception including free issue materials were applicable as stated in the Contract Data:
 - a) Whilst in transit including loading and unloading whilst temporarily stored at any premises en route to or from the Contract Site within the Territorial Limits.
 - a) From the time of unloading, dismantling or preparation at the Contract Site and thereafter until the Property Insured has been officially accepted by the Employer and becomes his responsibility by means of a notice of completion certificate or similar evidence of legal transfer of risk.
 - b) During the contractual defects liability or Maintenance Period which shall not exceed the period reflected in the Schedule but only so far as the Contractors and/or Sub-Contractors may be liable for such loss or damage under the defects liability or maintenance condition/s of the Insured Contract.
 - c) Removal of debris;
 - d) Surrounding property;
 - e) Work Away;
 - f) Off Site Storage;
 - g) Temporary repairs;
 - h) Contribution Clause – Marine;
 - i) Escalation during Contract Period;
 - j) Post Loss Escalation;
 - k) Automatic Reinstatement;

- l) Principals Maintenance;
- m) Property taken over;
- n) Beneficial Occupation;
- o) Escalation due to Currency fluctuation;
- p) Manufacturers Guarantees

2. The Employer's insurer will indemnify the Contractor/Sub-contractor against all sums for which the Contractor/Sub-contractor shall become legally liable towards third party claimants to pay for and in consequence of:

- a) Accidental death of or bodily injury to or illness or disease contracted by any person (excluding employees of the Contractor/Sub-contractor). It remains the responsibility of the Contractor/Sub-contractor to mitigate the risk of employees sustaining injuries or contracting occupational diseases during lunch times and after working hours at their workplace on the project site as stipulated in Section 22 of the COIDA Act;
- b) Accidental physical loss or damage to tangible property occurring during the Period of Insurance and arising out of or in connection with the performance of the Insured Contract at the Contract Site as defined in the Schedule. The minimum limit of indemnity for any one event is R10-million in respect of contracts with a contract value of up to R50-million (excluding VAT).

4.2 Insurance Premium payable

The Employer will pay the insurance premium for the works damage and public liability insurance cover. The insurance premium will be calculated based on the approved Capital Budget per financial year and the insurance premium will be debited out to the relevant departments by the Section: Insurance and Risk Management.

4.3 Additional insurance by the Employer

The Employer shall be free to effect at his own cost any additional insurance, which he deems necessary in own interest to cover loss or damage not insured in terms of the insurance policies of Sub-Clause 1 of this Clause.

4.4 Additional insurance by Contractor/Sub-contractor

The Contractor and Sub-contractor shall be free to effect and maintain at their own cost any additional insurance which the Contractor/Sub-contractor deem necessary to cover damage, loss or injury not insured in terms of the insurance effected by the Employer's insurer. The cost of the additional insurance will be for the account of the Contractor/Sub-contractor.

4.5 Contractor satisfied with insurance

The submission of a tender shall be construed as acknowledgement by the Contractor that he is satisfied with the insurance cover effected by the Employer.

4.6 Contractor to observe conditions

The Contractor shall give all notices and observe all conditions and requirements imposed by the relevant insurance policies, which shall be binding on the Contractor.

4.7 Contractor to Insure

The Contractor/Sub-contractor must obtain for the duration of the contract until the issuing of the Defects Certificate or the end of the Maintenance Period, the following insurance policies at an insurance company

within 14 (fourteen) days of the notification of acceptance of the tender and must pay all premiums and supply proof thereof to the relevant Project Manager, 30 (thirty) days before the inception of the contract, that the policies have been taken out and that all premiums have been paid:

- a) All Risk Insurance cover with regard to all Plant and Materials and Equipment, owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.
- b) Motor Vehicle and Liability Insurance cover indicating the registration numbers of the vehicles owned, leased or hired by the Contractor that are used in the execution of the contract to the amount of at least R10-million per claim with the number of claims unlimited.
- c) SASRIA cover for motor vehicles and Plant and Materials and Equipment owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.
- d) In respect of Plant and Materials and Equipment and Motor Vehicles brought onto the Site by or on behalf of Subcontractors, the Contractor shall be deemed to have complied with the provisions of this Sub-Clause by ensuring that such Subcontractors have similarly insured such Plant and Materials and Equipment and Motor Vehicles.
- e) Proof must also be submitted that the Contractor complies with the conditions of the following legislation:
 - Compensation for Occupational Injuries and Diseases, 1993.
 - Unemployment Insurance Act, 1996.
 - The Contractor shall in respect of the Site of the contract works appoint in writing a competent person to meet the requirements of the Health and Safety Act, No 85 of 1993 as amended.

4.8 The Project Manager involved must furnish the required insurance documentation 30 (thirty) days before the inception of the contract to the Section: Insurance and Risk Management.

5. CONTRACTOR TO INSURE

The Contractor 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.

The Project Manager involved must furnish the required insurance documentation 30 (thirty) days before the inception of the contract to the Section: Insurance and Risk Management.

The Contractor must provide proof of such insurance to the Project Manager within 14 (fourteen) days after the notification of acceptance of the tender. Should the renewal of an existing policy fall within the period prior to the Defects Certificate being issued, a letter of confirmation from the insurance company that such a policy will be renewed and that all premiums have been paid must be attached and the copy of the renewed policy be submitted within 2 (two) months of renewal to the Project Manager.

C1.3 FORM OF GUARANTEE

WHEREAS

THE CITY OF TSHWANE

(hereinafter referred to as the "Council"),

enters into a Contract (No.....) with

.....
(hereinafter referred to as the "Contractor")

for
.....
.....

AND WHEREAS in terms of Clause 4.2 of the General Conditions of the Contract the Contractor, the Contractor is required to furnish an acceptable performance security for the due and proper fulfilment by him of all his duties and obligations in terms of the said contract.

NOW THEREFORE we the undersigned
.....[full names of authorized agent(s)]

and acting in my/our capacity as

and

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

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

R (.....)
.....

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

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

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

(*domicilium* address).

.....

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

Exceptio non numerate pecuniae

Exception non causa debiti

Beneficium duobus vel pluribus reis debendi

Beneficium ordinis deu excussionis

Beneficium Divisionis

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

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

This document is not negotiable or transferable.

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

WITNESSE(s): (Full name – in block letters – and signature)

1.

2.

ANNEXURE B

LIST OF INSTITUTIONS FROM WHO CONTRACT/DEPOSIT GUARANTEES CAN BE ACCEPTED.

1. ABSA Bank
2. CAPITEC Bank
3. Credit Agricole Indosuez (South Africa Branch)
4. Development Bank of South Africa
5. FirstRand Bank
6. ING Bank N.V. (South Africa Branch)
7. Investec Bank
8. Landbank
9. National Housing Finance Co.
10. Nedcor Bank
11. South African Reserve Bank
12. Standard Bank
13. AIG South Africa
14. Credit Guarantee Insurance Co
15. Emerald Insurance Company
16. Federated Employers Mutual Assurance Co
17. Global Insurance Company
18. Guardrisk Insurance Company
19. Hannover Re:
20. Home Loan Guarantee Company
21. Lion of Africa Insurance Company
22. Metropolitan Life
23. Metropolitan Odyssey Ltd
24. MUA Insurance
25. Mutual & Federal Insurance Company
26. Rand Mutual Assurance Company
27. Regent Insurance Company
28. SA Eagle Insurance Company
29. Lombard Insurance.

C1.4 GUARANTEE (CASH DEPOSIT)

CONTRACT NO.:

Employer: **CITY OF TSHWANE**

Contractor:

Description of Contract:

I/We, the undersigned,

(Contractor)

deposit herewith cash *a bank certified cheque", in the amount of

.....

.....,

as surety for the due performance of the Contract by the abovementioned Contractor, and for all losses, damages and expenses that may be suffered or incurred by the Employer as a result of non-performance of the Contract by the Contractor, renouncing all benefits from the legal exceptions *ordinis seu excussions et divisions* no value received and all other exceptions which might or could be pleaded against the surrender of this deposit. The deposit shall be returned to the Contractor on the issue of the Completion Certificate in terms of the Contract, unless the Contractor is advised in writing by the Employer before issue of the said Certificate of his intention to institute claims and the particulars thereof, in which event this deposit shall remain in force until all such claims are paid or settled.

FOR AND ON BEHALF OF

(Contractor)

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents :

SIGNED at on this day of

WITNESS(s): (Full name – BLOCK LETTERS – and signature)

1.

2.

C1.5 HEALTH AND SAFETY AGREEMENT

ARTICLE OF AGREEMENT IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL SAFETY ACT, 1993 BETWEEN

THE CITY OF TSHWANE
(Hereinafter referred to as the "EMPLOYER")
AND

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

Herein represented by in his/her capacity as duly
authorised by virtue of a resolution dated, Attached hereto
Annexure A, of the said
..... (herein after referred to as the "CONTRACTOR")

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

..... Contract number

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

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

NOW THEREFORE the parties agree as follows:

- a) The CONTRACTOR undertakes to acquaint the appropriate officials and employees of the CONTRACTOR with all relevant provisions of the ACT and the regulations promulgated in terms thereof.
- b) The CONTRACTOR undertakes that all relevant duties, obligations and prohibitions imposed in terms of the ACT and Regulations will be fully complied with. Provided that should the EMPLOYER prescribe certain arrangements and procedures, that same shall be observed and adhered to by the CONTRACTOR, his officials and employees. The CONTRACTOR shall bear the onus of acquainting himself/herself/itself with such arrangements and procedures.
- c) The CONTRACTOR hereby accepts sole liability for such due compliance with the relevant duties, obligations, prohibitions, arrangements and procedure, if any, imposed by the ACT and Regulations and the EMPLOYER expressly absolves the EMPLOYER from itself being obliged to comply with any of the aforesaid duties, obligations, prohibitions, arrangements and procedure as the case may be.

- d) The CONTRACTOR agrees that any duly authorised officials of the EMPLOYER shall be entitled, although not obliged, to take such steps as may be necessary to ensure that the CONTRACTOR has complied with the undertakings as more fully set out in paragraphs 1 and 2 above, which steps may include, but shall not be limited to, the right to inspect any appropriate site or premises occupied by the CONTRACTOR, or to inspect any appropriate records held by the CONTRACTOR or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.
- e) The CONTRACTOR shall be obliged to report forthwith to the EMPLOYER any investigations, complaint or criminal charge which may arise as a consequence of the provisions of the ACT and Regulations, pursuant to work performed in terms of this agreement, and shall, on written demand, provide full details in writing of such an investigation, complaint or criminal charge as the case may be.

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

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

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

1.

2.

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

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

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

1.

2.

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 2: Contract

Part C2: Pricing Data

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

PORTION 2: CONTRACT

PART C2 PRICING DATA

C2 PRICING DATA

INDEX

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Contract: WS 15 2024/25

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Part C2: Pricing Data

Section C2.1: Pricing Instructions

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
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CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

C2.1 PRICING INSTRUCTIONS

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

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Section C2.1: Pricing Instructions

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

C2.1 PRICING INSTRUCTIONS

The contract documents have been separated into 3 volumes to describe the general tender and contract requirements (Volume 1), pricing data and schedule of quantities (Volume 1), project specification (civil, mechanical, electrical and electronic) (Volume 2), and particular specification (Volume 2). All the tender drawings have been included in Volume 2.

Volume 1 contains the relevant schedule of quantities associated with the civil, electrical/electronic and mechanical works as well as preliminary and general charges for the contract as a whole. The total amounts for the preliminary charges, civil, electrical/electronic and mechanical works (as totalled in the summary of work packages provided in Volume 1) shall be carried over to Form of Offer and Acceptance included in Volume 1.

1. General

1.1 This section provides the tenderer with guidelines and requirements with regard to the completion of the Bill of Quantities. The Schedule has to be completed in black ink and the tenderer is referred to the Tender Data in regard to the correction of errors.

1.2 The Bill of Quantities shall be read with all the documents which form part of this Contract.

1.3 The following words shall have the meanings hereby assigned to them:

Unit: The unit of measurement for each item of work in terms of the Specifications.

Quantity: The number of units of work for each item.

Rate: The payment per unit of work at which the tenderer tenders to do the work.

Amount: The product of the quantity and the rate tendered for an item.

Sum: An amount tendered for an item, the extent of which is described in the Bill of Quantities, the Specifications and the Drawings (if applicable), but the quantity of work of which is not measured in any units.

1.4 Reference shall be made to the General Conditions of Contract regarding Provisional and Prime Costs Sums.

2. Pricing of Mechanical and Electrical Works

The prices quoted for the supply of plant and equipment shall include for all handling, loading, transporting and off-loading required for the delivery of the plant and equipment to the site, including in the case of off-site storage for double handling at the store.

The prices quoted for erection and/or installation shall include for all handling, loading, transporting and off-loading to take plant and equipment to place on site where required, erection, installation, painting,

guaranteeing for a period of twenty four (24) months and upholding for a period of twelve (12) months, all as specified.

The prices quoted for the commissioning of plant shall include for operating, mechanical and electrical testing, adjusting and handing over in a proper working order and for the provision of operating and maintenance manuals, all as specified.

Any additional charges in connection with off-site storage which there may be over and above the prices quoted in the various sections of this schedule of prices, shall be set-out in detail by the Tenderer.

The work of installation, erection and testing of the plant and equipment shall as far as possible be carried out in one continuous operation and the cost of transporting personnel between the Contractors headquarters and the site will be paid at the tendered amount for same for only one return trip for such continuous operation, (if all installation and erection operations are carried out by same personnel) irrespective of the number of sections awarded. No additional payment will be made for any weekend or holiday trips back to the Contractor's headquarters. Additional trips for personnel will only be paid for if authorised, or when requested by the Engineer in writing.

Amounts allowed for provisional sums and contingencies will be spent in part or as a whole at the sole discretion of the Engineer.

The Council reserves the right to sub-divide the contract. Prices quoted in this Schedule are deemed to apply to that Section only. The tenderer may offer a reduction in price if awarded more than one section.

For the purposes of calculating Contract Price Adjustment, each mechanical and electrical item have been coded as follows and CPA calculations shall be based on these codes and the applicable CPA formulae.

M – Mechanical Equipment (Supply)
E – Electrical Equipment (Supply)
P – Mild Steel piping/material (Supply)
S – Stainless Steel piping/material (Supply)
I – Installation and Commissioning
G – Preliminary and General Items

3. Pay Items

- 3.1 The method of measurement published by the City of Tshwane in section 001 clause 04 and the clauses titled "Measurement and Payment" in the various sections of the Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005, is applicable for all civil works, subject to the variations and amendments contained in section C3.4.3.
- 3.2 For preliminary and general charges, the method of measurement and payment shall be as specified in Volume 2 of the contract documents. Measurement and payment of mechanical and electrical equipment shall be as described in the Particular Specification, as amended, or as described in the Schedule of Quantities.
- 3.3 Descriptions in the Bill of Quantities are abbreviated and comply generally with those in the Specifications. The measurement and payment clause in the Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause in the Specification, or the Scope of Work, conflict with the terms of the Bill of Quantities, the requirements of the Specification or Scope of Work, as applicable, shall prevail.

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

mm	=	millimetre	h	=	hour
m	=	metre	kg	=	kilogram
km	=	kilometre	t	=	ton (1000kg)
m ²	=	square metre	no.	=	number
m ² .pass	=	square metre pass	sum	=	lump sum
ha	=	hectare	MN	=	meganewton
m ³	=	cubic metre	MN.m	=	meganewton-metre
m ³ .km	=	cubic metre-kilometre	PC sum	=	Prime Cost sum
l	=	litre	Prov sum	=	Provisional sum
kl	=	kilolitre	%	=	Per cent
MPa	=	megapascal	kW	=	kilowatt
PS	=	Pipe Special number	V	=	Valve number

4. Rates

- 4.1 The prices and rates to be inserted in the Bill of Quantities are to be full inclusive prices for the work described under such items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks,

liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.

- 4.2 A price or rate is to be entered against each item in the Bill of Quantities, whether the quantities are stated or not. An item against which no price is entered or where a word or phrase such as “included” or “provided elsewhere” will be accepted as a rate of nil (R0,00) having been entered against such items and covered by the other prices or rates in the Schedule.

Any work executed to which such a pay item applies, shall be measured under the appropriate items in the Bill of Quantities and valued at a rate of nil (R0,00). The rate of nil shall be valid irrespective of any change in the quantities during the execution of the Contract.

- 4.3 The Tenderer shall fill in a rate against all items.
- 4.4 The Tenderer shall not group together a number of items and tender one rate for such group of items.
- 4.5 All rates and sums of money quoted in the Bill of Quantities shall be in rands and whole cents. Fractions of a cent shall be discarded.
- 4.6 All prices and rates entered in the Bill of Quantities must be excluding VAT. VAT will be added last on the summary page of the Bill of Quantities.
- 4.7 Should excessively high unit prices be tendered, such prices may be of sufficient importance to warrant rejection of a tender by the Employer.
- 4.7.1 Where the Contractor is required to furnish detailed drawings and designs or other information in terms of the Contract Documents and no specific payment item has been included for this, all associated costs shall be deemed to have been provided for and included in the unit rates and sum amounts tendered for the items scheduled in the Bill of Quantities, and separate additional payments will not be made.

5. LABOUR-INTENSIVE CONSTRUCTION

- 5.1 Those parts of the contract to be constructed using labour-intensive methods have been marked in the schedule of quantities with the letters LIC. The works, or parts of the works so designated are to be constructed using labour-intensive methods only in accordance with the *Guidelines for the implementation of Labour-Intensive Infrastructure Projects under the Extended Public Works Programme (EPWP)*. includ.

