

**WATER AND SANITATION BUSINESS UNIT
INFRASTRUCTURE PLANNING AND
IMPLEMENTATION DIVISION**



TENDER REFERENCE: WSBU 02 2025/26

**TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR
REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF
TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF
TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND
WHEN REQUIRED**

VOLUME 1

A Tender for category 6CE or higher CIDB registered contractors

ISSUED BY:	PREPARED BY:
The Divisional Head <u>Supply Chain Management</u> Tshwane House 320 Madiba Street Pretoria 0001 Tel: (012) 358 0343	The Group Head <u>WATER AND SANITATION BUSINESS UNIT</u> PO Box 1022 PRETORIA 0001 Tel: 012 345-4101/3773

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

CONTENTS

DESCRIPTION	COLOUR
PORTION 1: TENDER	
PART T1	TENDERING PROCEDURES
T1.1	TENDER NOTICE AND INVITATION TO TENDER
T1.2	TENDER DATA
T1.3	STANDARD CONDITIONS OF TENDER
PART T2	RETURNABLE DOCUMENTS
PORTION 2: CONTRACT	
PART C1	AGREEMENTS AND CONTRACT DATA
C1.1	FORM OF OFFER AND ACCEPTANCE
C1.2	CONTRACT DATA
C1.3	FORM OF GUARANTEE
C1.4	HEALTH AND SAFETY AGREEMENT
C1.5	ADJUDICATOR'S AGREEMENT
PART C2	PRICING DATA
C2.1	PRICE INSTRUCTIONS
C2.2	PRICE SCHEDULE
PART C3	SCOPE OF WORK
C3.1	DESCRIPTION OF THE WORKS
C3.2	ENGINEERING
C3.3	PROCUREMENT
C3.4	CONSTRUCTION
C3.5	MANAGEMENT
C3.6	SPECIFICATION AND VARIATIONS
C3.7	CORRECTIONS & AMENDMENT TO STANDARD SPECIFICATION
C3.9	HEALTH & SAFETY SPECIFICATION
PART C4	SITE INFORMATION
C4.1	LOCALITY PLAN

PORTION 1: TENDER

PART T1: TENDER PROCEDURES

TABLE OF CONTENTS

T1.1	TENDER NOTICE AND INVITATION TO TENDER.....	2
T1.2	TENDER DATA.....	3
T1.3	STANDARD CONDITIONS OF TENDER.....	17

T1.1 TENDER NOTICE AND INVITATION TO TENDER

WSBU 02 2025/26

**CITY OF TSHWANE
WATER AND SANITATION BUSINESS UNIT**

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

Tenders are hereby invited for the above services.

Tenderers should have a CIDB contractor grading designation of **6CE** or higher.

Tenders will be received until **10:00 on the 04 November 2025**. Tenders will be received on the closing dates and times shown, must be enclosed in sealed envelopes, bearing the applicable tender heading and reference number, as well as the closing time and due date, and must be addressed to:-

Tenders are hereby invited for the above work.

Tenders will be evaluated on the basis of awarding points for the **80/20 Preference** Point System will be applied to this tender.

A **COMPULSORY CLARIFICATION MEETING** with a representative of the Employer will take place at the Sammy Marks Council Chamber, 1st floor, Cnr Lilian Ngoyi and Madiba Street, Pretoria Central, 0001 **on the 14 October 2025 at 10h00.**

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

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

The closing time for receipt of tenders is **10h00 on the 04 November 2025**. Tenders will be received on the closing date and time shown, must be enclosed in sealed envelopes bearing the applicable tender heading and reference number, as well as the closing time and due date, and must be addressed to the Executive Director, SUPPLY CHAIN MANAGEMENT, PRETORIA, 0001 and must be submitted in the tender box situated at **Tshwane House, 320 Madiba Street, Pretoria, 0002**. Tenders will be opened at the latter address at the time indicated.

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”.

<u>ENQUIRIES:</u>	Employers Agent:	Mr. Simphiwe July
	Tel (Office):	012 358 5796
	E-Mail:	SimphiweJ@tshwane.gov.za

T1.2 TENDER DATA

The conditions of tender are the Standard Conditions of Tender as contained in **Annexure C of Standard for Uniformity in Engineering and Construction Works Contracts (Board Notice 423 Government Gazette No 42622 of 8 August 2019)**, bound into Section T1.2

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

CLAUSE NUMBER	TENDER DATA
C.1.1 Actions	The Employer is City of Tshwane Metropolitan Municipality
C.1.2 Tender Documents	<u>Volume 1: Tender Document</u> THE TENDER Part T1: Tendering Procedures T1.1 – Tender Notice and Invitation to Tender T1.2 – Tender data T1.2 – Standard Conditions of Tender Part T2: Returnable documents T2.1 – List of returnable documents T2.2 – Returnable schedules THE CONTRACT Part C1: Agreements and contract data C1.1 – Form of offer and acceptance C1.2 – Contract data Part C3: Scope of work C3 – Scope of work <u>Volume 2: Standard Drawings</u> The standard Drawings as referred to in Part C3, Section C3.2 and the Bill of Quantities will form part of this contract. Request for drawings maybe emailed to the following: WS_WayleaveAPPL@Tshwane.gov.za
C.1.3 Interpretation	Add the following new clause:
C.1.3.4	<i>The tender documents have been drafted in English. The contract arising from the invitation to tender shall be interpreted and construed in English</i>
C.1.4 The detail of the Employer is:)	Employers name Mr. Simphiwe July Address: 225 Madiba Street, Pretoria, 0001 Tel: 012 358 5796 E-Mail: SimphiweJ@tshwane.gov.za
C.2.1 Eligibility	All the following mandatory requirements must be complied with, or the tender will be regarded as non-responsive and not be considered further:

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA	
	Mandatory criteria	Supporting evidence
	CIDB Grading of 6CE or higher.	Valid CIDB grading certificate
	Company Experience: Proof of 5 projects or above on successfully executed and completed projects of similar scope of work (sewer pipe replacement projects)	Appointment letter and approved Completion Certificate and/or Final Approval Certificate to be attached for each of the 5 projects or above.
	Contracts Manager with a NQF Level 7 or Higher in Civil Engineering and registered with South African Council for Project and Construction Management Professions (SACPCMP) as a Professional Project and Construction Manager Experience: 8 years and above as Contracts Manager	Certified copy of qualification, SACPCMP registration. Detailed CV indicating years of experience with the company are compulsory. Letters confirming employment. The City reserves the right to verify/confirm employment and qualification.
	Site Agent with a NQF Level 6 or higher in civil engineering qualification. Experience: 5 years and above as Site Agent	Certified copy of qualification. Detailed CV indicating years of experience with the company are compulsory. Letters confirming employment. The City reserves the right to verify/confirm employment and qualification.
	General Foreman with NQF 6 or higher in civil engineering qualification. Experience: 10 years and above as General Foreman	Certified copy qualification (Civil Engineering or related). Detailed CV indicating years of experience with the company are compulsory. Letters confirming employment. The City reserves the right to verify/confirm employment and qualification.
	Civil Supervisor / Team Leader / Artisan plumber – Trade Test Certificate Experience: 5 years and above as Civil Supervisor / Team Leader / Artisan Plumber	Certified copy qualification (Red Seal Trade Test Certificate). Detailed CV indicating years of experience with the company are compulsory. Letters confirming employment. The City reserves the right to verify/confirm employment.
	Completed a minimum of three (3) projects involving pipe jacking project	Three (3) Reference letters on the various Clients' Letter Head
	Health and Safety Officer must be registered with the South African Council for Project and Construction Management Professions (SACPCMP) as a Construction Health and Safety Officer (CHSO).	Certified copy of SACPCMP Registration Certificate

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA	
	Trenchless pipe replacement equipment must be either owned by the tenderer / in a lease agreement	Certified copy of the document proving ownership / lease agreement
	Operator of trenchless pipe replacement Equipment must be trained by an accredited training service provider	Certified copy of Trenchless Pipe Replacement Operator Certificate
	HDPE Pipe Butt-welding Equipment must be either owned by the tenderer / in a lease agreement	Certified copy of the document proving ownership / lease agreement
	HDPE Pipe Butt-welder must be trained by an accredited training service provider	Certified copy of HDPE Pipe Butt-welder Certificate
	Cured-In-Place-Pipe (CIPP) Liner Equipment must be either owned by the tenderer or in a lease agreement	Certified copy of the document proving ownership / lease agreement
	Operator of CIPP Liner Equipment must be trained by an accredited training service provider	Certified copy of CIPP Liner Operator Certificate
	CCTV Camera Equipment and CCTV Software must be either owned by the tenderer / in a lease agreement	Certified copy of the document proving ownership / lease agreement
	Operator of CCTV Camera Equipment and Software must be trained by an accredited training service provider	Certified copy of the CCTV Operator Certificate
	All bidders to provide a minimum bank rating of a "C". Value is R6 000 000.	Bank rating letter to be obtained from registered bank
	Joint Ventures are eligible to submit tenders provided that: - every member of a joint venture is registered with the CIDB within 10 days of the closing date of tenderers; - the lead partner has a contractor grading designation in the 5CE or higher class of construction work; and 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 6CE 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.	
C.2.2	Cost of Tendering	The employer will not compensate the tenderer for any costs incurred in attending interviews or making any submissions in the office of the employer.
C.2.5	Reference Documents	Add the following: Unless specified otherwise in this document, the following standards and conditions of contract will be applicable under this Contract: - The document <i>"Standard Specifications for Municipal Civil Engineering Works", Third Edition, 2005</i> issued by the Divisional Head: Roads and Stormwater of the City of Tshwane. This document is obtainable free of charge on the website www.tshwane.gov.za. - The latest print version as current at 30 days before close of tenders of the document <i>"General Conditions of Contract for Construction Works 3rd Edition, 2015"</i> including corrections thereto as current at 30 days before close of tenders, as published by the <i>South</i>

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
	<i>African Institution of Civil Engineering.</i> The document may be purchased in hard copy from the <i>South African Institution of Civil Engineering</i> or may be purchased online as an electronic reference document in PDF format by following the relevant links on www.saice.org.za. The corrections may be downloaded from the SAICE website www.saice.org.za.
C.2.7 Clarification meeting	The arrangements for a <u>compulsory</u> clarification meeting are as stated in the tender notice and invitation to tender. Confirmation of attendance will be recorded on site in the attendance register to be signed by all tenderers. Addenda will be issued to, and tenders received from those tendering entities appearing on the attendance register. Tender documents will not be made available at the clarification meeting
C.2.8 Seek clarification	<u>Replace</u> the clause with the following: <i>Request clarification of the tender documents, if necessary, by notifying the employer at least <u>7 (seven) working days</u> before the closing time stated in the tender data.</i> The document is downloadable on the National Treasury website (www.etenders.gov.za) and City of Tshwane website (www.tshwane.gov.za)
C.2.9 Insurance	<u>Add</u> the following to the clause 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.2.12 Alternative offers	No alternative tender offers will be considered.
C.2.13 Submitting a tender offer	• The tender offer <u>shall be completed in non-erasable black ink</u> • Any entry made by the tenderer in the document which the tenderer desires to change, <u>shall not be erased or painted out.</u> A line shall be drawn through the incorrect entry, and the correct entry shall be written above in <u>non-erasable black ink</u> and the <u>full signature</u> of the tenderer shall be placed next to the correction.
C.2.13.3	Parts of each tender offer communicated on paper shall be submitted as <u>an original, plus a scanned copy in PDF format on a memory stick.</u> <u>In addition to the hard copy submission, each tenderer is required to submit a scanned copy of the fully completed and signed tender submission document. This is to be on a memory stick attached to the original tender submission documents, adequately identifiable as belonging to the tenderer, be in PDF format scanned at 400 DPI, and be in full colour.</u>
C.2.13.4 Elig	<u>Add</u> the following to the clause <i>Only authorised signatories may sign the original and all copies of the tender offer where required.</i> <i>In the case of a <u>ONE-PERSON CONCERN</u> submitting a tender, this shall be clearly stated.</i> <i>In the case of a <u>COMPANY</u> 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.</i> <i>In the case of a <u>CLOSE CORPORATION</u> 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.</i>

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
	<i>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.</i> <i>In the case of a JOINT VENTURE/CONSORTIUM submitting a tender, include <u>a resolution of each company</u> of the joint venture together with a <u>resolution by its members</u> authorising a member of the joint venture to sign the documents on behalf of the joint venture.</i> <u>Accept that failure to submit proof of authorisation to sign the tender shall result in the tender offer being regarded as non-responsive.</u> Tender Reference: WSBU 02 2025/26 Tender Description: The appointment of Contractors for the replacement of deficient sewers with combination of trenchless and conventional methods in the City of Tshwane, (Areas A, B, and C): Three (3) Year Period, as and when required Each tender shall be enclosed in a sealed envelope, bearing the correct identification details and shall be submitted (HAND DELIVERED) at: Supply Chain Management Tshwane House 320 Madiba Street Pretoria CBD 0002 Please note that the tender box is open 24 hours. Please ensure that all required compliance documents are included upon submission as no additional documents will be requested from bidders after closing.
C.2.13.9	Telephonic, telegraphic, telex, facsimile or e-mailed offers will <u>not</u> be accepted.
C.2.13.10	Add the following sub- clause C.2.13.10: <i>Accept that all conditions, which are printed or written upon any stationery used by the Tenderer for the purpose of or in connection with the submission of a tender offer for this Contract, which are in conflict with the conditions laid down in this document shall be waived, renounced and abandoned.</i>
C.2.14 Information and data to be completed in all respects	Add the following to the clause: <i>The Tenderer is required to enter information in the following sections of the document:</i> Section T2 : Returnable Schedules Section C1 : Form of Offer and Acceptance Section C1 : Contract Data Section C3 : Price Schedule <i>The above sections shall be signed by the Tenderer (and witnesses where required). Individual pages should only be initialled by the successful Tenderer and by the witnesses after acceptance by the Employer of the Tender Offer.</i> <i>The Tenderer shall complete and sign the Form of Offer prior to the submission of a Tender Offer.</i>