The items marked LIC are not necessarily an exhaustive list of all the activities which must be done by hand.

- 5.2 Payments for items which are designated to be constructed labour-intensively will not be made unless they are constructed using labour-intensive methods. Any unauthorised use of plant to carry out work which was to be done labour-intensively will not be condoned and any works so constructed will not be certified for payment.

6. PIPE SCHEDULE

- 6.1 Pipes, fittings and specials are scheduled separately in the Pipe Schedules for each Section. The individual Pipe Schedule totals have to be carried forward to the relevant item in each Section.

6.2 The following abbreviations are used in the Pipe Schedule:

dia	-	diameter	uPVC	-	Unplasticised Polyvinyl Chloride
mat	-	material	MS	-	Mild Steel
SS	-	Stainless Steel	AS	-	As Specified
c to f	-	centre to face	GMS	-	Galvanised Mild Steel
d.f	-	double flanged	o.a	-	overall
p.f	-	puddle flange	CI	-	Cast Iron
NB	-	Nominal Bore	w.t	-	wall thickness

6.3 Applicable general material and corrosion protection specifications for the Pipe Schedule Items are (unless otherwise specified):

- (a) All mild steel pipes and fittings shall be treated with a polyamide-cured epoxy system similar and equal to Carboline 891 externally and internally as specified in Particular Specification PLQ to a dry film thickness of at least 300 micron.
- (b) Mild steel pipes shall comply with the requirements of Particular Specification PLN and SABS 719 Grade A pipes.
- (c) All bolts, nuts and washers shall be manufactured from grade 304 stainless steel for above ground and below water level applications and from galvanised mild steel for pipes installed below ground. Allowance shall be made for two washers under each bolt and nut.
- (d) All rates shall be consistent for similar items of the same material and diameter. Where amendments are ordered, new rates shall be calculated by direct interpolation between the tender rates for the nearest two similar items. Only when amended or new items fall outside the range of similar items for which rates have been tendered, will new rates be negotiated.
- (e) Unless otherwise stated, the dimensions and drilling of flanges shall comply with the requirements of SABS 1123, Table 16 for pipes with a diameter of 150 mm and smaller and Table 10 for diameters exceeding 150 mm.

6.4 No pipes, fittings or specials shall be ordered unless authorised by the engineer in writing.

CORRECTION OF ENTRIES MADE BY TENDERER

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

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Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume 1: General Clauses, Tender Procedures, Contract Data, Pricing Data, Schedule of Quantities and Scope of Works

Portion 2: Contract

Part C2.2: Pricing Schedule

CITY OF TSHWANE
WATER & SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

C2.2 PRICING SCHEDULE

Item	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
1		<u>SCHEDULE No 0: PRELIMINARY & GENERAL</u>				
		<u>SERIES 0: GENERAL</u>				
1,1	001.01	<u>General requirements and charges</u>				
1.1.1	PS001.01	.01 Fixed charge items				
1.1.2		.01 Contractual requirements	Sum	1		
		.02 Establishment of facilities on site	Sum	1		
1.1.8		.03 Removal of site establishment	Sum	1		
		.02 Time Related Charges	Sum	1		
1,2	PS001.02	Locating existing services including hand excavations and backfilling	Sum	1		
1,3	001.04	Compliance with the Occupational Health and Safety Act and applicable regulations				
1.3.1		.01 Provision of a Health and Safety plan	Sum	1		
1.3.2		.02 Provision of a Health and Safety file	Sum	1		
1.3.3		.03 Provision of a Safety Officer	Sum	1		
1.3.4		.04 Health and Safety Training	Sum	1		
1.3.5		.05 Provision of protective clothing	Sum	1		
1.3.6		.06 Provision of safety fences, signs and barricades	Sum	1		
1.3.7		.07 Provision of a Health and Safety plan (COVID 19)	Sum	1		
1.4	PS32.1 d)	Community Liaison Officer (CLO) for the duration of the contract period (as specified in the tender document)	Prov Sum		500 000,00	500 000,00
1.4.1		Allow for Contractor's handling of the CLO	%		500 000,00	
1,5	PS001.07	<u>Sums stated provisionally by the Engineer</u> The Contractor will be required to provide proof of the relevant market related cost for the specific activity in the form of three (3) quotations				
1.5.1		.01 Accredited training	Prov Sum	1	500 000,00	500 000,00
1.5.2		.02 Percentage adjustment of Prov. Sum items (incl. markup, profit, overheads and any other cost by the Contractor	%		500 000,00	
1,6	PS001.08	Daywork				
1.6.1		Labour				
		a) Unskilled labourers	hr	100		
		b) Semi-skilled labourers	hr	100		
		c) Artisans	hr	100		
		d) Foreman/supervision	hr	100		
		e) Engineer	hr	100		
1.6.2		Plant				
		a) Compressors and jack hammers	hr	100		
		b) Diesel driven pump	hr	100		
		c) Trenching excavator	hr	100		
		d) Transport - single cab bakkie at least 2.5 litre engine capacity, diesel	km	100		
		e) Honey sucking truck, tank capacity 10 000 litres	hr	100		
Carried Forward						

Contract: WS
 Electrical & Electronics
 Preliminary and General

Item	Payment Reference	Description	Unit	Qty	Rate (R)	Amount (R)
Brought Forward						
1,7	PS001.09	<u>Temporary Works</u>				
1.7.1		.01 Protection of Existing Wastewater Treatment Plant Structures and Services	Sum	1		
1.7.2		.02 Stormwater Protection	Sum	1		
1,8	001.27	<u>Dealing with water</u>				
1.8.1		Allow for dealing with and disposing water to ensure dry work areas	Sum	1		
1,9	PSE-GEN.1/ /GEN.2/GEN.3/ /GEN.4,COM.1/COM.2	CONTRACT ADMINISTRATION AND GENERAL REQUIREMENTS As specified in the Specification				
1.9.1		Provide and maintain a quality system	Sum	1		
1.9.2		Setting out of works	Sum	1		
1,10		Storage of equipment where storage space is provided by:				
1.10.1		a) The Contractor	m ³ - month	100		
1,11		Test and Commission the installation	Sum	1		
1,12		Provide "as-built" drawings	Sum	1		
1,13		Provide 3 copies of O&M Manuals for the installation, including a soft copy	Sum	1		
1,14		Contract administration and general requirements	Sum	1		
1,15		Training of personnel (Operations and Maintenance)	Sum	1		
1,16		Appointment of Local Security Company	Month	24		
		SCHEDULE NO.0 PRELIMINARY & GENERAL CARRIED TO SUMMARY				
Carried forward to Summary of Schedules						

CITY OF TSHWANE

CONTRACT WS 15 2024/25: TENDER FOR THE APPOINTMENT OF A CONTRCTOR FOR THE REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT DATE

Summary of Schedules

Schedule/Section No.	Description	Amount (R)
	DISCIPLINE: CIVIL, MECHANICAL, ELECTRICAL & ELECTRONICS ENGINEERING	
Schedule 0	PRELIMINARY AND GENERAL	
	TOTAL: PRELIMINARY AND GENERAL	
	DISCIPLINE: CIVIL ENGINEERING	
Schedule 1	PIPELINES	
Schedule 2	CIVIL WORK	
Schedule 3	FENCING	
Schedule 4	BUILDING REFURBISHMENT	
	TOTAL: CIVIL ENGINEERING	
	DISCIPLINE: ELECTRICAL AND ELECTRONICS ENGINEERING	
Section C	SUBSTATION	
Section D	MEDUIM VOLTAGE CABLE INSTALLATION	
Section E	SWITCHBOARD AND MOTOR CONTROL CENTRES	
Section F	LOW VOLTAGE AND INSTRUMENTATION	
Section G	EXCAVATION AND TRENCHING	
Section H	EARTHING	
Section I	LIGHTNING PROTECTION	
Section J	CORROSION PROTECTION	
Section K	INSTRUMENTATION	
Section L	PLC	
Section M	SMALL POWER (OFFICES & ACCOMMODATION)	
Section N	AREA & HIGH MAST LIGHTING	
Section O	ELECTRONIC SECURITY SYSTEM	
	TOTAL: ELECTRICAL AND ELECTRONICS ENGINEERING	
	Total Carried forward	

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the

Part C2: Pricing Data

Section C2.3: Summary of Schedules

	Total Brought forward	
	DISCIPLINE: MECHANICAL ENGINEERING	
Schedule 1	INLET WORKS	
Schedule 2	SPLITTER BOX	
Schedule 3	BIOLOGICAL REACTOR	
Schedule 4	RAS PUMPSTATION	
Schedule 5	CLARIFIER (SETTLING TANK)	
Schedule 6	CLARI -FLOCCULATOR	
Schedule 7	CHLORINATION	
Schedule 8	SLUDGE DEWATERING	
Schedule 9	TESTING AND COMMISSIONING	
Schedule 10	BABELEGI WASTEWATER TREATMENT PLANT	
	TOTAL: MECHANICAL ENGINEERING	
	Sub-Total	
	Provisional sum: Allowance for Contingencies (10% of Sub-Total)	
	Total Construction Cost	
	Value Added Tax at 15%	
	Total Amount of Tender Carried Forward to Form of Offer and Acceptance	

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the

Part C2: Pricing Data

Section C2.3: Summary of Schedules

Bankers Details :

Contractor's Name: _____

Name reflected on bank statement: _____

Bank: _____

Branch: _____

Account Number: _____

Cheque Account or Savings Account

Signature :

By Tenderer : _____

Company Name : _____

Date : _____

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume1: General Clauses, Tender Procedures, Contract Data, Schedule of Quantities and Scope of Work

Portion 2: Contract

Part C3: Scope of Works

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
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PORTION 2: CONTRACT

PART C3 SCOPE OF WORKS

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Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume1: General Clauses, Tender Procedures, Contract Data, Schedule of Quantities and Scope of Work

Part C3: Scope of Works

Section C3.1: Description of Works

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
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UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
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C3.1 DESCRIPTION OF WORKS

C3.1. DESCRIPTION OF WORKS

C3.1.1 EMPLOYER'S OBJECTIVES

The Temba and Babelegi Wastewater Treatment Works (WWTWs) are situated approximately 50 km north of Pretoria Central Business District (CBD) in the western side of the N1 Highway. Both plants are near the banks of the Appies River, within 10km from the town of Hammanskraal village. The Temba and Babelegi WWTWs are within 5km of each other. Majority of the planned works are to be carried out at Temba WWTW. Coordinates of Temba WWTW are 25°23'02.32"S 28°16'23.06"E, and the coordinates for Babelegi WWTW are 25°21'01.45"S 28°16'21.97"E.

The upgrading of Temba and Babelegi Waste Water Treatment Plants around the year 2010 have been necessitated by the planned servicing of approximately 6 500 stands with waterborne sanitation systems in the Ramotse, Marololong and Kudube Unit 1 areas. The upgrading of these works will have to make provision for future waterborne sanitation systems of other proclaimed townships in the northern area of the CoT.

The upgrading works carried at Temba and Babelegi WWTPs included the civil, mechanical and electrical components of the 20 Mega litre per day (Ml/d) extension. The construction work was almost completed but due to various delays, the works were not commissioned. A major delay was obtaining additional supply from the existing Eskom electrical connection. The electrical connection was subsequently upgraded to accommodate the extension. However, vandalism and theft of mostly electrical equipment occurred and not replaced. The outstanding civil connections between the new and existing infrastructure needs to be completed and various electrical, electronic and mechanical equipment needs to be repaired or replaced, so that the commissioning of the WWTW can be completed.

The Employer's objective is to have the vandalised components repaired and replaced, and the incomplete connections to existing infrastructure made and the commission of the extension segment of the existing WWTW be implemented.

C3.1.2 OVERVIEW OF THE CIVIL ENGINEERING WORKS

C3.1.2.1 Temba waste water treatment works including the inlet works

Civil Engineering works completion works are listed in this section.

- **Inlet works and flow balancing tank**

- *Pipe connections for the commissioning of the new inlet works.*

Inspections were done around the pipes around manhole MHSS5 and the inlet channel. The two new manholes, one outside the fence and the one inside the fence are unfortunately full of sewage and possibly storm water which appear to be at the same level as in the inlet channel. This suggests that the two pipes

linking the inlet channel to these two new manholes were laid, that is pipes MHA -MHB and MHB- Inlet Channel. The proposal at the design stage was to adopt as laid, with intention of verifying when the appointed contractor is on site with digging and pumping equipment.

- *Pipe connection between new inlet works and existing sump.*

The concrete sewer pipe leaving the inlet works which will be inlet to the sump, currently buried, labelled on drawings as 1050mm in diameter will be extended onto the sump wall. The remaining pipe is to be laid is less than 20m. The proposal is to introduce a temporary coffer dam to keep away the sewage in the sump coring the walls for the new pipe connection.

- *Pipe connection between existing sump and box to balancing tank*

A concrete pipe has to be laid to the manhole just outside the sump, in the northern side of the sump. The laid pipe is buried, and the actual diameter will be determined when the contractor is appointed and exposes the pipe. The proposal for the new pipe connection is to introduce a temporary coffer dam to keep away the sewage during the coring the sump walls.

- *Decommissioning of existing pipe to the existing inlet works*

The flows from the two manholes MHC and MHD in the northern and southern sides of the inlet chamber respectively need to be directed to the inlet chamber. The pipe from Inlet chamber to MHC to MHE needs to be decommissioned.

- *Access for collection of grit bins at the new inlet works*

The short access road will be constructed from concrete. It links the existing adjacent road and the new inlet works for grit bins collection.

- *Access for collection of screenings from the new mechanical screens*

The concrete floor slab will be raised, to enable placement and retrieval of the screenings bin. Proposal is to purchase new bins similar to the yellow metal bins already in use at the Temba WWTW which are lifted by the hydraulic trailer

- *Connect the washer press to a water source*

There is an existing High Density Poly Ethylene (HDPE) water pipeline already supplying the inlet works with water. A connection will be installed to tap off this pipeline, after the meter, to the washer press. The water line is to be connected to the existing connection point at the washer press.

- **New splitter box chamber inside Temba WWTW**

- *Pipe connections between the new splitter box and existing modules to be completed*

The following pipe connections have been identified completed;

- i) At commissioning – T piece linking the outlet from new division chamber to the existing pumping main, blanking off the existing pumping main
- ii) At commissioning – T piece linking the outlet from new division chamber to the existing outlet from old splitter box
- iii) Break some walls on the new splitter box and modify them as shown on the drawings

- **Leaking and cracking biofilter at Temba**

- *Identify the source of leak on the biofilter which is leaking at the bottom*

The media in the biofilter needs to be emptied, carefully remove the bottom tiles and identify source of the leak and replace the media and floor tiles after repairs are done.

- *Repair cracks on the concrete walls*

The walls are exposing reinforcement, needs chipping off the loose concrete, wirebrushing the reinforcement and applying a suitable engineer approved repair mortar.

- **Electrical MCC building doors and windows**

- *Repair and/or replace broken windows and doors to the Motor Control Center (MCC) building adjacent to the new biological reactors*

The two steel doors have damaged hinges, and the doors need to be removed by breaking the brickwalls holding them in place. The two doors will be replaced and the two broken windows will be replaced. A secure fabricated locking mechanism will be proposed on the doors. Security screens will be included for all 2 doors and 14 windows to enhance security.

- **New bioreactors discolouration and defects on concrete surface**

- *Investigate and address the discolouration on the new bioreactors walls and columns possibly caused by rusting reinforcement. These are defects to be addressed.*

The images below show the defects on concrete and discolouration.



- **New overflow sewer line adjacent to the new sludge ponds**

- *Construct a new overflow sewer pipeline at the sludge ponds at Temba WWTW*
This new overflow sewer pipeline replaces the existing overflow system comprising a pipeline and a concrete channel. The existing overflow system will be plugged off, to allow overflow effluent from the ponds to flow into the new sewer pipeline which discharges into the existing manhole between the drying bed and the new bioreactors.

- **Concrete palisade fence repair and cutting down trees interfering with fence at Temba WWTW, Temba Inlet works and Babelegi WWTW**

- *Remove damaged concrete Palisade fence and dispose to designated spoil site*
- *Repair of existing Palisade fence by replacing the fence and deepening the foundation posts*
- *Cutting down trees that are growing adjacent to the fence and causing damage to it - cut stumps to be flush or lower than ground level where feasible*

The images below show the typical failures on the existing palisade fence;



- **General items around the Inlet works and Temba WWTW**

- *Backfilling of holes and open trenches around the inlet works and inside Temba WWTW*

There are pits that would need backfilling after laying pipes or fittings.

- *Replacing of damaged/vandalised hand railings and safety barriers*

These will be replaced with the ones similar to existing ones

- *Securing the HDPE pipes pulling out of manholes at the sludge ponds by attaching flanges on the pipes*

These are the HDPE pipes slipping out of the manholes because they are not secured. Fitting some flanges at the ends will secure them to anchoring the pipes to the manholes.

- *Covering exposed Polyvinyl Chloride (PVC) pipe being discoloured by the sun at sludge splitter box at Temba new sludge ponds*

The pipe will be protected from the sun by covering it with concrete as shown on the drawings.