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
	<i>The Schedule of Deviations (if applicable) shall be signed by the successful Tenderer after acceptance by the Employer of the Tender Offer.</i> <i>Accept that failure on the part of the Tenderer to submit any one of the Returnable Documents listed in Part T2 – Returnable Documents within the period stipulated, shall be just cause for the Employer to consider the tender offer as being regarded as non-responsive.</i> <i>Accept that the Employer shall in the evaluation of tender offers take due account of the Tenderer's past performance in the execution of similar engineering works of comparable magnitude, and the degree to which he possesses the necessary technical, financial and other resources to enable him to complete the Works successfully within the contract period. Satisfy the Employer and the Engineer as to his ability to perform and complete the Works timeously, safely and with satisfactory quality, and furnish details in Part T2 – Returnable Documents.</i>
C.2.15 Closing time	The closing time for submission of tender offers is stated in the tender notice and invitation to tender.
C.2.16 Tender offer validity	The tender offer validity period is 90 days. Add the following new clause: <i>If the tender validity period expires on a Saturday, Sunday or public holiday, the tender offer shall remain valid and open for acceptance until closure of business on the following working day.</i>
C.2.16.5	Add the following new clause: <i>Accept that should the Tenderer unilaterally withdraw his tender during the tender validity period, the Employer shall, without prejudice to any other rights he may have, be entitled to accept any less favourable tender for the Works from those received, or to call for fresh tenders, or to otherwise arrange for execution of the Works, and the Tenderer shall pay on demand any additional expense incurred by the Employer on account of the adoption of the said courses, as well as either the difference in cost between the tender withdrawn (as corrected in terms of clause 3.9 of the Conditions of Tender) and any less favourable tender accepted by the Employer, or the difference between the tender withdrawn (as corrected) and the cost of execution of the Works by the Employer as well as any other amounts the Employer may have to pay to have the Works completed.</i>
C.2.17 Clarification of Tender Offer after Submission	Replace the contents of the clause with the following clause: <i>"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 resulting from the product of the unit rate and the quantity by the adjustment of certain line-item totals. No change in the unit rate or prices or substance of the Tender Offer is sought, offered, or permitted."</i>
C.2.19 Inspections, tests and analysis	Add the following at the end of the clause: <i>....or upon written request.</i>
C.2.20 Submit securities, bonds, policies, etc.	The tenderer is required to submit with his tender proof of his Professional Indemnity Insurance.
C.2.23 Certificates	Refer to Part T2 of this procurement document for a list of the documents that are to be returned with the tender.

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
C.2.24 <i>Canvassing and obtaining of additional information by tenderers</i>	<i>The Tenderer shall not make any attempt either directly or indirectly to canvass any of the Employer's officials or the Project Coordinator or Deputy Directors (Regional Project Managers)/ Employer's Agent in respect of his tender, after the opening of the tenders but prior to the Employer arriving at a decision thereon.</i> <i>The Tenderer shall not make any attempt to obtain particulars of any relevant information, other than that disclosed at the opening of tenders.</i>
C.2.25 <i>Prohibitions on awards to persons in service of the state</i>	Add the following new clause <i>The Employer is prohibited to award a tender to a person -</i> <i>who is in the service of the state; or</i> <i>if that person is not a natural person, of which any director, manager, principal shareholder or stakeholder is a person in the service of the state; or</i> <i>a person who is an advisor or consultant contracted with the municipality or municipal entity.</i> In the service of the state means to be - <i>a member of:-</i> <i>any municipal council;</i> <i>any provincial legislature; or</i> <i>the National Assembly or the National Council of Provinces;</i> <i>a member of the board of directors of any municipal entity;</i> <i>an official of any municipality or municipal entity;</i> <i>an employee of any national or provincial department;</i> <i>provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);</i> <i>a member of the accounting authority of any national or provincial public entity; or</i> <i>an employee of Parliament or a provincial legislature.</i> In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 of this procurement document must be completed.
C.2.26 <i>Awards to close family members of persons in the service of the state</i>	Add the following new clause <i>Accept that the notes to the Employer's annual financial statements must disclose particulars of any award of more than R2 000 to a person who is a spouse, child or parent of a person in the service of the state (defined in clause F2.25), or has been in the service of the state in the previous twelve months, including -</i> <i>the name of that person;</i> <i>the capacity in which that person is in the service of the state; and</i> <i>the amount of the award.</i> In order to give effect to the above, the questionnaire for the declaration of interests in the tender of persons in service of state in part T2 of this procurement document must be completed.
C.2.27 <i>Vendor registration</i>	Add the following new clause <i>The contractor will be required to register as a supplier/ service provider on the City of Tshwane's vendor register before any payment can be done.</i> <i>If the tenderer is already registered as a vendor, it is required to record the vendor number in space provided on the cover page of this Tender document.</i>

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA
	<i>Vendor registration documents are available from the Procurement Advice Centre or can be downloaded from:</i> https://www.tshwane.gov.za/sites/business/RegistrationofSuppliers/pages/registration-of-suppliers.aspx <i>All parties of a joint venture or consortium submitting a tender shall comply with the requirements of this clause.</i>
C.2.28 Tax	Add the following new clause National Treasury SCM Instruction no. 7 of 2017/18 clause 4 application during SCM Processes state that: <i>The designated official(s) must verify the tenderer's tax compliance status prior to the finalisation of the award of the tender or price quotation.</i> <i>Where the recommended tenderer is not tax compliant, the tenderer should be notified of their non-compliant status and the tenderer must be requested to submit to the municipality or municipal entity, within 7 working days, written proof from South African Revenue Services of their tax compliance status or proof from SARS that they have made an arrangement to meet their outstanding tax obligations. The proof of tax compliance status submitted by the tenderer to the municipality or municipal entity must be verified via the Central Supplier Database or eFiling</i> <i>Accept that the tenderer will be rejected if such tenderer fails to provide proof of tax compliance status in terms of clause 4.2 of National Treasury SCM Instruction no. 7 of 2017/18</i>
C2.29 B-BBEE Status Level of Contributor	Add the following new clause <i>A valid B-BBEE Verification Certificate from a Verification Agency accredited by the South African Accreditation System (SANAS) or a Registered Auditor approved by the Independent Regulatory Board of Auditors (IRBA) or an Accounting Officer as contemplated in the Close Corporation Act (CCA) must be submitted with this tender document</i> <i>In the case of a Joint Venture/Consortium a valid B-BBEE Status Level of Contributor certificate must be submitted by each individual party to the Joint Venture/Consortium.</i> <i>Failure by the tenderer to comply with this clause will result in the tenderer scoring 0 points for preference.</i>
C.3.1 Respond to requests from the tenderer C.3.1.1	The employer will respond to requests for clarification up to 7 (seven) working days before the tender closing time.
C.3.4 Opening of tender submissions	Tenders will be opened immediately after the closing time for tenders. Bidders are also requested to refer to the City's website where the closing register will be published. Only the tenderer's name will be announced
C.3.11 Evaluation of tender offers	The tender will be evaluated in 3 stages namely: Stage 1: Administrative compliance Stage 2: Mandatory requirements