- *New short pipe and manhole at chlorine contact tank*
- *Repair the crack on the concrete beam in the chamber on pipeline from sump to balancing dams*
- *Hydraulic pressure testing on the two 500mm diameter HDPE/PVC pumping mains from inlet works to Temba*
- *Valves on the sludge pipelines leaving the new sludge ponds*

These knife gate valves shall be inserted in between the retaining walls of the sludge ponds and the existing flanged joints on 200 mm HDPE sludge pipes as shown on the drawings. There are 8 similar positions where valves should be inserted

- *General cleaning and clearing of debris from manholes, pipes and chambers in preparation for commissioning*

- **Commissioning sequence of the completed works**

After all the installations have been made, the commissioning of the works need to be done in a logical sequence. This implies that to activate treatment process at Temba, there has to be power at the inlet and pumping already happening from the new pumpstation at the inlet works. A draft commissioning sequence is included in the Particular Specifications (PSCW-08) of this tender document. The final version will be formulated by the appointed contractor, the client and the consultant.

C3.1.3 OVERVIEW OF THE MECHANICAL ENGINEERING WORKS

This section addresses the Mechanical Engineering requirements for the Completion of Temba Wastewater Treatment works and upgrading of Babelegi Wastewater Treatment works.

Scope of work for Mechanical Engineering services is to supply, service, repair or refurbish, install and commissioning of Mechanical Equipment.

- Refurbishment of Mechanical Equipment that cannot be commissioned due to damage or theft.
- Replacement of Mechanical Equipment that were damaged/vandalised beyond repair.
- Service the existing Equipment that were not in operation on site for prolonged periods.
- Supply and Installaion of new Mechanical Equipment needed for upgrading the plant
- Construction and Commissioning of the Plants

The mechanical components to be designed, supplied, installed and commissioned are as follows:

C3.1.3.1. TEMBA WWTWs SCOPE OF WORKS

C3.1.3.1.1. INLET WORKS EQUIPMENT

- 16 No 7.5 kW Balancing Dam Submersible mixers need to be serviced as per Original Equipment Manufacturer (OEM) recommendations.
- Supply and install a locable grid for the Balancing pond Subsoil drainage pump station roof, a footing for the lifting davit to be installed to lift the pumps using the mixer lifting equipment, a flexible pipe with quick release coupling to be used to connect the pumps to the outlet pipes.
- Supply and install 304 Stailless steel steel catladder in the Subsoil drainage pump station.
- 2 No 132 kW Immersible sewage pumps need to be serviced as per OEM standards
- 2 No new Immersible sewage pumps need to be installed as standby pumps to the installed 132kW Immersible pumps, complete with connecting pipework, valves and ancillaries.
- Installation of manual trolley and chain block for maintenance of the pumps.
- Sluice gate shaft to hand wheel needs to be extended to ease operation.
- Additional footings for the lifting device to be installed to service the submersible mixers.

- Screenings press outlet pipe needs modification to allow discharge into a bin under the concrete roof. The bin will be placed directly under the roof and should allow for wash water and storm drainage to be unobstructed.
- Supply of new waste bins
- Main Splitter box outlet valve spindles to be extended to top of floor grating for ease of operation.
- New adjustable weirs to be installed in the existing Splitter Box
- Construction of access to the Balancing Dam's drainage pump station for maintenance.

C3.1.3.1.2. BIOLOGICAL REACTOR

The Biological Reactor was drained to reveal the 10 submersible mixers, all mixers are intact and show no physical damage, except for the electrical cables which were cut off and submerged in the water.

Only one lifting davit is installed to service all 10 submersible mixers.

- 4 No 110 kW surface aerators need to be serviced as per Motor and Gearbox OEM standards.
- 4 No 75 kW surface aerators need to be serviced as per Motor and Gearbox OEM standards.
- 4 No 55 kW surface aerators need to be serviced as per Motor and Gearbox OEM standards.
- All Aerator levels to be adjusted to final positions using the jacking bolts and draft tubes extended where necessary.
- 12 No aerator draft tubes need to be raised to allow better oxygen transfer and mixing during operation.
- Steel structure with crawl beam is provided for aerator maintenance, a manual trolley and chain block must be installed.
- Subsoil drainage pumps need service, and new lifting gear. (A-frame)
- 4 No actuated pinch valves to be inspected and serviced.
- Installation of 4 No new V-notch weirs for the activated sludge control.
- Return Activated Sludge pumps need major service, including new V-belts, and lubrication, to contractor to follow OEM guidelines for inspection and maintenance of the rotating assembly.
- Allowance to be made for pulley changes during commissioning for pump speed adjustments.
- Supply and install suction and discharge removable pressure gauges complete with ball valves and screen.
- All installed valves to be serviced to OEM standards

- Flow meters to be installed (where required), complete with flange adaptors to spaces provided in the flow meter chambers.

C3.1.3.1.3. CLARIFIERS

The clarifier floor scrapers are fully installed, the contractor is to inspect the condition of the rubbers and replace, as necessary.

- Centre bearing service and lubrication. Lubrication pipes to be installed.
- Slip ring on one clarifier to be replaced, the other one to be inspected and serviced.
- Replace all the scum scraper rubbers (damaged by the sun)

C3.1.3.1.4. LIME AND POLYMER DOSING

The construction of the lime silo is incomplete, needs the rotary extraction valve, screw feeder, mixing bowl and load cells to measure the weight of the product.

Polymer mixing and dosing pumps are installed, piping to the dosing points need to be repaired in some places.

C3.1.3.1.5. CLARI-FLOCCULATOR

All components of the clari-flocculator are intact, major service is needed on the drives, (Geared motors), bearings and slip-ring. Lubrication pipes for the central bearing to be installed.

- Waste Activated Sludge pumps need major service, including new V-belts, and lubrication, contractor to follow OEM guidelines for inspection and maintenance of the Rotating assembly.
- Supply of removable suction and discharge pressure gauges, piping to be fitted with valves and connecting sockets for the gauges.
- All installed valves to be serviced to OEM standards
- Gate valve and spool piece to be installed complete with flange adaptors to spaces provided in the flow meter chambers.
- Supernatant Activated Sludge pumps need major service, including new V-belts, and lubrication, Contractor to follow OEM guidelines for inspection and maintenance of the rotating assembly.
- Pressure gauges discussed above will be used for these pumps as well during commissioning & maintenance.
- All installed valves to be serviced to OEM standards
- Flow meters to be installed complete with flange adaptors to spaces provided in the flow meter chambers, where needed.
- Air blowers to be serviced to OEM standards, Pressure Safety valves to be installed and set.

C3.1.3.1.6. SLUDGE DEWATERING

- Division box hand stops are to be installed, and missing floor grating to be replaced.
- Hand stops to be installed at sludge ponds, hand wheels to be provided for sludge outlet valves.
- High-density polyethylene (HDPE) piping inside sludge holding dams to be repaired.
- The existing belt press to be replaced with a new package supply which includes a new belt press, with accompanying sludge conditioning, polymer make-up and dosing system, sludge feed pumps, and belt wash water pumps and ancillaries.
- Sludge conveyor drive to be installed and chute modified to avoid clashing

C3.1.3.1.7. CHLORINATION & DISCHARGE

- Chlorine building Equipment to be inspected and serviced, loadcells, piping, and regulators, and all missing chlorination components and ancillaries to be supplied and installed.
- Chlorine contact tank handrailing to be replaced.
- Electric motors and belt drives on irrigation pumps to be replaced, pumps and valves to be serviced to OEM standards.
- Pressure sustaining valve to be serviced and set
- Self-cleaning filter to be serviced.

C3.1.3.2. THE MECHANICAL COMPONENTS TO BE REFURBISHED ARE AS FOLLOWS

To best utilise the funds allocated to this project, potential mechanical items have been identified by the Engineer to be refurbished. Items were identified based on a condition assessment of the items or the inaccessibility of the items due to current submergence on site. The scope of works will include mechanical condition assessments of the identified equipment including a report detailing the refurbishment required and a provisional sum for the work required.

C3.1.3.2.1. SETTLING TANK EQUIPMENT

The following equipment is to be supplied and installed at the new settling tanks serving the Biological Reactor:

- Two Rotating bridges shall be equipped with slip rings and scrapers to suit the activated sludge plant settling tanks each having an internal diameter of 30m.

- One central bridge support column with stilling chamber, discharging unsettled sewage into the structure.
- Two scum removal hoppers and skimmers activated by the passing over of the rotating bridge, with scum discharged to the Waste Activated Sludge (WAS) aerobic digester.

C3.1.3.2.2. SLUDGE DEWATERING AND HANDLING EQUIPMENT

- New Dewatering Equipment to be provided, excluding the Dewatered Sludge Conveyor, as described above
- Dewatered sludge conveyour to be refurbished
- New sludge turning equipment to be supplied.

C3.1.3.3. BABELEGI WWTWs SCOPE OF WORKS

- Installation of sludge diversion gate at Inlet Works.
- Installation of 2 No new submersible pumps at the old reactor.
- Installation of handrail around pump station
- Installation of new A-frame hoist for new pumps

C3.1.4 OVERVIEW OF THE ELECTRICAL & ELECTRONIC ENGINEERING WORKS

THE ELECTRICAL SCOPE OF WORK IS AS FOLLOWS;

- a) The supply, installation, connection and commissioning of replacement medium voltage switchgear panels.
- b) Test and commission all transformers for both main works and Inlet plant
- c) Test and commission the main works Feeder Ring Main Unit (RMU)
- d) Test and Commission of the main works Neutral Earth Resistor (NER)
- e) Replace or join damaged Medium Voltage (MV) and Low Voltage (LV) Cables for both main works and Inlet plant.
- f) Design, Supply, install and commission new MCCs for Main works plant
- g) Rewire, test and commission MCCs for diverse section of the plant.
- h) Repair, Test and commission all MCCs for the Inlet Plant
- i) Supply, install, test and commission new Variable Speed Drive (VSD) starters for immersible pumps at the inlet plant.
- j) Test and commission Control Systems for the Inlet plant
- k) Refurbish all damaged electrical infrastructure

- l) Re-instate general earthing for the entire plant. Supply, installation, connection, and testing of an earthing/bonding system, where required
- m) Supply, Install, test and commission lighting protection for identified buildings
- n) Supply, install and commission Closed-Circuit Television (CCTV) camera system*
- o) Supply and install intrusion alarm system*
- p) Supply and Install perimeter Electric Fence*
- q) Improve Area lighting with motion light triggering system*
- r) Design, supply and Install new small power and lighting for various buildings
- s) Test and commission 496kW generator.
- t) Supply and Install 5000L bulk diesel tank for the generator
- u) Supply, installation, connection and testing of emergency stop stations / buttons.
- v) Supply, installation, and connection of all cable trays, wire ways, conduit, draw and outlet boxes, and sleeves
- w) Supply, installation, and connection of all cables, control circuit, wiring and conductors
- x) Connection of electrical power to all mechanical equipment and systems, i.e. pumps, valves, pressure and level transmitters to complete the plant, etc.
- y) Supply, installation, and connection of all cable ladders.
- z) Testing, commissioning, and handing over of the complete electrical installation, in accordance with the requirements of the Electrical Contracting Board of South Africa and the issue of a Certificate of Compliance for each and every installation.

**The CoT reserves the right to omit this scope pending the finalisation of security system tender*

THE CONTROL AND INSTRUMENTATION SCOPE OF WORK IS AS FOLLOWS;

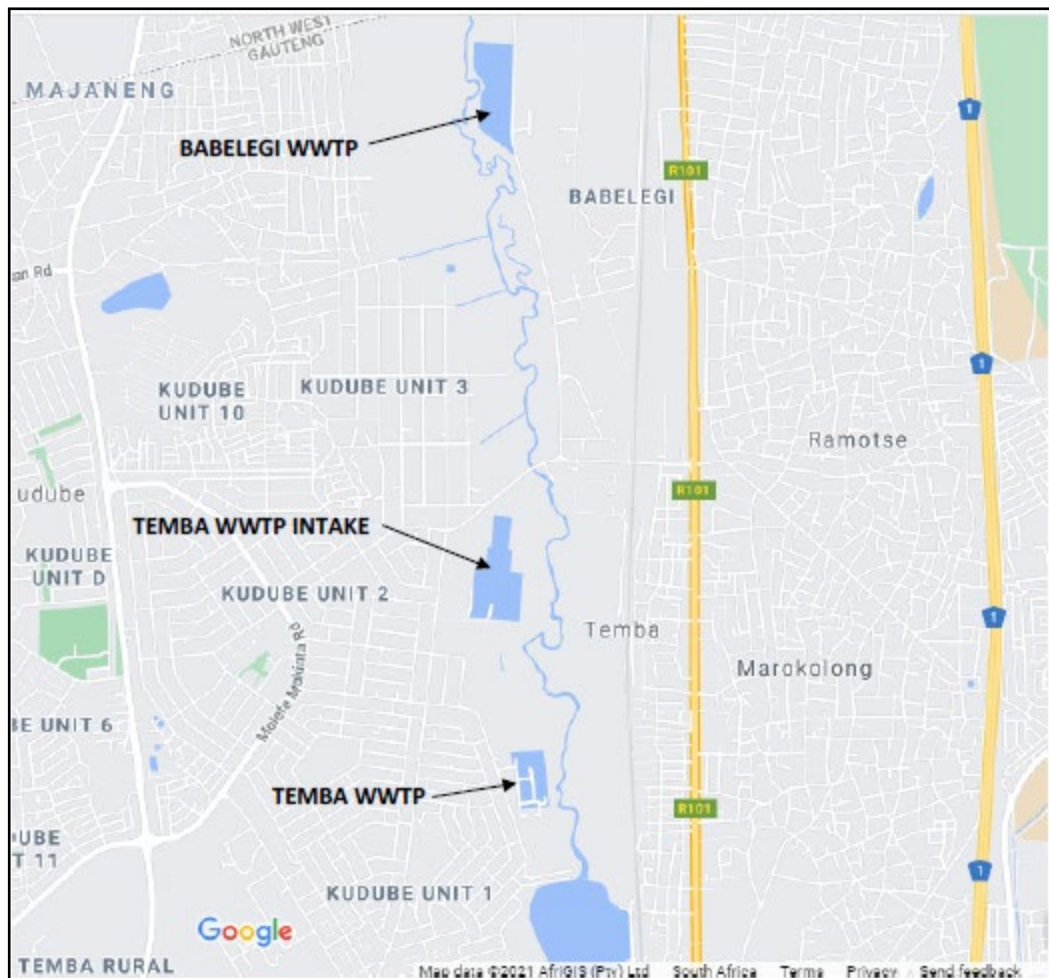
- a) Supply, installation, and connection of all Instrumentation, as specified.
- b) Design, Supply, installation in the designated MCC's, connection, testing and commissioning of control Programmable Logic Controller (PLC) systems to automatically operate the plants.
- c) Supply, installation and commissioning of the Human Machine Interface (HMI) system.
- d) Supply, installation and commissioning of Uninterruptable Power Supply's (UPS's).

C3.1.5 LOCATION OF THE WORKS AND DESCRIPTION OF THE SITE

The Temba and Babelegi Wastewater Treatment Works (WWTWs) are situated approximately 50 km north of Pretoria Central Business District (CBD) in the western side of the N1 Highway. Both plants are near the banks of the Appies River, within 10km from the town of Hammanskraal village. The Temba and Babelegi WWTWs are within 5km of each

other. Majority of the planned works are to be carried out at Temba WWTW. Coordinates of Temba WWTW are 25°23'02.32"S 28°16'23.06"E, and the coordinates for Babelegi WWTW are 25°21'01.45"S 28°16'21.97"E.

The image below shows the location of the works.



C3.1.6 EXCEPTIONALLY ADVERSE CLIMATIC CONDITIONS

Extension of time resulting from abnormal rainfall in terms of sub-clause 8.4 of the FIDIC Yellow Book Conditions of Contract shall be determined by applying the formula below;

$$V = (Nw - Nn) + (Rw - Rn)/X$$

Where X = 20 (Y shall be adopted as 10)

Where:

V = Extension of time in calendar days for the calendar month under consideration

Nw = Actual number of days during the calendar month under consideration on which a rainfall of 10mm and more is recorded

Rw = Actual total rainfall in mm recorded during the calendar month under consideration

Nn = Average number of days, derived from rainfall records, on which a rainfall of 10mm and more was recorded during the relevant calendar month as per the data tabulated hereinafter

Rn = Average total rainfall in mm for the relevant calendar month, derived from rainfall records, as tabulated hereinafter

The values of Nn and Rn are obtained from the table below which is rainfall records received from the Boekenhoutkloof weather station location -25.4500; 28.4000.

MONTH	Nn (days)	Rn (mm)
January	3.3	121.2
February	2.8	102.6
March	2.7	91.5
April	1.7	32.2
May	1.0	19.8
June	0	0
July	0	0.7
August	0	0
September	1.0	9.1
October	1.7	38.4
November	3.0	71.1
December	3.5	89.1
TOTAL	20.6	575.6

Where the extension of time due to abnormal rainfall has to be calculated for portion of a calendar month, pro rata values shall be used. Should V be negative for any particular month, and should its absolute value exceed the corresponding value of N_n, then V shall be taken as being equal to minus N_n. The total extension of time to be granted shall be the algebraic sum of all the monthly extensions, provided that if this total is negative then the time for completion shall not be reduced due to subnormal rainfall.

Actual extensions of time due to exceptionally adverse climatic conditions shall be agreed between the Engineer's and Contractor's representatives on the site. The agreed whole days or parts thereof shall be recorded in the site dairy and monthly site meetings. Adjustment of the contract period shall only be made at the end of the Contract when the Contractor may submit his claim for the agreed extension due as well as any additional payment resulting from the delay.

If approved extensions of time extend the completion date beyond the start of the Contractor's holiday in December, the holiday period shall not be considered as working days. Any remaining extension of time at this date shall be calculated from the first statutory working day in January the following year, provided that the Contractor has shown in his program that he intends to close during the traditional Christmas/New Year break.

C3.1.6 Labour-Intensive Construction

The construction of certain of the works has specifically been identified for labour-intensive construction. Where unskilled workers are required, the Contractor shall employ and, where necessary, train workers from the local community to execute certain labour-intensive tasks. The Employer shall facilitate the process of identifying possible individuals to be employed by the Contractor.

Several items in the Schedule of Quantities have been identified for labour-intensive construction and these have been marked LI in the pay item column. It is accepted that some of these tasks (e.g. plumbing) will have to be performed by skilled individuals sourced by the Contractor, in other words, not all items marked LI are to be executed by unskilled workers. Labour intensive construction is therefore to be interpreted in the broader sense as defined in the Guidelines for the implementation of labour-intensive infrastructure projects under the Expanded Public Works Programme (EPWP) appended under section C3.4.1 – "Labour-intensive: refers to methods of construction involving a mix of machines and labour, where labour, utilising hand tools and light plant and equipment, is preferred to the use of heavy machines, where technically and economically feasible."

The Contractor shall prepare a proposal with regards to the execution of the identified tasks stating (a) the number of unskilled local labour to be employed, (b) number of labourers to be trained, type of training and (c) methods of construction. The proposal shall also indicate the names and qualifications of the individuals assigned to supervise the work. The proposal shall be submitted and approved by the Engineer prior to commencing with the above tasks. Once approved, the Contractor shall be expected to perform in terms of the proposed targets.

A Provisional Sum has been included in the Schedule of Quantities for accredited training of labourers required for the execution of labour-intensive construction.

The Contractor shall be deemed to have made allowance in his tendered rates for the execution of the above tasks by means of labour-intensive construction methods.

WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume1: General Clauses, Tender Procedures, Contract Data, Schedule of Quantities and Scope of Work

Portion 2: Contract

Part C3: Scope of Work

Section 3.2: Engineering

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

C3.2 ENGINEERING

C3.2. ENGINEERING

C3.2.1 ENGINEER'S DESIGN

Although the Engineer has specified the equipment to be provided for tendering purposes, the Contractor shall be responsible for the detail design of all propriety materials and plant in order to ensure these are appropriately selected, specified and installed to meet the particular installation conditions on Site. This requirement shall be specifically applicable to any/all items of a mechanical and electrical in nature included in the contract.

With regards to site and interconnecting pipework, the Engineer has provided the proposed layout of the pipework on the Drawings for tendering purposes. However, the Contractor shall be responsible for all final measurements on site, final design, correct manufacturing and installation of all pipe items and specials to suit the installation. All modifications on site shall be handled in terms of the relevant Specifications for repairs to damaged corrosion protection. The Contractor shall also maintain suitable records of all such items in order for the Engineer to complete the as-built drawings at the completion of the works.

Similar to the site pipework, the Engineer has provided the proposed layout of the outfall sewer for tendering purposes. All modifications on site shall be handled in terms of the relevant Specifications for the construction of sewers. The Contractor shall also maintain suitable records of all such items in order for the Engineer to complete the as-built drawings at the completion of the works.

All Civil related works including pipework shall be re-measurable and the civil component of the final contract price shall be determined by the product of the tendered rate and actual quantity of work completed and certified.

C3.2.2 ALTERNATIVE OFFERS

The Contractor shall complete the tender in terms of the information provided and requested in the tender document. Failure to complete the tender document, including the schedule of quantities, may lead to the rejection of the bid. Alternative offers will be considered at the discretion of the Employer.

C3.2.3 CONSTRUCTION PERIOD

The maximum construction period total construction period of the infrastructure (civil and mechanical/electrical works) shall be **24 months** from the Commencement, excluding the builder's holiday, of which 3 months will be a float period belonging to the Employer for purposes of accommodating unforeseen Employer's delays.

Alternative offers for a shorter construction period may be submitted (refer to section C1.2.4 – Data to be provided by the Contractor), which will be considered during the tender evaluation process. Any alternative offer must include the aforementioned 3 month period.

C3.2.4 DRAWINGS

The tender drawings issued are in Part C4 (Volume 2).

END OF SECTION

Contract: WS 15 2024/25

Tender for the appointment of a contractor for the replacement and completion of the electrical and mechanical components of Temba Wastewater Treatment Works and upgrading of Babelegi Wastewater Treatment Plant for construction duration of 24 months from the commencement date

Volume 2: Pricing Data, Schedule of Quantities and Scope of works

Part C3: Scope of Work

Section C3.3: Procurement

CITY OF TSHWANE
WATER AND SANITATION DEPARTMENT

CONTRACT NO: WS 15 2024/25

**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE
REPLACEMENT AND COMPLETION OF THE ELECTRICAL AND MECHANICAL
COMPONENTS OF TEMBA WASTE WATER TREATMENT WORKS AND
UPGRADING OF BABELEGI WASTE WATER TREATMENT PLANT FOR
CONSTRUCTION DURATION OF 24 MONTHS FROM THE COMMENCEMENT
DATE**

C3.3 PROCUREMENT

C3.3. PROCUREMENT

C3.3.1 PREFERENTIAL PROCUREMENT PROCEDURES

The City of Tshwane promotes preferential procurement. The philosophy of the process and mechanisms of points scoring system are described in section T1, Clause F3.11.9 below. The tenderer is also referred to SANS 10396:2003 "Implementing Preferential Construction Procurement Policies Using Targeted Procurement Procedures" as a general guideline for the procurement of targeted labour and enterprises. The following schedules should be noted:

Paragraph 4.3	Engagement of Target Groups in Contracts
Sub-Paragraph 4.3.2	Targeting on a Geographical Basis
Paragraph 4.5	Subcontracting
Paragraph 4.6	Conditions for Employment of Labour
Paragraph 4.9	Engaging Marginalized Communities in Infrastructure Projects
Paragraph 4.10	Measuring the Participation of Targeted Enterprises and targeted Labour
Paragraph 5.2	Techniques and Mechanisms allocated with Targeted Procurement
Sub- Paragraph 5.3.5	Targeting Frameworks for Employment Intensive Projects
Annexure G:	Implementing employment-intensive infrastructure projects which target the increase of employment opportunities generated per unit of expenditure

C3.3.2 PREFERRED SUBCONTRACTORS/SUPPLIERS

Section 47 of the SCM Policy SUB-CONTRACTING

When subcontracting :

The City shall obligate main contractors or service providers to engage targeted enterprises in the performance of their contracts incorporating resource specifications.

(1) The appointed service provider must source competent and capable service providers and where applicable be registered with the relevant body and submit a list of sub-contractors for approval to the City of Tshwane.

(2) Sub-contracting entity should have at least equal B-BBEE level status and /or specific goals or higher than the main contractor.

(3) Minimum of 30% will be sub-contracted for this tender..

(4) Local economic participation should be given priority when making a list of potential subcontractors available

• City of Tshwane Participants with specific attention for the region in which the contract is to be executed should be given first priority and the below competent and capable designated groups should be prioritized.

- An EME or QSE
- An EME or QSE which is at least 51% Black Owned
- An EME or QSE which is at least 51% Owned by Black youth

- An EME or QSE which is at least 51% Black Women Owned
- An EME or QSE which is at least 51% owned by black people with disabilities.
- An EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships
- A cooperative which is at least 51% owned by black people
- An EME or QSE which is at least 51% owned by black people who are military veterans; or
- More than one of the categories referred to in paragraphs (a) to (h).

Should subcontractors within Tshwane not be identified, the appointed service provider can extend the list of subcontractors to:

- Gauteng Participants
- National participants

(5) In relation to a designated sector a contractor must not be allowed to sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold if the appointed Service Provider scored points for Local Content and Production.

C3.3.3 SUBCONTRACTING PROCEDURES

The contractor shall advertise and call for competitive tenders in respect of each portion of the works that are required to be subcontracted in terms of the contract in accordance with the relevant provision of the latest edition of the CIDB Standard for Uniformity in Construction Procurement. The Contract Data in the associated procurement documents shall be based on the City of Tshwane standards and any other relevant documentation of subcontracting with minimal project-specific variations and amendments that do not change their intended usage.

The Employer together with the Contractor shall evaluate the tenders received in accordance with the provision of the Standard Conditions of tender. The evaluation panel shall comprise equal representatives from the Employer and from the Contractor.

The Contractor shall without delay enter into a contract with the successful tendering subcontractor based on their accepted tender submission. The Contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

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Portion 2: Contract

Part C3: Scope of Work

Section C3.5 Management

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C3.5 MANAGEMENT

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C3.5 MANAGEMENT OF WORKS

C3.5.1 MANAGEMENT OF THE WORKS

C3.5.1.1 Construction Programme

The Contractor shall supply within the period stated in the Contract Data a suitable and realistic construction programme that is based on the construction drawings issued by the Engineer, for consideration by the Engineer. This programme shall show the proposed scheduling and methods of execution of the Works, as well as the resources that will be allocated to each item or phase of the Works. Quantities proposed for execution during each month must be shown. In addition, the anticipated cashflow for the Contract, based upon these quantities, shall be shown following the prescribed format.

The Contractor will be expected to progress with the Works in accordance with the approved programme, and shall not deviate from the order of execution shown in the programme without the prior approval of the Engineer or his Representative. Should such approval be given an adjusted programme shall be produced within five (5) working days and submitted to the Engineer for evaluation.

Progress in advance of the programme on certain portions or phases of the Works shall not be considered adequate reason for poor progress on another portion or phase.

C3.5.1.2 Site Administration

Acceptance control, record keeping and payment certificates shall be done in accordance with the Engineer's standard system except if the Engineer approves that the Contractor's standard system may be used.

C3.5.1.3 Daily Site Diary

The daily site diary shall be kept up to date by the Contractor's Representative and will be signed on a daily basis by the Engineer's Representative.

C3.5.1.4 Information in Respect of Plant

Information relating to plant on Site shall be recorded in the daily site diary. In addition, the Contractor shall deliver to the Engineer, on a monthly basis, a detailed summary of construction plant kept on the Site, full particulars given for each day of the month. A distinction shall be made between the

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plant in working order and plant out-of-order. Such inventory shall be submitted by the first day of the month following the month to be reported.

C3.5.1.5 Information in Respect of Labour

Information relating to labour and management on Site shall be recorded in the daily site diary in addition, the Contractor shall deliver to the Engineer, on a monthly basis, a detailed summary of supervisory staff, labour employed (own and local labour) by category, and sub-contractors (both local and imported) for each day of the month. Such return shall be submitted by the first day of the month following the month to be reported.

C3.5.1.6 Rainfall Records

Rainfall records for the period of construction shall be taken on Site and recorded in the daily site diary. The Contractor shall provide and install all the necessary equipment for accurately measuring the rainfall. The Contractor shall also provide, erect and maintain a security fence plus gate, padlock and keys at each measuring station, all at his own cost. The Engineer or his Representative shall take and record the daily rainfall readings. The Contractor shall be permitted to attend these readings, in the company of the Engineer's Representative. Access to the measuring gauge(s) shall at all times be under the Engineer's control.

C3.5.1.7 Site Instructions

Site instructions issued by the Engineer, addressed to the Contractor at his office on the Site, will be numbered consecutively and will be deemed to have been received by the Contractor's representative unless a break in the sequence of numbers is brought to the notice of the Engineer in writing immediately.

C3.5.1.8 Site Meetings

The Contractor and his authorised representative shall attend all meetings held on the Site with the Employer and the professional team at dates and times to be determined by the Engineer. Such meetings will be held to evaluate the progress of the Contract, and to discuss matters pertaining to the Contract which any of the parties represented may wish to raise. It is not the intention to discuss day-to-day technical matters at such meetings. The Contractor shall submit monthly progress reports as required in Clause 4.21 of the Conditions of Contract.

C3.5.1.9 Payment Certificates

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Monthly progress payment certificates shall be submitted to the Engineer's Representative on Site not later than the 20th of each month (or on the last working day prior to this date) in order to allow for checking and reconciliation of all quantities, rates, extensions and additions in the certificate.

Where dayworks have been instructed by the Engineer, the Contractor shall submit the returns to the Engineer for signature and approval within twenty-four (24) hours of the end of the working day on which the work was executed. Daywork returns shall be submitted on forms following the standard format to be issued at project commencement. Failure to comply with the terms of this clause will result in non-payment for such dayworks.

The tax invoice submitted with the certificate shall be dated the date of submission to the Engineer of the payment certificate that was agreed between the Contractor and the Engineer. All costs for the preparation and submission of progress certificates shall be borne by the Contractor.

C3.5.1.10 Occupational Health and Safety Act

The Contractor shall complete the Returnable Schedule T2.2.6 in Section T2.2 bound in this document and designate in writing the name of the responsible person required under sub-clause 1 of the General Safety Regulations R11 (the Regulations) issued under the Occupational Health and Safety Act, 1993, No 95 of 1993, (the Act).

The responsible person shall carry out the duties required of him in terms of the Act and the Regulations, including conducting regular inspections of the Site and of the Contractor's Equipment in order to ensure they are safe and without risk to the health of the Employer's Personnel, the Contractor's Personnel and the public at all times. All inspection certificates shall be up-to-date before the Contractor's Equipment is used at any stage of the Contract. This especially applies to scaffolding, lifting equipment and vessels under pressure, which require legal certification. The Contractor shall also provide personal safety equipment and facilities as required by regulation 2 of the Regulations. In order to deal with accidents and ailments which are likely to occur during the Contract the Contractor shall provide a fully equipped and maintained first aid cabinet as required by regulation 3 with the minimum contents listed in the Annexure to the Regulations. The Employer has the authority to inspect any of the Contractor's Equipment at any time during the Contract as may be desired.

C3.5.1.11 Community Liaison and Community Relations

In all dealings with communities through which the Works are to be executed, and in all dealings with workers employed from within such communities, the Contractor shall take due cognisance of the character, culture and circumstances of the specific community, and shall at all times use his best endeavours to avoid the development of disputes and rather to foster a spirit of co-operation and harmony towards the project.

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The Contractor shall at all times, keep the Engineer fully informed regarding all matters affecting or negotiated between the Contractor and the community, and he shall attend all liaison meetings as may be arranged by the Engineer and/or the Employer. All matters concerning the community shall be discussed and where possible, resolved at such meetings.

Where any resolution during such negotiations or at such meetings shall be contrary to the terms and provisions of the Contract, the Contractor shall not give effect thereto without a prior written instruction from the Engineer. Where the Contractor is of the opinion that any instruction of the Engineer issued in terms of this clause will result in the incurring of additional costs which were not provided for in his tendered rates and prices and/or that a delay in the progress of the Works will result, he shall be entitled to submit a claim in terms of Clause 20 of the Conditions of Contract, provided always that the period of twenty-eight (28) days referred to in Clause 20 shall be reduced to three (3) normal working days in respect of all claims submitted in terms of this clause.

C3.5.1.12 Features Requiring Special Attention

(a) Built-up Areas

The Contractor's attention is drawn to the fact that the Works will be constructed on the existing wastewater treatment works. The Contractor shall exercise all necessary precautions and take all necessary steps to ensure the safety and convenience of the staff and public. In addition, the Contractor shall provide access for traffic over and through the works. Allowance must be made by the Contractor in his programming for delays resulting from the aforesaid.

(b) Reinstatement of Fences

Existing fences need to be reinstated under this contract. If existing fences need to be removed all material shall be neatly stacked or disposed of as directed by the Engineer.

(c) Care of the Site

At all times during construction of the Works and upon completion thereof, the Site of the Works shall be kept and left in a clean and orderly condition. The Contractor shall store all materials and equipment for which he is responsible in an orderly manner, and shall keep the Site free from debris and obstructions.

(d) Control of Water

The Contractor shall at all times and in all respects be responsible for the handling of stormwater from higher-lying areas above the Works, and for the handling of any sub-surface water that may affect the Works. No separate payment shall be made in this regard, as all costs related thereto

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shall be deemed to be included in the rates tendered for the various items of work that are included in the Bill of Quantities.

(e) Survey and Setting Out

The Contractor shall be responsible for the protection of all survey beacons and reference points from handing over of the beacons to the Contractor to completion of the Works. Property beacons and trigonometrical survey beacons that are disturbed or destroyed during the course of the contract shall be replaced at the Contractor's cost by a registered land surveyor who shall verify such replacement.

The Contractor shall be responsible for the true and proper setting out of the Works and for the correctness of the position, levels, dimensions and alignment of all parts of the Works from the beacons established above and for the provision of all necessary instruments, appliances and labour in connection therewith. Such setting out shall be executed by a registered surveyor. No separate payment shall be made in respect of setting out, such work being deemed as included in the rates tendered for construction of the Works.

The checking of any setting-out or of any line or level by the Engineer shall not relieve the Contractor of his responsibility for the correctness thereof.

If at any time during the progress of the Works, any error shall appear or arise in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required to do so by the Engineer, shall at his own expense rectify such error to the satisfaction of the Engineer.

C3.5.1.14 Notices, Signs, Barricades and Advertisements

Notices, signs and barricades as well as advertisements may only be erected where approved by the Engineer. The Contractor shall be responsible for their supply, erection, maintenance and ultimate removal and shall make provision for this in his tendered rates.

The Engineer shall have the right to have any sign, notice or advertisement moved to another location, or to have it removed from the Site of the Works, should it in any way prove to be unsatisfactory, inconvenient or dangerous to the general public.