CLAUSE NUMBER	TENDER DATA																
C.3.11.1 General	Stage 3: Preference Points System																
	Method 2 will be used to evaluate all responsive tender offers in terms of Clause C.3.11.2 of the Standard Conditions of Tender																
	Add the following new clause:																
	1. STAGES OF EVALUATION																
	This bid will be evaluated in three evaluation into three stages namely:																
	• Stage 1: Administrative compliance • Stage 2: Mandatory requirements • Stage 3: Preference Points System																
	1.1 STAGE 1: ADMINISTRATIVE COMPLIANCE																
	All the bids will be evaluated against the administrative responsiveness requirements as set out in the list of returnable documents.																
	A compulsory site meeting and briefing session to be held:																
	<table><tr><th>Compulsory Returnable Documentation (Submission of these are compulsory)</th><th>Submitted (YES or NO)</th><th>Checklist (Guide for Bidder and the Bid Evaluation Committee)</th></tr><tr><td>a) To enable The City to verify the bidder’s tax compliance status, the bidder must provide; • Tax compliance status PIN. - or • Central Supplier Database (CSD) </td><td></td><td>Tax status must be compliant before the award.</td></tr><tr><td>b) A copy of their Central Supplier Database (CSD) registration; or indicate their Master Registration Number / CSD Number;</td><td></td><td>CSD must be valid.</td></tr><tr><td>c) Confirmation that the bidding company’s rates and taxes are up to date: Original or copy of Municipal Account Statement of the Bidder (bidding company) not older than 3 months and account must not be in arrears for more than ninety (90) days; or ,signed lease agreement or In case of bidders located in informal settlement, rural areas or areas where they are not required to pay Rates and Taxes a letter from the local councillor confirming they are operating in that area</td><td></td><td>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?</td></tr><tr><td>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</td><td></td><td>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</td></tr></table>			Compulsory Returnable Documentation (Submission of these are compulsory)	Submitted (YES or NO)	Checklist (Guide for Bidder and the Bid Evaluation Committee)	a) To enable The City to verify the bidder’s tax compliance status, the bidder must provide; • 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 not required to pay Rates and Taxes a letter from the local councillor confirming they are operating in that area		Was a Municipal Account Statement or 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?	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	
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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 not required to pay Rates and Taxes a letter from the local councillor confirming they are operating in that area		Was a Municipal Account Statement or 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?															
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		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															

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA		
	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		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, 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.</u> <u>Failure to declare interest will result in a disqualification</u>		All documents fully completed (i.e. no blank spaces)? All documents fully signed by (any director / member / trustee as indicated on the CIPC document, alternatively a delegation of authority would be required? Documents completed in black ink (i.e. no "Tippex" corrections, no pencil, no other colour ink, or non-submission of the MBD forms , will be considered)?
	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. 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.		Applicable for tenders above R10m in conjunction with MBD 5) 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.
	g) Joint Ventures (JV) – (Only applicable when the bidder tenders as a joint venture) Where the bidder bids as a joint venture (JV), the required or relevant documents as per (a) to (f) above must be provided for all JV parties. In addition to the above the bidder must submit a Joint Venture (JV) agreement signed by the relevant parties. 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		If applicable. JV agreement provided? JV agreement complete and relevant? Agreement signed by all parties? All required documents as per (i.e. a to f) must be provided for all partners of the JV.

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA		
	contract unless prior approval is obtained from the City.		
	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.
	1.2 STAGE 2: MANDATORY REQUIREMENTS		
	The following mandatory requirements must be submitted with the tender documents and failure to do so will lead to immediate disqualification: It is expected that the bidder will deploy experienced key personnel that have in the past tenant installation/fit-out works, and this team should possess the relevant skills adequate for performing the tasks set out in this specification document. The following information must be provided:		
	Mandatory criteria	Supporting evidence	
	CIDB Grading of 6CE or higher.	Valid CIDB grading certificate	
	Company Experience: Proof of 5 projects or above on successfully executed and completed projects of similar scope of work (sewer pipe replacement projects)	Appointment letter and approved Completion Certificate and/or Final Approval Certificate to be attached for each of the 5 projects or above.	
	Contracts Manager with a NQF Level 7 or Higher in Civil Engineering and registered with South African Council for Project and Construction Management Professions (SACPCMP) as a Professional Project and Construction Manager	Certified copy of qualification, SACPCMP registration.	
	Experience: 8 years and above as Contracts Manager	Detailed CV indicating years of experience with the company are compulsory. Letters confirming employment. The City reserves the right to verify/confirm employment.	

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA	
	Site Agent with a NQF Level 6 or higher in civil engineering qualification. Experience: 5 years and above as Site Agent	Certified copy of qualification. Detailed CV indicating years of experience with the company are compulsory. Letters confirming employment. The City reserves the right to verify/confirm employment.
	General Foreman with NQF 6 or higher in civil engineering qualification. Experience: 10 years and above as General Foreman	Certified copy qualification (Civil Engineering or related). Detailed CV indicating years of experience with the company are compulsory. Letters confirming employment. The City reserves the right to verify/confirm employment.
	Civil Supervisor / Team Leader / Artisan plumber – Trade Test Certificate Experience: 5 years and above as Civil Supervisor / Team Leader / Artisan Plumber	Certified copy qualification (Red Seal Trade Test Certificate). Detailed CV indicating years of experience with the company are compulsory. Letters confirming employment. The City reserves the right to verify/confirm employment.
	Completed a minimum of three (3) projects involving pipe jacking project	Three (3) Reference letters on the various Clients' Letter Head
	Health and Safety Officer must be registered with the South African Council for Project and Construction Management Professions (SACPCMP) as a Construction Health and Safety Officer (CHSO).	Certified copy of SACPCMP Registration Certificate
	Trenchless pipe replacement equipment must be either owned by the tenderer / in a lease agreement.	Certified copy of the document proving ownership / lease agreement
	Operator of trenchless pipe replacement Equipment must be trained by an accredited training service provider	Certified copy of Trenchless Pipe Replacement Operator Certificate
	HDPE Pipe Butt-welding Equipment must be either owned by the tenderer / in a lease agreement.	Certified copy of the document proving ownership / lease agreement
	HDPE Pipe Butt-welder must be trained by an accredited training service provider	Certified copy of HDPE Pipe Butt-welder Certificate
	Cured-In-Place-Pipe (CIPP) Liner Equipment must be either owned by the tenderer or in a lease agreement	Certified copy of the document proving ownership / lease agreement
	Operator of CIPP Liner Equipment must be trained by an accredited training service provider	Certified copy of CIPP Liner Operator Certificate
	CCTV Camera Equipment and CCTV Software must be either owned by the tenderer / in a lease agreement	Certified copy of the document proving ownership / lease agreement

CLAUSE NUMBER	TENDER DATA												
	Operator of CCTV Camera Equipment and Software must be trained by an accredited training service provider	Certified copy of the CCTV Operator Certificate											
	All bidders to provide a minimum bank rating of a "C". Value is R6 000 000.	Bank rating letter to be obtained from registered bank											
	1.3 PREFERENCE POINT SYSTEM The preferential point system used will be the 80/20 points system in terms of the Preferential Procurement Policy Framework Act, 2000 (Act 5 of 2000) Regulations 2022 • 80 points for price • 20 points for specific goals												
	<table> <tr> <th>Specific goals</th><th>80/20 preference point system</th><th>Proof of specific goals to be submitted</th></tr> <tr> <td> BB-BEE score of companies • Level 1 • Level 2 • Level 3 • Level 4 • Level 5 • Level 6 • Level 7 • Level 8 • Non-compliant </td><td> • 8 Points • 7 Points • 6 Points • 5 Points • 4 Points • 3 Points • 2 Points • 1 Point • 0 Points </td><td>Valid Certified copy of BBBEE certificate. Sworn Affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate.</td></tr> <tr> <td>EME and/ or QSE</td><td>2 Points</td><td>Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE Certificate</td></tr> <tr> <td>At least 51% of Women-owned companies</td><td>2 Points</td><td>Certified copy of Identity Document/s <u>and</u> proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)</td></tr> </table>	Specific goals	80/20 preference point system	Proof of specific goals to be submitted	BB-BEE score of companies • Level 1 • Level 2 • Level 3 • Level 4 • Level 5 • Level 6 • Level 7 • Level 8 • Non-compliant	• 8 Points • 7 Points • 6 Points • 5 Points • 4 Points • 3 Points • 2 Points • 1 Point • 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	2 Points	Valid Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE Certificate	At least 51% of Women-owned companies	2 Points	Certified copy of Identity Document/s <u>and</u> proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)
Specific goals	80/20 preference point system	Proof of specific goals to be submitted											
BB-BEE score of companies • Level 1 • Level 2 • Level 3 • Level 4 • Level 5 • Level 6 • Level 7 • Level 8 • Non-compliant	• 8 Points • 7 Points • 6 Points • 5 Points • 4 Points • 3 Points • 2 Points • 1 Point • 0 Points	Valid Certified copy of BBBEE certificate. Sworn Affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises or CIPC BBBEE certificate.											
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At least 51% of Women-owned companies	2 Points	Certified copy of Identity Document/s <u>and</u> proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)											