C3.5.1.16 Precautions against nuisance

The Contractor shall exercise all necessary precautions and take all necessary steps to ensure the safety and convenience of the public, including the prevention of unnecessary noise, dust or other

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nuisance. Where applicable, the Contractor shall provide access for traffic over and through the Works, and for residents to their places of abode, all as described in the Specifications.

Any rock or debris falling from trucks on the roads in use by the public shall be removed immediately. Precautions shall be taken to prevent fouling of public roads and completed works by trucks transporting muddy material. The Engineer may order the Contractor to broom off and clean roads continuously where the mud tracking of vehicles or falling debris may constitute a danger to the travelling public.

Allowance should be made by the Contractor in his construction programme for delays that may result from foreseen and unforeseen actions that are required to ensure the safety and convenience of the public.

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Section C3.6: Health and Safety Specifications

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C3.6 HEALTH AND SAFETY SPECIFICATIONS



CITY OF TSHWANE MUNICIPALITY

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

UPGRADING AND EXTENSION OF TEMBA AND BABELEGI WASTEWATER TREATMENT PLANT.

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1. Project Background and Scope of Works

1.1 Babelegi Waste Treatment Works

Babelegi WWTW treats sewage emanating from the Babelegi Industrial Township and Hammanskraal residential area. All the inflow is currently being pumped to the inlet works by four pump stations situated in the Babelegi industrial area. The inlet works comprises of two mechanical screens and grit channels. Flow from the inlet works can be diverted to the Huisman Orbal system which has been converted into a storm water balancing tank. The base flow from the inlet works enters the extended aeration activated sludge biological reactor. Submersible mixers have been installed in the biological reactor, but no electrical equipment has been installed for the mixers to be able to connect to power. The flow-balancing tank is also not operational as no electrical equipment for the pump station has been installed.

1.2 Temba Waste Water Treatment Plant

The Temba WWTP currently treats sewage emanating from the Temba, Mandela Village and Hammanskraal Proper outfall sewers which all converge at the inlet works of the WWTP. The outfall sewers are currently only connected to the existing inlet works. Provision has been made to connect all the outfall sewers to the new inlet works. A new bypass has been constructed to bypass both inlet works via a hand screen to the new flow balancing tank.

1.3 Scope of works

Scope of Works Comprises of the following:

- 1.3.1 An assessment is required of all the incomplete work required for the commissioning of the Temba WWTP extensions. This will include the civil engineering construction as well as the mechanical equipment, electrical and electronic equipment installation and commissioning.
- 1.3.2 An assessment of the mechanical equipment, electrical and electronic equipment that cannot be commissioned due to theft or damage. An assessment is also required of equipment that needs to be serviced due to the equipment standing idle for a long period of time.
- 1.3.3 An assessment and review is required on the electrical control equipment provided for in terms of the mechanical equipment control philosophies. The purpose of the review is to identify electronic control equipment that may have been stolen or identify control equipment that may still need to be provided for, due to the work not been completed.

- 1.3.4 An assessment is required for the replacement of all stolen electrical cables with aluminium electrical cables.
- 1.3.5 The following items have been identified that are incomplete, damaged or stolen and need to be completed, reinstated or repaired. This list may not necessarily be exhaustive:
- Inlet works and flow balancing tank
 - Pipe connections for the commissioning of the new inlet works.
 - Pipe connection between new inlet works and existing sump.
 - Pipe connection between existing sump and box to balancing tank
 - Decommissioning of existing pipe to the existing inlet works.
 - Reinstatement of all electrical cables and may include the following:
 - MV supply cables to transformer substation.
 - LV cables between transformer substation and electrical control building.
 - LV cables between electrical control building and local control (wire way panel) panel and local start/stop panels.
 - LV cables between local control panels and electrical motors.
 - Electronic communication cables.
 - Motor control centres in the electrical control building have been damaged. These include variable speed drives for the pumps.
 - Electrical connections between the standby generator set and control panels.
 - A diesel tank with a 24 hour capacity is required for the generator set.
 - Channel flow meters and ultrasonic transducers.
 - Ultrasonic transducers for the control of the mechanical screens.
 - Connection of screening washer press with a water source.
 - Degritter pumps and pipework stolen including flexible hosing.
 - Hand winches for the removal of the degritter pumps.
 - Galvanised steel stairs on walkway for access over degritter pipework.
 - Change in position of grease pot on grit classifier and splash plate needs to be replaced.
 - Some bases for the movable hand winch are needed to remove submersible mixers.
 - Ultrasonic transducers on the balancing tank for level control of the pumps and submersible mixers.
 - Balancing tank subsoil drainage pump station pumps and pump control equipment.
 - Balancing tank pump station is flooded. Dry well drainage pump may also have been removed. Pumps may need to be refurbished.
 - Hand wheels needs to be replaced.
 - Crawl can hoist needs to be replaced.
 - No small power (lights) in the balancing tank pump station.

- The box housing the two electromagnetic flow meters on the two rising mains is flooded.
- Subsoil drainage pumps for the balancing tanks need to be made accessible and pipework completed.
- Main WWTW
 - Main splitter box pipe connections to the existing modules.
 - Spindles for valves of main splitter box.
 - Reinstatement of all electrical cables and may include the following:
 - MV supply cables to transformers.
 - LV cables between substation and electrical control building.
 - LV cables between electrical control building and local control panels and local start/stop panels.
 - LV cables between local control panels and electrical motors.
 - Electronic communication cables.
 - The MV switch gear panels have been damaged.
 - Motor control centres in the electrical control building have been damaged. These include variable speed drives.
 - Some of the local start/stop panels have been stolen or vandalised.
 - Draft tubes of the aerator need to be completed.
 - Dissolved oxygen meters need to be provided for.
 - Oil and oil sensors need to be replaced on the aerator gearboxes.
 - The submersible mixers in the reactor may need to be refurbished.
 - The weirs and control equipment at the waste activated sludge control box needs to be replaced.
 - Return activated sludge and waste activated sludge electromagnetic flow meters needs to be replaced.
 - The drying beds and sludge dams hand stops need to be replaced.
 - Filtrate flow measurement and ultrasonic level sensor is stolen.
 - Modification to extractor fan at chlorination building.
 - Motors on irrigation pumps have been stolen and motor control centre vandalised.
 - Sludge Belt press has been severely vandalised.
 - Pressure gauges and v-belts on all the self-priming pumps are required to be replaced.
- 1.3.6 An assessment is required of all the incomplete work required for the commissioning of the Babelegi WWTW upgrade. This will include the civil engineering construction as well as the mechanical equipment, electrical and electronic equipment installation, and commissioning.
- 1.3.7 The appointment will cover all disciplines of engineering with regards to the commissioning of the new infrastructure for the extensions and upgrade project. This includes the civil engineering components of structural, hydraulic and

process, as well as the mechanical, electrical, and electronic engineering components of the project.

1.3.8 Civil work upgrades

In addition to the civil items listed in clause 3.5 above with regards to the connection of the existing infrastructure with new infrastructure. The following small civil upgrades are required:

- Replacing of damaged/vandalised hand railings and safety barriers.
- Repairing of galvanised steel access platforms with hand railings.
- Minor repairs for all damaged road works and storm water management system. Minor road works are required near the inlet works for access purposes. Storm water management is required around the inlet works. Road furniture is also required like speed humps, convex mirrors, bollards, new jersey barriers and armco barriers.
- Security perimeter fencing and security equipment as and when required by the client. Security perimeter fencing is required between the existing concrete palisade fencing on the northern side of the WWTW. Additional perimeter fencing and detection equipment may be required to secure the site as cable theft is currently occurring on the WWTP.

1.3.9 Mechanical, electrical and electronic works

The scope of work for the upgrading and extension of Temba and Babelegi Waste Water Treatment Works for mechanical, electrical and electronic will be defined in the assessments and feasibility studies to be conducted in the first stage of this appointment. The project objective is the commissioning and testing of the mechanical and associated electrical equipment for all the following listed treatment processes and equipment:

Inlet works and flow balancing:

- Two mechanical fine screens
- One screening conveyor and washer compressor with local electrical control board.
- Three submersible grit pumps, grit classification and local control board.
- Two raw sewerage pumps with variable speed drives
- One submersible sump pump with local controls
- Sixteen submersible mixers for two balancing tanks.
- Balancing tank's subsurface drainage submersible pumps.
- Transformers

Biological reactors

- Ten submersible mixers for two reactors
- Fourteen aerators with variable speed drives.

- Four mixed liquor axial flow pumps.

Sludge recycle and secondary clarifiers

- Two WAS (Waste Activated Sludge) pumps
- Four RAS (Return Activated Sludge) pumps
- Three subsoil drainage pumps

Chlorine dosing equipment

- One set chlorine dosing equipment including local electrical control board
- Two irrigation pumps

Supernatant treatment

- Two supernatant pumps
- Two air blowers
- One set poly-electrolyte dosing including local electrical control board.
- One lime feeder and accessories including local electrical control board
- Clari-flocculator with stirrer mechanisms

Ferric chloride dosing

- One set ferric chloride dosing equipment including local electrical control board

Sluice gates

- Five motorized pinch valves plus one motorized stream divider.

Dewatering equipment

- One mechanical dewatering unit with local electrical control board

Flow meters

- 12 Ultrasonic channel flow meters
- 12 electromagnetic flow meters

Small power (lights, power points)

- Electrical services in buildings and pump stations.

2. Definitions

In this document the following expressions shall bear the meanings assigned to them below:

- 2.1 Client** means any person for whom construction work is being performed and/or undertaken [i.e. CITY OF TSHWANE (COT) for purposes of this specification];
- 2.2 Construction Regulations** means the Occupational Health and Safety Act's, No. 85 of 1993, new Construction Regulations that came into effect on 01 March 2014;
- 2.3 Occupational health and safety plan** means a sufficiently documented plan to the standards of the Client, which addresses hazards identified and includes safe working procedures to mitigate, reduce or control the hazards identified;
- 2.4 Occupational health and safety specification** means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons working, visiting, passing, staying and/or working close to the construction site and/or other applicable areas such as site camp;
- 2.5 OHS Act** means the Occupational Health and Safety Act, No. 85 of 1993, as amended; and
- 2.6 Principal Contractor** means an employer, as defined by Section 1 of the OHS Act who performs construction work and is appointed by the Client to be in overall control and management of the construction site and works.

3. Introduction

In terms of Construction Regulation 5(1)(b) of the OHS Act, the Client is required to compile an occupational health and safety specification for any intended project and provide such specification to prospective tenderers/bidders.

This specification has as objective to ensure that the principal contractor entering into a contract with the Client achieves and maintain an acceptable level of occupational health and safety performance and compliance. This document forms an integral part of the contract between the Client and the principal contractor and the principal- and other contractors should make it part of any contract/s that they may have with other contractors and/or suppliers as far as this project is concerned.

Compliance with this document does not absolve the principal contractor from complying with any other minimum legal requirements and the principal contractor remains responsible for the health and safety of his employees, those of his mandataries as well as any persons coming on site or on adjacent properties as far as it relates to the construction activities.

4. Scope of the Health and Safety Specification

To develop a project specific occupational health and safety specification that addresses the reasonable and foreseeable risks, exposures and aspects of occupational health and safety as affected by the Upgrading and Extension of Temba and Babelegi Wastewater Treatment Plant.

The specification will provide the requirements that the principal contractor and other contractors will have to comply with in order to reduce the risks associated with the abovementioned contract work and that may lead to incidents causing injury and/or ill health, to a level as low as reasonably practicable and possible.

Any contractor interested in submitting a bid in response to the Client's formal tender for any construction project, has to prepare and include a draft occupational health and safety plan based on this specification and the OHS Act in its tender submission. The Client will evaluate this plan as part of its formal tender adjudication processes to ensure compliance with Construction Regulation 5 that stipulates that the Client may only appoint a contractor who has the necessary competencies and resources to carry of the work appointed for safely.

5. General occupational health and safety provisions

5.1 Hazard identification and risk assessment (Construction Regulation 9)

- Radiation and Infection
- Infection
- Dust and debris and COVID 19 infections
- Manual offloading and falling off cuts
- Rusted steel pipes
- Live electric lines
- Unhygienic conditions and unhealthy food
- Exposure to sharps and barb wire
- Heavy plant
- Delivery material
- Violence and crime
- Fumes
- Rubble and offcuts
- Electric current
- Sludge/scum
- Chlorine
- Cables
- Diesel and fire
- Manual handling
- Tree falling

- Saw dust
- Excavations
- Effluent
- Accumulation of scrap material
- Water
- Hazardous chemicals
- Car Hijackings
- Cable theft/ violence
- Digging
- Noise and vibrations
- Concrete and cement
- UV Rays

NB: It is however pointed out to the Principal Contractor that the list may not be totally comprehensive, and it is the duty of each Principal Contractor to continually ensure that all the hazards are identified, before and during the project, and the necessary activity-based risk assessments are carried out. These risk assessments shall form part of the Safety Plan which will be passed on for scrutiny and approval by The Client/Agent.

5.1.1 Development of risk assessments

Every principal contractor performing construction work shall, before the commencement of any construction work or work associated with the aforesaid construction work and during such work, ensure that risk assessments are undertaken by a competent person, appointed in writing, and the risk assessments shall form part of the occupational health and safety plan and be implemented and maintained as contemplated in Construction Regulation 7(1)(a).

The risk assessments shall include, at least:

- The identification of the current as well as emerging risks and hazards to which persons may be exposed to;
- The analysis and evaluation of the risks and hazards identified;
- A documented plan of safe working procedures (SWP) and any method statements to mitigate, reduce or control the risks and hazards that have been identified. **The method statements / safe work procedures must be signed by the engineer. No work procedure will be allowed without approval by the engineer.**
- A plan to monitor the application of the SWPs; and
- A plan to review the risk assessments as the work progresses and changes are introduced, or incidents occurred which requires the re-evaluation of the processes/risk mitigation.

Based on the risk assessments, the principal contractor must develop a set of site-specific occupational health and safety rules that will be applied to regulate the occupational health

and safety aspects of the construction. The risk assessments, together with the site-specific occupational health and safety rules, must be submitted to the Client before mobilisation on site commences.

The principal contractor is required to conduct a baseline risk assessment and the aforesaid risk assessments must be incorporated into the baseline risk assessment. The baseline risk assessment must further include the SWPs and the applicable method statements based on the risk assessments. Hazard identification and risk assessments must be undertaken whilst SWPs must be developed for all out-of-scope work.

5.1.2 Review of risk assessments

The principal contractor is to review the hazards identified, the risk assessments and the SWPs at each production planning and progress report meeting as the contract work develops and progresses and each time changes are made to the designs, plans and construction methods and/or processes.

It is also proposed that should an incident occur the SWPs and all other applicable processes be re-evaluated to ensure that the mitigation measures are still applicable and appropriate and if not a revision of the risk assessments be undertaken.

The principal contractor must provide the Client, other contractors and all other concerned or affected parties with copies of any changes, alterations or amendments as soon as possible but within 14 calendar days of such changes.

5.2 Legal Requirements

All Contractors entering into a contract with the Client shall, as a minimum, comply with the:

- OHS Act 1993: a current, up-to-date copy of the OHS Act and its Regulations -
 - Construction Regulations of 2014 (CR 2014)
 - Hazardous Biological Agents Regulations 2001 COVID 19 (HBA 2001 COVID 19) as amended, must be available on site at all times; and
- Compensation for Occupational Injuries and Diseases Act, No. 130 of 1993 (COID Act) as amended. The principal contractor shall be required to submit a letter of registration and “good-standing” from the Compensation Commissioner or compensation insurer before being awarded the contract. A current, up-to-date copy of the COID Act must be available on site at all times.
- Disaster Management Act 2002 as amended.

5.3 Structure and responsibilities

5.3.1 Overall supervision and responsibility for occupational health and safety

- a. The principal contractor [appointed in terms of Construction Regulation 5(1)(k)] is responsible to implement and maintain the occupational health and safety plan approved by the Client.
- b. The Chief Executive Officer (in terms of Section 16(1) of the OHS Act) of the principal contractor is to ensure that the Employer (as defined in the OHS Act) complies with the OHS Act.
- c. The principal contractor's Chief Executive Officer may appoint any person reporting to him/her as Designated Person in terms of Section 16(2) of the OHS Act. Such Designated Person is responsible to assist the Chief Executive Officer to ensure that the Employer complies with the requirements of the OHS Act.
- d. The construction manager, assistant construction manager, construction supervisor and assistant construction supervisor(s) appointed in terms of Construction Regulation 8 are responsible for supervising the construction work and in specific to ensure that all work undertaken comply with the requirements of the OHS Act, its Regulations and the Client's specifications.

5.3.2 Operational responsibilities for occupational health and safety

The principal contractor shall appoint designated competent employees and/or other competent persons as outlined in the following list to assist with the operational responsibilities for occupational health and safety. This list is only the minimum requirement and is therefore in no way exhaustive.

Appointment description	Appointment required in terms of
Person to assist the CEO	OHS ACT Section 16.2Q
Assistant construction manager	Construction Regulation 8(2)
Assistant construction supervisor	Construction Regulation 8(8)
Construction manager	Construction Regulation 8(1)
Construction supervisor	Construction Regulation 8(7)
Construction vehicle, mobile plant and machinery supervisor	Construction Regulation 23
COVID -19 Compliance Officer	DMA 2002 as amended Section 5.4e
Drivers of construction vehicles and operators of plant	Construction Regulation 23
Emergency, security, and fire coordinator	Construction Regulation 29
Excavation supervisor	Construction Regulation 13
First-aiders	General Safety Regulation 3
Fire-fighting equipment inspector	Construction Regulation 29
Hazardous chemical substances supervisor	Hazardous Chemicals Substances Regulations 10
Incident investigator	General Administrative Regulation 9
Lifting machines and equipment inspector	Construction Regulation 22
Construction Health and Safety Manager	Sec 18(1) Act 48 of 2000
Occupational health and safety committee	OHS ACT Section 19
Occupational health and safety officer	Construction Regulation 8(5)
Occupational health and safety representatives	OHS ACT Section 17
Person responsible for machinery	Driven Machinery Regulation 18
Risk assessor	Construction Regulation 9(1)
Stacking and storage supervisor	Construction Regulation 28
Traffic management supervisor	OHS ACT Section 9(1)
Traffic safety officer	OHS ACT Section 9(1)

These appointments must be in writing and the responsibilities clearly stated together with the period for which each appointment is made. This information must be communicated to and agreed with the appointees.

Copies of appointments must be submitted to the Client together with concise CVs of the appointees as part of the principal contractor's health and safety plan and if appointed copies of the appointments included in the occupational health and safety file. Proof of competency must be submitted and included in the safety file. All appointments must be approved by the Client and any changes of appointees or appointments must be communicated to the Client and agreed upon before being implemented. The principal contractor must, furthermore, provide the Client with an organogram of all contractors that he/she has appointed or intends to appoint and keep this list updated on a weekly basis.

5.3.3 Designation of occupational health and safety representatives (Section 17 of the OHS Act)

Where the principal contractor employs more than 20 persons [including the employees of other contractors (sub-contractors) and its supervisors] he has to appoint one occupational health and safety representative for every 50 employees or part thereof. General Administrative Regulation 6 requires that the election, appointment and subsequent designation of the occupational health and safety representatives be executed in consultation with employee representatives or employees. (Section 17 of the OHS Act as well as General Administrative Regulation 6 and 7 refer).

Occupational health and safety representatives have to be designated in writing and the designation must include the area of responsibility of the person and term of the designation.

5.3.4 Duties and functions of the occupational health and safety representatives (Section 18 of the OHS Act)

- a. The principal contractor must ensure that the designated occupational health and safety representatives conduct a weekly inspection of their respective areas of responsibility, using a checklist, and report thereon to the principal contractor.
- b. Occupational health and safety representatives must be included in accident and/or incident investigations.
- c. Occupational health and safety representatives must attend all occupational health and safety committee meetings.

5.3.5 Appointment of occupational health and safety committee (Section 19 of the OHS Act)

The principal contractor must establish an occupational health and safety committee consisting of all the designated occupational health and safety representatives together with a number of management representatives that are not allowed to exceed the number of

occupational health and safety representatives on the committee and a representative of the Client who shall act as the chairperson without voting rights. The members of the occupational health and safety committee must be appointed in writing and copies of the appointments included in the occupational health and safety file.

The occupational health and safety committee must meet as a minimum on a monthly basis and consider, at least, the following agenda items:

1. Opening and welcome.
2. Members present, apologies and absent.
3. Minutes of previous meeting.
4. Matters arising from the previous meeting.
5. Occupational health and safety representatives' reports.
6. Incident and/or accident reports and investigations.
7. Incident, accident and/or injury statistics.
8. Other matters.
9. Endorsement of registers and other statutory documents by a duly authorised representative of the principal contractor.
10. Close and next meeting.

5.4 Mandatories

It is a requirement that the principal contractor, when he appoints contractors or sub-contractors in terms of Construction Regulations 7(1)(c) includes an OHS Act Section 37(2) agreement (i.e. Agreement with Mandatory) in his agreement with such contractor. A copy of such agreement shall be obtainable from the client and a signed document should be included in the SHE File.

5.5 Administrative controls and the occupational health and safety file

5.5.1 The occupational health and safety file [Construction Regulation 7(1)(b)]

As required by Construction Regulation 7(1)(b), the principal contractor and other contractors will each keep an occupational health and safety file on site containing the following documents as a minimum:

1. Copy of the construction work permit (for applicable projects) (Construction Regulation 3)
2. Emergency contact numbers (that have been verified).
3. Contractor appointment letter from the Client.
4. Health and Safety policies and other policies (including HIV policy, Substance abuse policy and transport policy)
5. Organogram
6. Notification of construction work (Construction Regulation 4).
7. Updated copies of the OHS Act and its Regulations as well as the COIDA Act (General Administrative Regulation 4.).

8. Proof of registration and good standing with the Compensation Commissioner or a COLD Insurer [Construction Regulation 5(1)(j)] as well as the COVID-19 OHS Measures in Workplaces (C19 OHS) 2020.
9. Occupational health and safety plan agreed with the Client including the underpinning risk assessment(s), method statements [Construction regulation 7(1)], and COVID-19 measures to be implemented in the workplace. **The Occupational Health and Safety Plan must address the issues stated in the Health and Safety Specification and must be project specific. It shall be approved by the CHS agent prior to the application of the Construction work permit.**
10. Fall Protection Plan.
11. Waste Management Plan.
12. A list of contractors (sub-contractors) including copies of the agreements between the parties, proof of good standing with the Compensation Commissioner or COLD Insurer, and the type of work to be undertaken by each contractor (Construction Regulation 7).
13. Appointment and designation forms as per paragraphs 4.3.1 and 4.3.2 above.
14. Medical Fitness Certificates.
15. Proof of Competency and Copies of valid identity documents.
16. Occupational Health and Safety Workplace Environment, including provision for monitoring employee exposures to noise, dust, etc.
17. Rules and regulations including safety procedures the Principal Contractor has in place for recurring work activities.
18. Personal protective equipment rules and arrangements.
19. Control of dangerous and hazardous substances (Material Safety Data Sheets).
20. System of hazard identification and risk control, such as Risk assessments, Daily Safe Task Instructions and communication.
21. Audits to ensure compliance with safety plans.
22. Accident and incident reporting, recording, investigation and analysis, which ensure that corrective action, are taken and this action is communicated to report initiators.
23. Medical and first aid arrangements.
24. Evacuation and emergency planning.
25. Record keeping, including details of what is kept and for how long.
26. Detailed financial allocation for Health and Safety.
27. Safety committee meeting arrangements and minutes.
28. Audit arrangements.
29. Maintenance arrangements of machinery and equipment.
30. Inspection of plant, tools and equipment prior to introduction to site and regularly thereafter.
31. Daily site safety inspections and audits. The auditing role may be shared with other duties or provided within the resources of individual groups. The role may be rotated.
32. The following registers:
 - Accident and/or incident register (Annexure 1 of the General Administrative Regulations);

- Occupational health and safety representatives' inspection register;
- Construction vehicles and mobile plant inspections by controller;
- COVID-19 Screening Registers;
- Daily inspections of vehicles, plant and other equipment by the operator, driver and/or user;
- Inspection of electrical installations (including inspection of portable electrical tools, electrical equipment and other electrical appliances);
- First-aid box content;
- Record of first-aid treatment;
- Fire equipment inspections and maintenance;
- Record of hazardous chemical substances kept and used on site;
- Ladder inspections;
- Machine safety inspections (including machine guards, lock-outs etcetera);
- Inspection registers and logbooks for lifting machines and –tackle (including daily inspections by drivers/operators);
- Inspections of stacking and storage;
- Pressure equipment inspections; and
- Workers welfare facilities.
- All other applicable records.
- Scaffolding register
- Cranes register and tensile pressure test certificates

The Client will conduct an evaluation of the principal contractor's occupational health and safety file from time to time.

5.6 Medical certificates of fitness (Construction Regulation 7)

As required by Construction Regulation 7(1)(g), the principal contractor must ensure that all employees have a valid medical certificate of fitness specific to the construction work to be performed. These certificates must be issued by an occupational health practitioner in the form of Annexure 3 (i.e. Annexure 3 in the Construction Regulations).

5.7 Training, awareness and competence

The contents and syllabi of all training required by the OHS Act and Regulations must be included in the principal contractor's occupational health and safety plan.

5.7.1 General induction training

- All members of the contractor's site management as well as all the persons appointed as responsible for occupational health and safety

- in terms of the Construction and other Regulations will be required to attend a general induction session.
- All employees of the principal and other contractors must be in possession of proof of general induction training.
- All subsequent and newly appointed employees must also be subjected to the induction training as soon as possible after the appointment but prior to starting working on site.

5.7.2 Site-specific induction training

- The principal contractor will be required to develop a contract work project specific induction training course based on the risk assessments for the contract work and train all employees and other contractors and their employees in this.
- All employees of the principal and other contractors must be in possession of proof that they have attended a site-specific occupational health and safety induction training at all times.

5.7.3 Other training

1. All operators, drivers and users of construction vehicles, mobile plant and other equipment must be in possession of valid proof of training and where applicable licenses or proof of competency.
2. All employees in jobs requiring training in terms of the OHS Act and Regulations must be in possession of valid proof of training.
3. Occupational health and safety training requirements [as required by the Construction Regulations and as indicated by the occupational health and safety specification and the risk assessment(s)] i.e. -
 - a. General induction (Section 8 of the OHS Act);
 - b. Site and job specific induction, including visitors (Sections 8 and 9 of the OHS Act);
 - c. Site and project manager;
 - d. Construction supervisor;
 - e. Occupational health and safety representatives [Section 18 (3) of the OHS act];
 - f. Training of the appointees indicated in paragraphs **4.3.1** and **4.3.2**;
 - g. Operators and drivers of construction vehicles and mobile plant (Construction Regulation 23);
 - h. Basic fire prevention and protection (Environmental Regulations 9 and Construction Regulation 29);
 - i. Basic first-aid (General Safety Regulations 3);
 - j. Storekeeping methods and safe stacking (Construction Regulation 28); and
 - k. Emergency, security and fire coordinator.

5.7.4 Awareness and promotion

The principal contractor is required to have a promotion and awareness program in place to create an occupational health and safety culture within employees as well as sub-contractors. The following are some of the methods that may be used:

- Toolbox talks
- Posters
- Videos
- Competitions
- Suggestion schemes
- Participative activities such as employee “occupational health and safety circles”.

5.7.5 Notices and signs

The following notices and signs are, where applicable, compulsory on the construction site as well as the contractors’ yards:

Area and/or activity where notice or sign is required	Notice or sign required in terms of
Display of notices and signs	General Safety Regulation 2B and SABS Code 1186
Entry	General Safety Regulation 2C(2)
Workplace controls for COVID19 COVID 19 Guidelines	Disaster Management Act 2002 Sec 657
First-aid	General Safety Regulation 3(6)
Toilets and change rooms	Facilities Regulation 2 (5) 4(2)(f)
Storage of flammable materials	General Safety Regulation 4(8)(a)(i) and (ii) [10(e) only applicable to contractor’s yards]
Grinding wheels	Driven Machinery Regulation 8(1)(7)
Machinery	General Machinery Regulation 9 (Schedule D)
Prohibition on smoking and eating or drinking at the workplaces where high risk substances [FR5 (1)] are stored or handled	Facilities Regulation 6(b)
Non-potable water	Facilities Regulation 7(B)

5.7.6 Competence

The principal contractor shall ensure that his and other contractors' employees appointed are competent and that all training required to undertake the work safely and without risk to health of their or other persons, has been successfully completed before work commences.

The principal contractor shall ensure that follow-up and refresher training is conducted on a regular basis as well as the contract work progresses and the work situation or requirements changes. Records of all training must be kept on the occupational health and safety file for auditing purposes.

5.8 Consultation, communication and liaison

The following arrangements will apply-

1. Occupational health and safety liaison between the Client, the principal contractor, the other contractors, the designer and other concerned parties will be through the occupational health and safety committee. In the absence of a health and safety committee, the Client and principal contractor will agree on an alternative communication forum to be implemented.
2. In addition to the above, communication may be directly to the Client or his appointed Agent, verbally (followed up in writing within 14 calendar days) or in writing, as and when the need arises.
3. Consultation with the workforce on occupational health and safety matters will be through their supervisors, occupational health and safety representatives, the occupational health and safety committee and their elected trade union representatives, if any.
4. The principal contractor will be responsible for the dissemination of all relevant occupational health and safety information to the other contractors, for example design changes agreed with the Client and the designer, instructions by the Client and/or his Agent, exchange of information between contractors, the reporting of hazardous and/or dangerous conditions and/or situations etcetera.
5. The principal contractor will be required to do site safety walks with the Client and/or his Agent on a basis to be determined and agreed between the parties.
6. The principle and other contractors will be required to conduct toolbox talks with their employees on at least a weekly basis and records of these including the topics discussed must be kept on the occupational health and safety file. Employees must acknowledge the receipt of toolbox talks which record must, likewise be kept on the occupational health and safety file.
7. The principal contractor's most senior manager on site will be required to attend all the Client's occupational health and safety meetings.
8. The Client or his Agent and the principal contractor will agree on the dates, times and venues of the occupational health and safety meetings.

5.9 Checking, reporting and corrective actions

5.9.1 Monthly compliance assessment by Client [Construction Regulation 5(1)(0)]

The Client will be conducting a periodic assessment to comply with Construction Regulation 5(1)(o) and to confirm that the principal contractor has implemented and is maintaining the agreed and approved occupational health and safety plan.

5.9.2 Other assessments and inspections by the Client

The Client reserves the right to conduct other ad-hoc assessments and inspections as deemed necessary. This could include among others site safety walks.

5.9.3 Conducting an assessment

A representative of the principal contractor must accompany the Client on all assessments and inspections and may conduct his/her own inspection at the same time. Each party will, however, take responsibility for the results of his/her own assessment and/or inspection.

5.9.4 Contractor's assessments and inspections

The principal contractor is to conduct his own internal assessments and inspections to verify compliance with his own occupational health and safety plan and management system as well as the requirements of this specification and the compliance of other contractors under his/her control.

5.9.5 Inspections by occupational health and safety representatives and other appointees

Occupational health and safety representatives must conduct weekly inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments for example vehicle, plant and machinery drivers, operators and users must conduct daily inspections before start-up.

5.9.6 Recording and review of inspection results

All the results of the abovementioned inspections must be in writing, reviewed at occupational health and safety committee meetings, endorsed by the chairperson of the meeting and placed on the occupational health and safety file.

5.9.7 Reporting of inspection results

The principal contractor is required to provide the Client with a monthly report in the format as per the attached Annexure 3: "Safety, Health and Environment Risk Management Report".

5.10 Incident reporting and investigation

5.10.1 Reporting of accidents and incidents (Section 24 and General Administrative Regulation 8 of the OHS Act)

The principal contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- dies
- becomes unconscious
- loses a limb or part of a limb
- is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she was usually employed

or where -

- a major incident occurred
- the health or safety of any person was endangered
- where a dangerous substance was spilled
- the uncontrolled release of any substance under pressure took place
- machinery or any part of machinery fractured or failed resulting in flying, falling or uncontrolled moving objects
- machinery ran out of control

to the Client within two calendar days and to the Provincial Director of the Department of Labour within seven calendar days from date of incident (Section 24 of the OHS ACT and General Administrative Regulation 8), **except** that, where a person has died, has become unconscious for any reason or has lost a limb or part of a limb or may die or suffer a permanent physical defect, the incident must be reported to both the Client and the Provincial Director of the Department of Labour forthwith by telephone, telefax or e-mail. All other reports should still be completed and provided as required.

The principal contractor is required to provide the Client with copies of all statutory reports required in terms of the OHS Act within seven calendar days of the incident occurring.

The principal contractor is required to provide the Client with copies of all internal and external accident/incident investigation reports, including the reports contemplated in 4.11.2 (3) and (4) above, within seven calendar days of the incident occurring.

5.10.2 Accident and incident investigation (General Administrative Regulation 9)

1. The principal contractor is responsible for the investigation of all accidents and/or incidents where employees and non-employees were injured to the extent that he, she and/or they had to be referred for medical treatment by a doctor, hospital or clinic.

2. The results of the investigation to be entered into the accident and/or incident register.
3. The principal contractor is responsible for the investigation of all minor and non-injury incidents as described in Section 24 (1) (b) and (c) of the OHS Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents/incidents in future.
4. The principal contractor is responsible for the investigation of all road traffic accidents, related to the construction activities, and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.
5. The Client reserves the right to hold its own investigation into an incident or call for an independent external investigation.

6. Operational control

6.1 Emergency preparedness, contingency planning and response

6.1.1 The Contractor must appoint a competent person to act as emergency controller and/or coordinator.

6.1.2 The principal contractor must conduct an emergency identification exercise and establish what emergencies could possibly develop. He/she must then develop detailed contingency plans and emergency procedures, taking into account any emergency plan that the Client may have in place.

6.1.3 The principal contractor and the other contractors must hold regular practice drills of contingency plans and emergency procedures to test them and familiarise employees with them.

6.2 First-aid (General Safety Regulation 3)

6.2.1 The principal contractor must provide first-aid equipment and have qualified first-aider(s) on site as required by General Safety Regulation 3 of the OHS Act.

6.2.2 The contingency plan of the principal contractor must include arrangements for the speedily and timeously transportation of injured and/or ill person(s) to a medical facility or getting emergency medical support to person(s) who may require it.

6.2.3 The principal contractor must have firm arrangements with his contractors in place regarding the responsibility of these contractor's first-aid arrangements as well as treatment of injured and/or ill employees.

6.3 Security

6.3.1 The principal contractor must establish site access rules and implement and maintain these throughout the construction period. Access control must, amongst other, include the rule that non-employees will not be allowed on site unaccompanied.