Part T1: Tender Procedures

CLAUSE NUMBER	TENDER DATA		
	At least 51% owned companies by People with disability	2 Points	Medical Certificate with doctor's details (Practice Number, Physical Address, and contact numbers) and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)
	At least 51% owned companies by Youth	2 Points	Certified copy of Identity Document/s and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)
	Local Economic Participation - City of Tshwane - Gauteng - National	4 Points 2 Points 1 Point	Municipal Account statement/Lease agreement.
C.3.13 Acceptance of Tender Offer	Tender offers will only be accepted if: - the tenderer has complied in full with the all eligibility criteria; - the tenderer is able to provide proof of tax compliance status in terms of clause 4.2 of National Treasury SCM Instruction no. 7 of 2017/18; - the tenderer is not in arrears for more than 3 months with municipal rates and taxes and municipal service charges; - the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector; - the tenderer has not: - abused the Employer's Supply Chain Management System; or - failed to perform on any previous contract and has been given a written notice to this effect. - the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process and persons in the employ of the state are permitted to submit tenders or participate in the contract; - the tenderer is registered and in good standing with the compensation fund or with a licensed compensation insurer.		
C.3.17 Copies of Contract	One signed copy of contract shall be provided by the Employer to the successful Tenderer.		

T1.3 STANDARD CONDITIONS OF TENDER

TABLE OF CONTENTS

C.1	General.....	19
C.1.1	Actions	19
C.1.2	Tender Documents	19
C.1.3	Interpretation	19
C.1.4	Communication and Employer's agent	20
C.1.5	Cancellation and re-invitation of tenders	20
C.1.6	Procurement procedures.....	20
C.1.6.1	General	20
C.1.6.2	Competitive negotiation procedure	20
C.1.6.3	Proposal procedure using the two stage-system	21
C.2	Tenderer's obligations	21
C.2.1	Eligibility.....	21
C.2.2	Cost of tendering	21
C.2.3	Check documents.....	21
C.2.4	Confidentiality and copyright of documents	21
C.2.5	Reference documents.....	22
C.2.6	Acknowledge addenda	22
C.2.7	Clarification meeting	22
C.2.8	Seek clarification.....	22
C.2.9	Insurance.....	22
C.2.10	Pricing the tender offer	22
C.2.11	Alterations to documents.....	22
C.2.12	Alternative tender offers.....	22
C.2.13	Submitting a tender offer.....	23
C.2.14	Information and data to be completed in all respects	23
C.2.15	Closing time	23
C.2.16	Tender offer validity	24
C.2.17	Clarification of tender offer after submission	24
C.2.18	Provide other material	24
C.2.19	Inspections, test and analysis.....	24
C.2.20	Submit securities, bonds, policies, etc.	24
C.2.21	Check final draft.....	24
C.2.22	Return of other tender documents	25
C.2.23	Certificates	25
C.3	The employer's undertakings	25
C.3.1	Respond to requests from the tenderer	25
C.3.2	Issue addenda	25
C.3.3	Return late tender offers.....	25
C.3.4	Opening of tender submissions.....	25
C.3.5	Two-envelope system.....	25
C.3.6	Non-disclosure	26
C.3.7	Grounds for rejection and disqualification	26
C.3.8	Test for responsiveness	26
C.3.9	Arithmetical errors, omissions and discrepancies	26
C.3.10	Clarification of a tender offer.....	27
C.3.11	Evaluation of tender offers.....	27
C.3.11.1	General	28
C.3.12	Insurance provided by the employer	28
C.3.13	Acceptance of tender offer.....	28
C.3.14	Prepare contract documents.....	29
C.3.15	Complete adjudicator's contract.....	29
C.3.16	Notice to unsuccessful tenderers.....	29

Part T1: Tender Procedures

C.3.17	Provide copies of the contracts.....	29
C.3.18	Provide written reasons for actions taken.....	29

Part T1: Tender Procedures

C.1 General

C.1.1 Actions

C.1.1.1 The Employer and each tenderer submitting a tender offer shall comply with these conditions of tender. In their dealings with each other, they shall discharge their duties and obligations as set out in C.2 and C.3, timeously and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

C.1.1.2 The Employer and the tenderer and all their agents and employees involved in the tender process shall avoid conflicts of interest and where a conflict of interest is perceived or known, declare any such conflict of interest, indicating the nature of such conflict. Tenderers shall declare any potential conflict of interest in their tender submissions. Employees, agents and advisors of the Employer shall declare any conflict of interest to whoever is responsible for overseeing the procurement process at the start of any deliberations relating to the procurement process or as soon as they become aware of such conflict and abstain from any decisions where such conflict exists or recuse themselves from the procurement process, as appropriate.

Note:

- 1) *A conflict of interest may arise due to a conflict of roles which might provide an incentive for improper acts in some circumstances. A conflict of interest can create an appearance of impropriety that can undermine confidence in the ability of that person to act properly in his or her position even if no improper acts result.*
- 2) *Conflicts of interest in respect of those engaged in the procurement process include direct, indirect or family interests in the tender or outcome of the procurement process and any personal bias, inclination, obligation, allegiance or loyalty which would in any way affect any decisions taken.*

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

C.1.2 Tender Documents

The documents issued by the Employer for the purpose of a tender offer are listed in the tender data.

C.1.3 Interpretation

C.1.3.1 The tender data and additional requirements contained in the tender schedules that are included in the returnable documents are deemed to be part of these conditions of tender.

C.1.3.2 These conditions of tender, the tender data and tender schedules which are only required for tender evaluation purposes, shall not form part of any contract arising from the invitation to tender.

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

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

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

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

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

Part T1: Tender Procedures

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

C.1.4 Communication and Employer's agent

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

C.1.5 Cancellation and re-invitation of tenders

- C.1.5.1** An organ of state may, prior to the award of the tender, cancel the tender if-

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

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

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

C.1.6 Procurement procedures

C.1.6.1 General

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

C.1.6.2 Competitive negotiation procedure

- C.1.6.2.1** Where the tender data require that the competitive negotiation procedure is to be followed, tenderers shall submit tender offers in response to the proposed contract in the first round of submissions. Notwithstanding the requirements of C.3.4, the Employer shall announce only the names of the tenderers who make a submission. The requirements of C.3.8 relating to the material deviations or qualifications which affect the competitive position of tenderers shall not apply.

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

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

Part T1: Tender Procedures

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.
Option 2 is not applicable to this 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.2.1.3 Only those tenderers who can submit all mandatory requirements under Form RD.D.1 are eligible to submit a tender.

C.2.2 Cost of tendering

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

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

C.2.3 Check documents

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

C.2.4 Confidentiality and copyright of documents

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

C.2.5 Reference documents

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

C.2.6 Acknowledge addenda

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

C.2.7 Clarification meeting

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

C.2.8 Seek clarification

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

C.2.9 Insurance

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

C.2.10 Pricing the tender offer

C.2.10.1 Include in the rates, prices, and the tendered total of the prices (if any) all duties, taxes except Value Added Tax (VAT), and other levies payable by the successful tenderer, such duties, taxes and levies being those applicable 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

Part T1: Tender Procedures

- C.2.12.1** Unless otherwise stated in the tender data, submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted as well as a schedule that compares the requirements of the tender documents with the alternative requirements that are proposed.
- C.2.12.2** Accept that an alternative tender offer may be based only on the criteria stated in the tender data or criteria otherwise acceptable to the Employer.
- C.2.12.3** An alternative tender offer may only be considered in the event that the main tender is the winning tender.
- C.2.13 Submitting a tender offer**
- C.2.13.1** Submit one tender offer only, either as a single tendering entity or as a member in a joint venture to provide the whole of the works, services or supply identified in the contract data and described in the scope of works, unless stated otherwise in the tender data.
- C.2.13.2** Return all returnable documents to the Employer after completing them in their entirety, either electronically (if they were issued in electronic format) or by writing legibly in non-erasable ink.
- C.2.13.3** Submit the parts of the tender offer communicated on paper as an original plus the number of copies stated in the tender data, with an English translation of any documentation in a language other than English, and the parts communicated electronically in the same format as they were issued by the Employer.
- C.2.13.4** Sign the original and all copies of the tender offer where required in terms of the tender data. The Employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the Employer shall hold liable for the purpose of the tender offer.
- C.2.13.5** Seal the original and each copy of the tender offer as separate packages marking the packages as "ORIGINAL" and "COPY". Each package shall state on the outside the Employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- C.2.13.6** Where a two-envelope system is required in terms of the tender data, place and seal the returnable documents listed in the tender data in an envelope marked "financial proposal" and place the remaining returnable documents in an envelope marked "technical proposal". Each envelope shall state on the outside the Employer's address and identification details stated in the tender data, as well as the tenderer's name and contact address.
- C.2.13.7** Seal the original tender offer and copy packages together in an outer package that states on the outside only the Employer's address and identification details as stated in the tender data.
- C.2.13.8** Accept that the Employer will not assume any responsibility for the misplacement or premature opening of the tender offer if the outer package is not sealed and marked as stated.
- C.2.13.9** Accept that tender offers submitted by facsimile or e-mail will be rejected by the Employer, unless stated otherwise in the tender data.
- C.2.14 Information and data to be completed in all respects**
- Accept that tender offers, which do not provide all the data or information requested completely and, in the form, required, may be regarded by the Employer as non-responsive.
- C.2.15 Closing time**
- 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.

Part T1: Tender Procedures

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

C.2.16 Tender offer validity

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

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

C.2.16.3 Accept that a tender submission that has been submitted to the Employer may only be withdrawn or substituted by giving the Employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted. If the validity period stated in C.2.16 lapses before the Employer evaluating tender, the Contractor reserves the right to review the price based on Consumer Price Index (CPI).

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

C.2.17 Clarification of tender offer after submission

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

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

C.2.18 Provide other material

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

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

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

C.2.19 Inspections, test and analysis

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

C.2.20 Submit securities, bonds and policies

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.

Part T1: Tender Procedures

C.2.22 Return of other tender documents

If so instructed by the Employer, return all retained tender documents within 28 days after the expiry of the validity period stated in the tender data.

C.2.23 Certificates

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

C.3 The Employer's undertakings

C.3.1 Respond to requests from the tenderer

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

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

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

C.3.2 Issue addenda

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

C.3.3 Return late tender offers

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

C.3.4 Opening of tender submissions

C.3.4.1 Unless the two-envelope system is to be followed, open valid tender submissions in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data. Tender submissions for which acceptable reasons for withdrawal have been submitted will not be opened.

C.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices.

C.3.4.3 Make available the record outlined in C.3.4.2 to all interested persons upon request.

C.3.5 Two-envelope system

Part T1: Tender Procedures

- 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. Two envelope system is not applicable to this tender.
- 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.
- 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;

Part T1: Tender Procedures

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

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

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

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

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

C.3.10 Clarification of a tender offer

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

C.3.11 Evaluation of tender offers

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

Conditions of tender is a document that establishes a tenderer's obligations in submitting a tender and the Employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require Employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

The CIDB Standard Conditions of Tender are based on a procurement system that satisfies the following system requirements:	
Requirement	Qualitative interpretation of goal
Fair	The process of offer and acceptance is conducted impartially without bias, providing simultaneous and timely access to participating parties to the same information.
Equitable	Terms and conditions for performing the work do not unfairly prejudice the interests of the parties.
Transparent	The only grounds for not awarding a contract to a tenderer who satisfies all requirements are restrictions from doing business with the employer, lack of capability or capacity, legal impediments and conflicts of interest.

Part T1: Tender Procedures

Competitive	The system provides for appropriate levels of competition to ensure cost effective and best value outcomes.
Cost effective	The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.

The activities associated with evaluating tender offers are as follows:

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

C.3.11.1 General

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

C.3.12 Insurance provided by the Employer

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

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.3.13 Acceptance of tender offer

Accept the tender offer, if in the opinion of the Employer, it does not present any unacceptable commercial risk and only if the tenderer:

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the Employer's procurement,
- b) can, as necessary and in relation to the proposed contract, demonstrate that he or she possesses the professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, experience and reputation, expertise and the personnel, to perform the contract,
- c) has the legal capacity to enter into the contract,
- d) is not insolvent, in receivership, under Business Rescue as provided for in chapter 6 of the Companies Act, 2008, bankrupt or being wound up, has his affairs administered by a court or a judicial officer, has suspended his business activities, or is subject to legal proceedings in respect of any of the foregoing,
- e) complies with the legal requirements, if any, stated in the tender data, and
- f) is able, in the opinion of the Employer, to perform the contract free of conflicts of interest.

C.3.14 Prepare contract documents

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

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

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

C.3.15 Complete adjudicator's contract

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

C.3.16 Registration of the award

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

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

C.3.17 Provide copies of the contracts

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

C.3.18 Provide written reasons for actions taken

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

PART T2: RETURNABLE DOCUMENTS

TABLE OF CONTENTS

T2.1	LIST OF RETURNABLE DOCUMENTS	2
T2.2	RETURNABLE SCHEDULES.....	4

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	
Proof of registration in terms of the Project and Construction Management Profession Act 48 of 2000	Form RD.A.7	

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 and included in the tender)
Valid B-BBEE Status Level of Contributor Certificate	Form RD.B.1	
MBD 6.1: Preference points claim form in terms of the Preferential Procurement Regulations, 2022	Form RD.B.2	
B-BBEE Exempted Micro Enterprise – Sworn Affidavit	Form RD.B.3	
Promotion of local enterprises (Local Economic Participation)	Form RD.B.4	
Certified copy of Identity Document/s proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)	Form RD.B.5	
Medical Certificate with doctor's details (Practice Number, Physical Address and contact numbers) proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership)	Form RD.B.6	