6.3.2 The principal contractor must develop a set of project applicable security rules and procedures and maintain these throughout the construction period.

6.4 Accommodation of traffic

6.4.1 Where construction work is undertaken in, next to or close to a public road, the use of appropriate as well as a sufficient number of road signs is of paramount importance to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/risks/vehicles.

6.4.2 The principal contractor shall ensure that appropriate as well as a sufficient number of road signs are posted to protect employees against traffic and to warn all road users of the presence of construction work as well as construction employees/vehicles. The Principal Contractor shall draw a traffic management plan that site specific prevent traffic collision and injuries of members of the public.

6.4.3 The following signage is required as a minimum where construction work is undertaken in, next to or close to a public road:

- a. "Construction work ahead" sign at least 45 meters before the start of the construction work;
- b. "Lane narrows" sign 30 meters before the start of the construction work;
- c. "Keep right/left" sign 15 meters before the start of the construction work and again where the tapering begins; and
- d. Delineators and cones every 5 meters for the entire stretch of construction work.

6.4.4 Where construction work includes excavations in or next to a public road, warning lights or visible boundary indicators should be provided after dark or when visibility is poor.

6.4.5 The maintenance of all signage and especially those that is suitable after dark should be duly managed.

6.4.6 Where appropriate duly trained flag persons should be deployed a good distance ahead of areas where traffic is deviated or lanes closed off. These flag persons should be managed assertively to ensure that they add optimal value and should they not do so they should be retrained and if necessary replaced.

6.4.7 The community liaison officer (CLO) should also be sensitised on the optimal management of traffic and the risks involved and then be instructed to increase community awareness through talking to all stakeholders including the distribution of suitable information brochures.

6.5 Lifting equipment (Construction Regulation 22)

Lifting equipment must be designed and constructed in accordance with the manufactures/designers' specifications as well as generally accepted technical standards and operated, used, inspected and maintained in accordance with the manufactures requirements as well as that of the Driven Machinery Regulation 18 of the OHS Act.

The Driven Machinery Regulation requires that:

- a. Lifting equipment to be clearly and conspicuously marked with the maximum mass load (MML) that it is designed to carry safely. When the MML varies with the conditions of use, the table of maximum loads should be used by the driver/operator;
- b. Each winch on a lifting machine must at all-time have, at least, three full turns of rope on the drum when the winch has been run to its lowest limit;
- c. Lifting equipment be fitted with a brake or other applicable device capable of holding the MML. This brake or device must automatically prevent the downward movement of the load when the lifting power is interrupted;
- d. Lifting equipment fitted with a load limiting device that automatically arrest the lift when the load reaches its highest safe position or when the mass of the load is greater than the MML;
- e. Every chain or rope on a lifting machine that forms an integral part of the machine must have a factor of safety as prescribed by the manufacturer of the machine and where no standard is available the factor of safety must be:
 - chains – 4 (four)
 - steel wire ropes - 5 (five)
 - fibre ropes- 10 (ten)
- f. Every hook or load attaching device must be designed as such or fitted with a device that will prevent the load from slipping off or disconnecting;
- g. Every lifting machine must be inspected and load tested by a competent person every time it has been dismantled and re-erected and every 12 months after that. The load test must be in accordance with the manufacturers prescription or to 110% of the MML in addition all ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices forming an integral part of a lifting machine must be inspected every 6 months by a competent person;
- h. All maintenance, repairs, alterations and inspection results must be recorded in a log book and each lifting machine must have its own log book; and
- i. No person may be lifted by a lifting machine not designed for lifting persons unless in a cradle approved by an inspector of the Department of Labour.

6.6 Lifting tackle

The following requirements will apply to lifting tackle:

- a. Manufactured of sound material, well-constructed and free from latent defects;
- b. Clearly and conspicuously marked with an identity number;
- c. Maximum mass load factor of safety:

- Natural fibre ropes - 10(ten)
- Man-made fibre ropes and woven webbing - 06(six)
- Steel wire ropes – single rope - 06(six)
- Steel wire ropes – combination slings - 08(eight)
- Mild Steel chains - 05(five)
- High tensile/alloy steel chains - 04(four)

- d. Steel wire ropes must be discarded (not used any further for lifting purposes) when wear and corrosion is evident and must be examined by a competent person every three months for this purpose and the results recorded in a designated log book.

6.7 Construction vehicle and mobile plant operators

The following requirements will apply to construction vehicle and mobile plant operators:

- a. Only certified and/or competent employees may be allowed to operate any construction vehicle and mobile plant.
- b. Every lifting machine operator must be trained specifically for the type of lifting machine that he or she is operating.
- c. Only employees duly authorised to do so may operate any construction vehicle and mobile plant.
- d. Only employees physically and psychologically fit, i.e. in possession of a medical certificate of fitness, may be allowed to operate any construction vehicle and mobile plant.

6.8 Construction vehicles and mobile plant (Construction Regulation 23)

Construction vehicles and mobile plant will initially during the competency evaluation process be inspected by the Client prior to being allowed on a project site and suppliers of hired vehicles, plant and equipment will be required to comply with this specification as well as the OHS Act and Regulations.

Construction vehicles and mobile plant must be:

- a. Of acceptable design and construction;
- b. Maintained in good working order;
- c. Used in accordance with their design and intention for which they were designed;
- d. Operated and/or driven by trained, competent and authorised operators/drivers. No unauthorised persons to be allowed to drive construction vehicles and mobile plant;
- e. Provided with safe and suitable means of access;

- f. Fitted with adequate signaling devices to make movement safe including reversing;
- g. Excavations and other openings must be provided with sufficient barriers to prevent construction vehicles and mobile plant from falling into same;
- h. Provided with roll-over protection;
- i. Inspected daily before start-up by the driver, operator and/or user and the findings recorded in a register/log book and any defects addressed as matter of urgency;
- j. Fitted with two head and two tail lights that is in good working condition whilst operating under poor visibility conditions; and
- k. Used for transporting persons must have seats firmly secured and sufficient for the number of persons being transported.

No loose tools, material etcetera is allowed in the driver and/or operators compartment/cabin nor in the compartment in which any other persons are transported.

No person may ride on construction vehicles and mobile plant except for in a safe place designed and provided for this purpose.

The construction site must be organised to facilitate the movement of construction vehicles and mobile plant in such a manner that pedestrians and other vehicles are not endangered. Traffic routes to be suitable, sufficient in number and adequately demarcated.

Construction vehicles and mobile plant left unattended after hours adjacent to roads and areas where there is traffic movement must be fitted with lights, reflectors or adequate barricades to prevent moving traffic from a sudden emergency, or to come into contact with the parked construction vehicles and mobile plant.

In addition, construction vehicles and mobile plant left unattended after hours must be parked with all buckets, booms etc. full lowered, the emergency brakes engaged and, where necessary, the wheels chocked, the transmission in neutral and the motor switched off and the ignition key removed and stored safely.

All construction vehicles and mobile plant daily inspection records must be kept in the occupational health and safety file.

6.9 Use and storage of flammables (Construction Regulation 25)

The principal contractor must ensure that:

- a. No person is required or permitted to work in a place where there is the danger of fire or an explosion due to flammable vapors being present unless adequate precautions is taken;
- b. Flammables stored on a construction site are stored in a well-ventilated, reasonably fire-resistant container, cage or room that is kept locked with consistent access control measures in place and sufficient fire-fighting equipment installed and fire prevention methods practiced for example proper housekeeping;
- c. Only one day's quantity of flammable is to be kept in the workplace;
- d. Containers (including empty containers) to be kept closed to prevent fumes/vapors from escaping and accumulating in low lying areas; and
- e. Welding and other flammable gases to be stored segregated as to the type of gas and empty and full cylinders.

6.10 Hazardous chemical substances

The principal contractor must ensure that:

- a. Employees receive the necessary information and training to be able to use, handle and store hazardous chemical substances safely;
- b. The risk assessments required in terms of Construction Regulation 9 include employee exposure to hazardous chemical substances and that the necessary measures be taken to protect persons from being detrimentally affected by hazardous chemical substances present or used in the workplace;
- c. Suppliers provide the necessary information in the form of material safety data sheets regarding hazardous chemical substances required to ensure the safe use, handling and storage of these substances;
- d. An up-to-date list is kept on site of hazardous chemical substances stored and used together with the material safety data sheet of the said hazardous chemical substances;
- e. Hazardous chemical substances containers be clearly marked as to the contents and main hazardous category e.g. "Flammable" or "Corrosive" and the reference number of the hazardous chemical substances on the list indicated above;
- f. No person eats or drinks in a hazardous chemical substances workplace; and
- g. Hazardous chemical substances waste is disposed of safely in terms of hazardous waste disposal requirements.

6.11 Storage of flammable and hazardous chemicals (Hazardous Chemical Substances Regulations)

See paragraphs 6.9 and 6.10 above.

6.12 Fire prevention and protection

The principal contractor must ensure that:

- a. The risk of fire is avoided;
- b. Sufficient and suitable storage of flammables is provided;
- c. All employees are instructed in the use of the fire-fighting equipment and know how to attempt to extinguish a fire;
- d. A sufficient number of employees are appointed and trained to act as an emergency team to deal with fires and other emergencies;
- e. Employees are informed regarding emergency evacuation procedures and escape routes;
- f. Evacuation assembly points are demarcated and made known to employees;
- g. Evacuation is regularly practiced to ensure that all persons are evacuated timeously and;
- h. Roll call is held after evacuation to account for all employees and to ensure that no-one including visitors and disabled persons have been left behind; and
- i. A clearly audible, to all persons on site, siren or alarm is fitted and regularly tested.

6.13 Housekeeping (Construction Regulation 27)

The principal contractor must ensure that:

- a. Housekeeping is continuously implemented and maintained;
- b. Materials and equipment is properly stored;
- c. Scrap, waste and debris is removed off site regularly;
- d. Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to the free-flow of pedestrians and vehicular traffic;
- e. Where practicable, construction sites are fenced off to prevent entry of unauthorised persons; and
- f. Every workplace is kept clean, orderly and free of tools and the likes that are not required for the work being done.
- g. The construction side is to be curtailed off as this is a residential complex.

6.14 Stacking and storage (Construction Regulation 28)

The principal contractor must ensure that:

- a. A competent person is appointed in writing to supervise all stacking and storage on a construction site;

- b. Adequate storage areas are provided and demarcated;
- c. The storage areas are kept neat and under control;
- d. The base of any stack is level and capable of sustaining the weight exerted on it by the stack;
- e. The items in the lower layers can support the weight exerted by the top layers;
- f. Cartons and other containers that may become unstable due to wet conditions are kept dry;
- g. Pallets and containers are in good condition and no material is allowed to spill out;
- h. The height of any stack does not exceed 3 times the base unless stepped back at least half the depth of a single container at least every fifth tier or the approval of an inspector of the Department of Labour has been obtained to build the stacks higher with the aid of a machine. (The operator of the machine must be protected against items falling from overhead or off the stack and no items may overhang);
- i. The articles that make up a single tier are consistently of the same size, shape and mass;
- j. Structures for supporting stacks are structurally sound and able to support the mass of the stack;
- k. No articles are removed from the bottom of the stack first but from the top tier first;
- l. Anybody climbing onto a stack can and does do it safely and that the stack is sufficiently stable to support him or her;
- m. Stacks that are in danger of collapsing are broken down and restacked;
- n. Stability of stacks are not threatened by vehicles or other moving plant and machinery;
- o. Stacks are built in a header and stretcher fashion and that corners are securely bonded; and
- p. Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations.

6.15 Eating, changing, washing and toilet facilities (Construction Regulation 30)

6.15.1 Toilets

- a. The provision of toilets for each sex is required in terms of the National Building Regulations and Construction Regulation 30.
- b. Chemical toilets are allowed instead of the water borne sewerage type. Toilets have to be provided at a ratio of at least 1 toilet per 30 employees.

6.15.2 Showers

At least cold-water showers of some sort for each sex have to be provided at a ratio of at least 1 shower per 15 employees.

6.15.3 Change rooms

Some form of screened off changing facility must be provided separately for each sex/gender.

6.15.4 Eating facility

Some form of eating facility sheltered from the sun, wind and rain must be provided.

6.15.5 Living accommodation

Where the site is in a remote location and transport to home is not readily available, reasonable and suitable living accommodation must be provided after obtaining of the necessary permission from authorities and adhering to requirements such as Bylaws of the Johannesburg municipality.

6.16 Portable electrical tools and equipment (Electrical Machinery Regulation 9)

Portable electrical tools and equipment includes every unit that takes electrical power from a 15 ampere plug point and is moved around for use in the workplace i.e. drills, saws, grindstones, portable lights, etcetera. In addition, electrical appliances such as fridges, hotplates, heaters, and etcetera must be inspected regularly but at least on a weekly basis and maintained to the same standards as portable electrical tools and appliances.

The use, inspection and maintenance of portable electrical tools and equipment must be governed by the following:

- Regular inspections by a competent person appointed in writing;
- Inspection results must be recorded in a register;
- Only competent authorised persons are allowed to use portable electrical tools and equipment; and
- The correct protective equipment is worn/used whilst operating portable electrical tools and equipment.
- This equipment -
- Must be maintained in good condition at all times to prevent an electrical shock to the user;

- The main source should incorporate an earth leakage protection device or receive power through a double wound transformer or be double insulated and clearly marked as such; and
- All equipment must be fitted with a switch to allow for safe and easy starting and stopping.

6.17 Public health and safety (Section 9 of the OHS Act)

The principal contractor is responsible for ensuring that non-employees affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers. This includes among others:

- a. Non- employees entering the site for whatever reason;
- b. The surrounding community; and
- c. Passers-by the site.

Appropriate signage must be posted to this effect and all employees on site must be instructed to ensure that non-employees are protected at all times.

All non-employees entering the site must receive site applicable induction into the hazards and risks and the control measures for these.

6.18 Excavations (Construction Regulation 13)

All excavation work has to comply with the following:

6.18.1 Excavation work must be carried out under the supervision of a competent person with at least two years' practical experience in excavation work who has been appointed in writing.

6.18.2 Before excavation work begins the stability of the ground must be evaluated.

6.18.3 Whilst excavation work is being performed, the principal contractor must take suitable and sufficient steps to prevent any person from being buried or trapped by a fall or dislodgement of material.

6.18.4 No load or material may be placed near the edge of an excavation if it is likely to cause a collapse of the excavation, unless suitable shoring has been installed to be able to carry the additional load. Best practice requires a one-meter clearance so as to reduce the pressure on the side walls as well as risk of material falling onto persons inside the excavation.

6.18.5 The location and nature of any existing services such as water, electricity, gas, telecommunication etcetera must be established before any excavation is commenced

with and any service that may be affected by the excavation must be protected and made safe for employees working in or near in the excavation.

6.18.6 Every excavation, must be inspected by the appointed competent person as follows:

- Daily before work commences
- After an unexpected collapse of the excavation or part thereof
- After rain

6.18.7 The results of any inspections must be recorded in a register kept on site in the health and safety file.

6.18.8 Every excavation accessible to the public or that is adjacent to a public road or thoroughfare or that threatens the safety of persons, must be adequately barricaded or fenced off, on all sides, to at least one-meter-high and as close to the excavation perimeter as practicable. All such excavations must also be provided with warning lights or visible boundary indicators after dark or when visibility is poor.

6.18.9 Tunneling and Pipe Jacking (CR15) and SANS 1200

The contractor shall follow the relevant guides and SANS standard as prescribed. The levels set out by land surveyor and designs should be adhered to by the pipe jacking contractor. The pipe jacking contractor must develop a method statement and submit it to the Safety Agent before commencing with excavations. The contractor must ensure that authorisation and notification of pipe jacking has been sorted with the relevant department. The contractor must ensure that there is a suitable and sufficient barricading around pipe jacking area.

6.19 Transportation of employees

6.19.1 Any vehicle used to transport employees must have seats firmly secured and adequate for the number of employees to be carried.

6.19.2 Regulation 247 of the National Road Traffic Act, Number 93 of 1996 (NRTA) stipulates that the principal contractor shall not allow employees to be transported in a vehicle unless the portion of the vehicle in which the employees are being conveyed is enclosed to a height of –

- a. at least 350 mm above the surface on which employees are seated; or
- b. at least 900 mm above the surface on which employees are standing, in a manner and with a material of sufficient strength to prevent employees from falling from such vehicle when it is in motion.

6.19.3 Regulation 247 of the NRTA also stipulates that the principal contractor shall also not allow any employees to be conveyed in the goods compartment of a vehicle together with any tools or goods, except their personal effects, unless that portion in

which the employees are being conveyed is separated by means of a partition, from the portion in which such goods are being conveyed.

6.20 General Personal and other protective equipment (Sections 8, 15 and 23 of the OHS Act)

The principal contractor is required to proactively identify the hazards in the workplace and deal with them on an ongoing basis. He/she must either remove them or, where impracticable take steps to protect employees and make it possible for them to work safely and without risk to health under the hazardous conditions.

Personal protective equipment should, however, be the last resort and there should always first be an attempt to apply re-engineering and other solutions to mitigating hazardous situations before the issuing of personal protective equipment is considered.

Where it is not possible to create an absolutely safe and healthy workplace the principal contractor is required to inform employees regarding this and issue, free of charge, suitable equipment to protect them from any hazards being present and that allows them to work safely and without risk to health in the hazardous environment.

It is a further requirement that the principal contractor maintain the said equipment that he/she instructs and trains the employees in the use of the equipment and ensures that the prescribed equipment is used by the employee/s in a consistent and correct manner.