RD.C ADDITIONAL RETURNABLE DOCUMENTS REQUIRED FOR TENDER EVALUATION PURPOSES

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	
Proof of Registration with CIDB	RD.C.3	
Compliance with OHSA (Act 85 of 1993)	RD.C.4	
Record of services provided to organs of state	RD.C.5	
Schedule of plant and equipment	RD.C.6	
Status of concern submitting tender	RD.C.8	
Classification of business	RD.C.9	
Letter of intent to provide a performance bond	RD.C.10	
Bank Rating	RD.C.11	

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

Document Name	Reference	Confirmation of Document Included (Tenders may use this column to confirm documents have been completed and included in the tender)
Record of addenda to tender documents	RD.D.1	
Mandatory requirements (key Personnel)	RD.D.2	
Curriculum vitae of key personnel	RD.D.3	
Company's experience	RD.D.4	
Form of offer and acceptance	Section C1.1	
Data provided by the contractor	Section C1.2	

T2.2 RETURNABLE SCHEDULES

TABLE OF CONTENTS

FORM RD.A.1	COMPULSORY ENTERPRISE QUESTIONNAIRE	5
FORM RD.A.2	MBD 4: DECLARATION OF INTEREST	5
FORM RD.A.3	MBD 8: DECLARATION OF TENDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTISES	9
FORM RD.A.4	MBD 9: CERTIFICATION OF INDEPENDENT TENDER DETERMINATION	11
	CERTIFICATE OF INDEPENDENT TENDER DETERMINATION	12
FORM RD.A.5	CERTIFICATE OF AUTHORITY OF SIGNATORY	14
FORM RD.A.6	CERTIFICATE OF AUTHORITY OF SIGNATORY FOR JOINT VENTURES AND CONSORTIA	14
FORM RD.A.7	PROOF OF REGISTRATION IN TERMS OF THE PROJECT AND CONSTRUCTION MANAGEMENT PROFESSION ACT 48 OF 2000.....	15
FORM RD.B.1	VALID B-BBEE STATUS LEVEL OF CONTRIBUTOR CERTIFICATE	16
FORM RD.B.2	MDB 6.1: PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022	18
FORM RD.B.2	VALID B-BBEE STATUS LEVEL OF CONTRIBUTOR CERTIFICATE	22
FORM RD.B.3	B-BBEE EXEMPTED MICRO ENTERPRISE – SWORN AFFIDAVIT	23
FORM RD.B.4	PROMOTION OF LOCAL ENTERPRISES	23
FORM RD.B.5	AT LEAST 51% WOMEN OWNED COMPANIES AND AT LEAST 51% OWNED COMPANIES BY YOUTH	24
FORM RD.B.6	AT LEAST 51% OWNED COMPANIES BY PEOPLE WITH DISABILITY	25
FORM RD.C.1	PROOF OF REGISTRATION ON CSD WITH NATIONAL TREASURY.....	26
FORM RD.C.2	MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION	27
FORM RD.C.3	PROOF OF REGISTRATION WITH THE CIDB	28
FORM RD.C.4	COMPLIANCE WITH OHSWA (ACT 85 OF 1993).....	29
FORM RD.C.5	RECORD OF SERVICES PROVIDED TO ORGANS OF STATE	30
FORM RD.C.6	SCHEDULE OF PLANT AND EQUIPMENT	31
FORM RD.C.8	STATUS OF CONCERN SUBMITTING TENDER.....	32
FORM RD.C.9	CLASSIFICATION OF BUSINESS	34
	SCHEDULE OF SECTORS	35
FORM RD.C.10	LETTER OF INTENT TO PROVIDE A PERFORMANCE BOND	35
FORM RD.D.1	RECORD OF ADDENDA TO TENDER DOCUMENTS	38
FORM RD.D.2	KEY PERSONNEL	38
FORM RD.D.3	CURRICULUM VITAE OF KEY PERSONNEL	40
FORM RD.D.4	COMPANY EXPERIENCE	41

FORM RD.A.1 COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of Enterprise:

Section 2: VAT registration number, if any:

Section 3: CIDB registration number, if any:

Section 4: CSD number:

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

Name*	Identity Number*	Personal Income Tax Number*

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

Section 6: Particulars of companies and close corporations

Company registration number:

Close corporation number:

Tax reference number:

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

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

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

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

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

Signed:		Date:	
Name:		Position	
<i>Enterprise Name:</i>			

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

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

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

3.1 Full name of bidder or his/her representative:

3.2 Identity Number:

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

3.4 Company Registration Number:

3.5 Tax Reference Number:

3.6 VAT Registration Number:

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

3.8 Are you presently in the service of the state?

YES	NO
-----	----

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.

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, principal 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, principal 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: _____

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 No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive tendering (or 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:

WSBU 02-2025/26: Tender for the appointment of Contractors for the replacement of deficient sewers with combination of trenchless and conventional methods in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required

in response to the invitation for the tender made by

City of Tshwane Metropolitan Municipality

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

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

1. I have read and understand the contents of this certificate;
2. I understand that the accompanying tender will be disqualified if this certificate is found not to be true and complete in every aspect;
3. I am 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 or services will be rendered (market allocation);
 - c. Methods, factors or formulas used to calculate prices;
 - d. The intention or decision to submit or not to submit, a tender;
 - e. The submission of a tender which does not meet the specifications and conditions of the tender; or
 - f. Tendering with the intention not to win the tender.

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.

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 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:

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

Tender Number: **WSBU 02-2025/26**Tender Description: **Tender for the appointment of Contractors for the replacement of deficient sewers with combination of trenchless and conventional methods in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required**

2. *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:

- *Delete which is not applicable.
- IMPORTANT: This resolution must 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.

Enterprise stamp

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

*Joint venture/consortium name: _____

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

_____ acting in the capacity of lead partner

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

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

Note:

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.

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.B.1 VALID B-BBEE STATUS LEVEL OF CONTRIBUTOR CERTIFICATE

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

NOTE:

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

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution.

NB BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT B-BBEE, AS PRESCRIBED IN THE PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1. GENERAL CONDITIONS

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

- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
- the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).

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

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

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

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

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

The maximum points for this tender are allocated as follows:

	POINTS
PRICE	80
SPECIFIC GOALS	20
TOTAL POINTS FOR PRICE AND SPECIFIC GOALS	100

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

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

2. DEFINITIONS

- (a) **"tender"** means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- (b) **"price"** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;
- (c) **"rand value"** means the total estimated value of a contract in Rand, calculated at the time of bid invitation,

and includes all applicable taxes;

- (d) **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions; and
- (e) **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

3.1. POINTS AWARDED FOR PRICE

3.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEMS

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

80/20	or	90/10
$Ps = 80 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$	or	$Ps = 90 \left(1 - \frac{Pt - P_{min}}{P_{min}} \right)$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmin = Price of lowest acceptable tender

3.2. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

3.2.1. POINTS AWARDED FOR PRICE

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

80/20	or	90/10
$Ps = 80 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$	or	$Ps = 90 \left(1 + \frac{Pt - P_{max}}{P_{max}} \right)$

Where

- Ps = Points scored for price of tender under consideration
- Pt = Price of tender under consideration
- Pmax = Price of highest 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.)

Specific goals	80/20 preference point system	Number of points claimed (80/20 system) (To be completed by the tenderer)
BB-BEE score of companies - Level 1 - Level 2 - Level 3 - Level 4 - Level 5 - Level 6 - Level 7 - Level 8 - Non-compliant	8 Points 7 Points 6 Points 5 Points 4 Points 3 Points 2 Points 1 Point 0 Points	
EME and/ or QSE	2 Points	
At least 51% of Women-owned companies	2 Points	
At least 51% owned companies by People with disability	2 Points	
At least 51% owned companies by Youth	2 Point	
Local Economic Participation - City of Tshwane - Gauteng - National	4 Points 2 Points 1 Point	

N.B For points to be allocated as per above the tenderers will be required to submit proof of documentation as evidence for claims made. Any tenderer that does not submit evidence as stated in the bid document to claim applicable points will be allocated zero points.

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.

.....
SIGNATURE(S) OF TENDERER(S)

SURNAME AND NAME:

DATE:

ADDRESS:

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

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

NOTE:

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

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

80/20 preference point system applies:

	Promotion of local enterprises
No Response (score 0)	The tenderer did not respond or comply with this evaluation schedule. A score of 0 will also be awarded for any misrepresentation made in this regard,
Satisfactory (score 1)	The tenderer operates a head office or fully staffed office or his sole office outside the boundaries of Gauteng Province. (I.e. no business unit or office resides within the boundaries of Tshwane Metropolitan Municipality)
Good (score 2)	The tenderer's office resides within the boundaries of Gauteng Province. (I.e. no business unit or office resides within the boundaries of Tshwane Metropolitan Municipality)
Very good (score 4)	The tenderer's office resides within the boundaries of the Tshwane Metropolitan Municipality.

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

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

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:	_____

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

	Promotion of 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 2)	Certified copy of Identity Document/s that proof that company is 51% owned by Women and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership
Good (score 2)	Certified copy of Identity Document/s that proof that company is 51% owned by youth and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership

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 2)	Medical Certificate with doctor's details (Practice Number, Physical Address and contact numbers and proof of ownership (Sworn affidavit for B-BBEE qualifying small enterprise or Exempt Micro Enterprises, CIPC registration or any other proof of ownership

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

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

Person authorized to sign the tender:

Full name (in BLOCK letters):

Signature:

Date:

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

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

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

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

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

Indicate whether these have been included in the tender:

YES	NO
-----	----

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

YES	NO
-----	----

If so, state particulars _____

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

YES	NO
-----	----

If so, state particulars _____

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

YES	NO
-----	----

If so, state particulars _____

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

YES	NO
-----	----

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

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

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

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

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

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

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

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

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

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

(Tick applicable box)

1. Are your company familiar with the OHSA (ACT 85 of 1993) and its Regulations?	YES	NO
2. Who will prepare your company's Health and Safety Plan? 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.5 RECORD OF SERVICES PROVIDED TO ORGANS OF STATE

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

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

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

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

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

(Attach additional pages if more space is required.)

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.C.6 SCHEDULE OF PLANT AND EQUIPMENT

The following are lists of the major items of relevant equipment that I/we presently own/lease and will have available for this contract or will hire/acquire for this contract as proof of the requirements. Refer to Part T1 (C2.1: Eligibility (mandatory requirements)).

Major equipment owned/leased that is immediately available for the execution of the works				
Description, size, capacity etc.	Quantity	Owner (Yes / No)	Lease Company	Contacts
Trenchless pipe replacement equipment				
HDPE Pipe Butt-welding Equipment				
Cured-In-Place-Pipe (CIPP) Liner Equipment				
CCTV Camera Equipment and CCTV Software				

(Attach additional pages if more space is required)

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

(Attach additional pages if more space is required)

FORM RD.C.8 STATUS OF CONCERN SUBMITTING TENDER

1. General

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

Public Company

Private Company

Closed Corporation

Partnership

Sole Proprietary

Joint Venture / Consortium

Co-operative

(Mark the appropriate option)

2. Information to be provided

If the Tendering Entity is a:		Documentation to be submitted with the tender
1	<u>Closed Corporation</u> , incorporated under the Close Corporation Act, 1984, Act 69 of 1984	CIPRO CK1 or CK2 (Certified copies of the founding statement) and list of members
2	<u>Private Company</u> incorporated with share capital, under the companies Act, 1973, Act 61 of 1973 (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 b) Each of the Partners in the Partnership Certified copy of the Partnership agreement.

If the Tendering Entity is a:		Documentation to be submitted with the tender
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.9 CLASSIFICATION OF BUSINESS

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

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

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

YES	NO
-----	----

(Tick appropriate box)

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

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

ii. Size or class:

iii. Total full-time equivalent of paid employees:

iv. Total annual turnover:

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

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

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

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

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

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

SCHEDULE OF SECTORS

SIZE OF CLASS	THE TOTAL FULL-TIME EQUIVALENT OF PAID EMPLOYEES	TOTAL TURNOVER	TOTAL GROSS ASSET VALUE (FIXED PROPERTY EXCLUDED)
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	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.10 LETTER OF INTENT TO PROVIDE A PERFORMANCE BOND

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

Name of Surety (Bank or Insurer)

Address:

Signed:

Name:

Capacity:

On behalf of Tenderer (name of tenderer)

Date:

CONFIRMED BY Surety's Authorised representative

Signature(s):

Name (print):

Capacity

On behalf of Surety (Bank or Insurer)

Date:

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

FORM RD.C.11 BANK RATING

Prospective bidders are to obtain the latest bank rating letter from the relevant bank and attach to this page. Failure to submit proof of the bank rating will result in the bidder be disqualified as this requirement is a mandatory requirement as provided for under Part T1 (refer to C2.1: Eligibility (mandatory requirements)).

All bidders to provide a minimum bank rating per estimated value as indicated below:

Value to be utilised for bank rating letter to be obtained from registered bank
R6,000,000

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			
10			

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

Person authorized to sign the tender:

Full name (in BLOCK letters): _____

Signature: _____

Date: _____

FORM RD.D.2 KEY PERSONNEL

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

Refer to clause C.3.11 of Part T1: Evaluation of tender offers (mandatory requirements)

Note: Form RD.D.3 must be complete for each person listed below.

	NAME	PROFESSIONAL REGISTRATION CATEGORY AND OR QUALIFICATIONS	Number of years experience
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

(Attach additional pages if more space is required)

FORM RD.D.3 CURRICULUM VITAE OF KEY PERSONNEL

Note: This form should be completed for each key person listed in Form RD.D.2 (attach a comprehensive CV, and proof of Registration).

Should it happen that personnel of which the CV's were used for tendering purpose not be longer available at the stage the successful bidder is awarded a Work Package, these personnel will be replaced with someone equally qualified, experienced and registered to perform the work, and be subject to approval by the City. Refer to clause C.3.11 of Part T1: Evaluation of tender offers (mandatory requirements).

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

FORM RD.D.4 COMPANY EXPERIENCE

The tendering company must have experience of at least two successfully completed roads and stormwater systems project with the largest of these projects valued at a minimum of R 9 million. **(attach appointment letter and completion certificate as proof).**

Refer to clause C.3.11 of Part T1: Evaluation of tender offers (mandatory requirements)

Note: Form RD.D.4 must be complete for each project.

ALL COMPLETED PROJECTS TO BE CONSIDERED				
	Employer, contact person and telephone number	Description of contract	Value of contract incl. VAT (Rand)	Date completed
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
13.				
14.				
15.				

PORTION 2: CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

CONTENTS

C1.1	FORM OF OFFER AND ACCEPTANCE	2
C1.2.	CONTRACT DATA.....	8
C1.3	FORM OF GUARANTEE.....