Employees do not have the right to refuse to use and/or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other valid reason, the employee cannot be allowed to continue working under the hazardous condition(s) for which the equipment was prescribed but an alternative solution has to be found that may include relocating the employee.

The principal contractor may **not charge any fee** for protective equipment prescribed by him or her **but may charge for equipment under the following conditions**, following a disciplinary hearing:

- Where the employee requests additional issue in excess of what is prescribed;
- Where the employee has blatantly abused or neglected the equipment leading to early failure; and

6.21 Principal contractors Administrative Controls for COVID 19 Virus

The principal contractor shall follow all the legal guidelines as per the OHS Act 1993, Construction Regulations 2014, Hazardous Biological Agents Regulations 2001 COVID 19 (HBA 2001 COVID 19) as amended, and Disaster Management Act 2002 as amended.

Administrative controls require action by the employee and employer. Typically, administrative controls are changes in work policy or procedures to reduce or minimize exposure to a hazard. Examples of administrative controls for SARS-CoV-2 include:

- Encouraging sick workers to stay at home.
- Minimizing contact among workers, clients, and customers by replacing face-to-face meetings with virtual communications e.g. conference calls, Skype, etc.
- Minimizing the number of workers on site at any given time e.g. rotation or shift work.
- Discontinuing nonessential local and international travel. Regularly check travel advice from the Department of Health at: www.health.gov.za
- Developing emergency communications plans, including a task team for answering workers' concerns and internet-based communications, if feasible.
- Providing workers with up-to-date education and training on COVID-19 risk factors and protective behaviors (e.g. cough etiquette and care of PPE).

Training workers who need to use protective clothing and equipment on how to put it on, use/wear it and take it off correctly, including, in the context of their current and potential duties. Training material should be easy to understand and available in the appropriate language and literacy level for all workers.

6.21.1 Safe Work Practices

Safe work practices are types of administrative controls that include procedures for safe and proper work used to reduce the duration, frequency, or intensity of exposure to a hazard. Examples of safe work practices for SARS-CoV-2 include:

Providing resources and a work environment that promotes personal hygiene. For example, no-touch refuse bins, hand soap, alcohol-based hand rubs containing at least 70 percent alcohol, disinfectants, and disposable towels for workers to clean their hands and their work surfaces.

Requiring regular hand washing or using of alcohol-based hand rubs. Workers should always wash hands when they are visibly soiled and after removing any PPE.

DISPLAY HANDWASHING SIGNS IN RESTROOMS.

6.21.2 COVID19 Virus Personal Protective Equipment

While engineering and administrative controls are considered more effective in minimizing exposure to SARS-CoV-2, PPE may also be needed to prevent certain exposures. While correctly using PPE can help prevent some exposures, it should not take the place of other prevention strategies.

Examples of PPE include: gloves, goggles, face shields, face masks, gowns, aprons, coats, overalls, hair and shoe covers and respiratory protection, when appropriate. During an outbreak of an infectious disease, such as COVID-19, recommendations for PPE specific to occupations or job tasks may change depending on geographic location, updated risk assessments for workers, and information on PPE effectiveness in preventing the spread of COVID-19. Employers should check the NICD website regularly for updates about recommended PPE.

All types of PPE must be:

- Selected based upon the hazard to the worker.
- Properly fitted (e.g. respirators).
- Consistently and properly worn when required.
- Regularly inspected, maintained, and replaced, as necessary.
- Properly removed, cleaned, and stored or disposed of, as applicable, to avoid contamination of self, others, or the environment.

Employers are obligated to provide their workers with PPE needed to keep them safe while performing their duties. The types of PPE required during a COVID-19 outbreak will be based on the risk of being infected with SARS-CoV-2 while working and job tasks that may lead to exposure.

Workers, including those who work within 2 meters of patients known to be, or suspected of being, infected with SARS-CoV-2 and those performing aerosol-generating procedures, need to use respirators:

- Approved N95 filtering half face respirators as a minimum used in the context of a comprehensive, written respiratory protection program that includes fit-testing, training, and medical exams.

7. Construction Work Permit Application

The Construction Regulation 3(1) requires that the client who intends to execute construction work must at least 30 days before that work is carried out apply to the provincial director in writing for a construction work permit to perform the construction work if the intended construction work will:

1. exceed 365 days and will involve more than 3600-person days of construction work.
2. The tender value limit is grade 7, 8 or 9 of the Construction Industry Development Board (CIDB) grading.

8. Health and safety policy

The principal contractor has to provide the Client, as an annexure to the health and safety plan, with a detailed health and safety policy outlining the principal contractor's stance on and principles adopted for health and safety.

9. Cost for health and safety measures during the construction process

To enable the Client to comply with Construction Regulation 5(1)(g), all potential principal contractors submitting tenders/bids have to demonstrate to the Client that sufficient provision has been made for the cost to implement and maintain the health and safety plan proposed by the principal contractor to meet the requirements of this health and safety specification as well as that of the OHS Act and its Regulations. A detailed schedule of costs has to be included in the health and safety plan submitted as part of the potential principal contractor's tender document. Failure by the principal contractor to adhere to this requirement will force the Client to reject the tender/bid in terms of Construction Regulation 5(1)(h).

10. Compensation for Injuries and Diseases

- i. It is the responsibility of the employers (other than a Contractor) to arrange for all persons employed on an EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- ii. A worker must report any work-related injury or occupational disease to their employer or manager.
- iii. The employer must report the accident or disease to the Compensation Commissioner.
- iv. An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

11 Application for construction work permit

The Regulation requires that the client who intends to execute construction work must at least 30 days before that work is carried out apply to the provincial director in writing for a construction work permit to perform the construction work if the intended construction work will:

1. exceed 365 days and will involve more than 3600 person days of construction work.
2. The tender value limit is grade 7, 8 or 9 of the Construction Industry Development Board (CIDB) grading.

12 Environmental Management of site facilities

The construction, layout and extent of the construction and its components shall be planned and managed in such a manner that environmental impacts are minimized. Temporary structures and facilities shall be decommissioned to the satisfaction of the Engineer and clean-up following construction shall be effectively undertaken.

12.1 Site lay out and establishment

- The contractor shall establish the construction camps, offices, workshops, testing facilities and staff accommodation.

- Outside road reserve
- In a previously disturbed area, where possible and
- In a manner that does not adversely affect the environment.
- Site establishment shall not take place on steep slopes, within 30m of wetland areas and water courses or at sites declared as no go areas.
- The site lay out shall take cognisance of access for deliveries and services. Likely disturbance to neighbours – noise, dust as well as security implications shall be considered. Any site establishment near residential housing in the area shall be discussed with and agreed to by the relevant landowners and immediate neighbours.
- Before any construction can begin, the contractor shall submit to the Engineer
 - A lay out plan and the method of establishment of the construction camp, i.e. all offices, accommodation facilities, testing facilities / laboratories, batching areas, storage and stockpiling areas workshops, vehicle washing areas and all other areas/facilities required for the undertaking of activities required for completion of the project.
 - The plan shall include the location and layout of waste storage and treatment facilities, ablution facilities, stockpiling and spoil areas and hazardous material storage areas. The demolition and removal of these facilities on completion of construction works shall also be detailed.

The contractor shall restrict all his activities, materials, equipment and personnel to within the area specified. The Contractor shall ensure that the approved construction area will be adequate to cover the project without further space adjustments being required at a later date.

12.2 No-go areas

No-go areas may be declared where necessary. These are areas where construction activities (including traffic accommodation) are prohibited. Entry into these areas by any person, vehicle or equipment requires the Engineer's permission.

- All declared no-go areas shall be demarcated by clear pegs and danger tape showing the positions of which shall be agreed by the Engineer, and appropriate signage provided.

- The Engineer may declare no-go areas at any time during construction phase as deemed necessary.
- Demarcation materials (pegs, danger tape, etc) shall not be moved or removed at any stage of the project without the consent of the Engineer.

12.3 Ablution Facilities

- The Contractor provide and maintain adequate ablution facilities and enforce the use of these facilities.
- The Contractor shall be responsible for ensuring that all ablution facilities are maintained in a clean and sanitary condition to the satisfaction of the Engineer.
- Portable chemical toilets must be provided at all construction camp areas where there will be a concentration of labour. Toilet paper must be provided.
- Water and soap for handwashing must be provided for the employees at these facilities. Handwashing stations must also be provided on site to deal with the control of the spread of COVID-19.
- No ablution facilities are allowed within 100m of any river or major drainage line.

12.4 Designated Eating areas

If no formal eating area exists, the Contractor shall provide adequate temporary shade within the construction areas to ensure that site personnel do not move off site to eat. Social distancing to curb the spread of COVID-19 must be taken into consideration. Where possible staggered lunch breaks must be arranged.

- The Contractor shall provide adequate refuse bins at all eating areas to the satisfaction of the Engineer. If deemed necessary, the Contractor shall demarcate designated eating areas.
- No feeding of or poaching of wild animals shall be allowed.

12.5 General Aesthetics

- The Contractor shall not deface, paint, damage or mark any natural feature (e.g. rocks, etc) situated on or around the site of survey or any other purposes unless agreed beforehand with the Engineer.
- All construction areas must be kept neat and tidy at all times. Different materials and equipment must be kept in designated areas and storing or stock piling shall be kept orderly. Where required, proper labelling shall be used.
- Lighting shall be of downward facing spill off type if the surrounding areas are sensitive e.g. residential.

12.6 Workshop equipment maintenance and storage

- All vehicles and equipment shall be kept in good working order to maximize efficiency and minimize pollution.
- All maintenance, including washing and re-fuelling on site shall take place at designated areas.

The Contractor shall ensure that no contamination of soil or vegetation occurs around workshops and plant maintenance facilities.

- All machinery servicing equipment shall be adequately bonded.
- Drip trays shall be used to collect oil, lubricants etc during maintenance. Drip trays shall be provided for all stationary plant.
- Washing of equipment shall be restricted to urgent maintenance requirements only. Adequate wastewater collection facilities shall be provided

12.7 Material Handling, Use & Storage

The potential environmental impact of the handling, use, storage and disposal of materials used during construction shall be minimized.

12.8 General

Environmental Considerations shall be taken into account in the site selection of any material storage areas.

12.8.1 Transportation

- The Contractor shall ensure that all suppliers and their delivery drivers are aware of procedures and restrictions (e.g. no-go areas) in terms of this EMP.
- Material shall be appropriately secured to ensure safe passage between destinations during transportation. Loads shall have appropriate cover to prevent them spilling from the vehicles during transit. The contractor shall be responsible for any clean-up resulting from the failure by his employees or suppliers to properly secure transported materials.
- Access routes shall be clearly defined for such deliveries.

12.8.2 Stockpiling

- The Contractor shall plan his activities so that materials excavated from borrow pits and cuttings, in so far as possible, can be transported directly to and placed at the point where it is to be used.
- Should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material shall be indicated and demarcated on the site plan submitted in writing to the Engineer for approval, together with the Contractors proposed measures for prevention, containment and rehabilitation against environmental damage.
- Dust and erosion, as well as storm water shall be adequately managed.
- Stock piles shall be positioned and sloped to create the least visual impact.
- No foreign material generated or deposited during construction shall remain on site. Areas affected by stockpiling shall be reinstated to the satisfaction of the Engineer.

12.8.3 Hazardous Substances

- All hazardous material or substances (e.g. asbestos, oils, etc) shall be stored on site only under controlled conditions including bund walls. All hazardous material or substances shall be stored in a secure, appointed area that is fenced with restricted entry. All storage shall take place using suitable containers to the approval of the Engineer. Hazard signs indicating the

nature of the stored materials shall be displayed on the storage facility or containment structure.

- Fuel shall be stored in a steel tank supplied and maintained by the fuel suppliers. The tank shall be located in a secure, demarcated area and an adequate bund wall (110% of volume) shall be provided. The floor and wall of the bund area shall be impervious to prevent infiltration of any spilled or leaked fuel into the soil.
- Alcohol sanitizers to be stored safely in appropriate containers and away from heat. Avoid storing large quantities on site.
- The Contractor shall provide to the Engineer a list of hazardous substances or materials that are to be used during construction, as well as the storage, handling, and disposal; procedures for each substance or material and emergency procedures in the event of misuse or accidental release. Material Safety Data Sheets for all the hazardous substances, including hand sanitizers and disinfectants should be kept in the safety file.

i. Waste Management

The Contractor shall ensure that all site personnel are instructed in the proper disposal of all waste types, and that hazardous wastes in particular are strictly controlled and monitored. Only approved waste disposal methods shall be allowed.

12.9.1 Solid Waste

The Contractor shall ensure that all facilities are maintained in a neat and tidy condition and the site shall be kept free of litter. Measures shall be taken to reduce the potential for litter and negligent behaviour with regard to the disposal of all refuse.

- At all places of work, the Contractor shall provide litter bins, containers and refuse collection facilities for later disposal of different waste types.
- Solid waste may be temporarily stored on site in a designated area approved by the Engineer prior to collection and disposal. Waste storage containers shall be covered, tip-proof, weather-proof and scavenger-proof. The waste storage area shall be fenced off to prevent windblown litter.

- No burning, on-site burying or dumping of waste shall occur.
- All solid waste shall be disposed of offsite at an approved landfill site. The Contractor shall supply the Engineer with certificates of disposal.
- The Contractor shall submit a code of practice detailing a solid waste control system (storage, provision of bins, site clean-up schedule, bin clean-out schedule, etc) to the e Engineer for approval.

12.9.2 Domestic Waste

- The Contractor shall provide metal refuse bins or equivalent plastic refuse bins all with lid, for all buildings.
- Refuse shall be collected and removed from all facilities at a specified frequency.
- Domestic waste shall be transported to the approved refuse disposal site in covered containers or trucks.
- The disposal of waste like disposable face masks, disposable gloves and other COVID-10 related PPE must be well managed and the contractor is to provide bins with lids for the waste and they must be labelled as such.

12.9.3 Construction rubble waste

Inert construction rubble and waste shall be disposed of by re-use in the rehabilitation of borrow pits or at a site approved by the Engineer.

12.9.4 Scrap Metal

Scrap metal shall be disposed and recycled.

12.9.5 Hazardous Waste

- All hazardous waste shall be disposed of at an approved hazardous landfill site. The Contractor shall provide disposal certificates to the Engineer and keep records of such disposal.
- Used oil and grease shall be removed from site and recycled through an approved used recycling company.

- The spoiling of oils or bituminous products on the site, over embankments, in borrow pits or illegal burying will not be allowed.
- Used oil, lubricants, cleaning materials, etc. from the maintenance of vehicles and machinery shall be collected in holding tanks and sent back to the supplier or removed from site by a specialist oil recycling company for disposal at an approved hazardous waste site.

12.9.6 Wastewater

- Where there are no reticulated sewer systems, water from kitchens, showers, laboratories, sinks etc. Shall be discharged into a conservancy tank for removal from the site.
- Contaminated runoff from fuel depots, workshops, machinery, washing areas and concrete batching area collected into a conservancy tank and disposed off at a site approved by the Engineer.

12.10 Dust Control

- The Contractor shall ensure that the generation of dust is minimized and shall implement dust control program to maintain a safe working environment, minimize nuisance for surrounding residential areas or dwellings and protect damage to natural vegetation, crops, etc. Such measures may include water sprays, taking care to optimize water use and covering material, stockpiles, taking care not to compromise the natural seed bank.
- Construction vehicles shall comply with speed limits and haul distances shall be minimized. Material loads shall be suitably covered and secured when transported over long distances.
- Exposed soil and material stockpiles shall be protected against wind erosion and the location of stockpiles shall take into consideration the prevailing wind directions and locations of sensitive receptors.

12.11 Noise Control

- Where possible, construction camps, offices, workshops, testing facilities, stockpiling areas, staff accommodation etc. should be located away from residential developments.
- The Contractor shall restrict all operations that result in undue noise disturbance to local communities and/or dwellings (e.g. blasting, crushing, etc) to daylight hours on weekdays or as agreed otherwise with the Engineer.

- All vehicles and machinery must be maintained as per manufactures instructions to minimize the noise produced.
- The Contractor shall warn any local communities and/or residents that could be disturbed by noise generating activities such as blasting well in advance and shall keep such activities to a minimum.
- The Contractor shall be responsible for compliance with the relevant legislation with respect to noise.
- The Contractor shall endeavour to keep noise generating activities to minimum.

13 Public safety

The principal contractor shall ensure as far as is practically possible that the welfare and safety of the local community is prioritized. He shall ensure that all the neighborhood has access and egress into the yards, houses, pedestrian lanes, and facilities. Any drastic changes in the community operations shall be communicated with the Community Liaison Officer (CLO) and the local ward counselor. The CLO shall ensure that all community concerns are recorded and communicated at the progress meeting and to the Principal Contractor as soon as possible to original standard and condition. Any damages to infrastructure, fences and driveways shall repair within short period. The Principal Contractor shall ensure that suitable and sufficient signage is put in place to control traffic, other road users especially school children and pedestrians.

14 Enquiries

For any enquiries regarding this occupational health and safety specification, please contact
 Name: Frank Matlala
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NB: At the end of the project all the folders are to be submitted to the client.

Compiled by:

F.O. Matlala

(Pr CHSA, MACHASM, SAIOSH Prof, BTech and MSc)

Signature: _____

Revision Date: 26 JANUARY 2022

Review Date : 26 JULY 2022

Contractor signature: _____

Date:

Client signature: _____

Date: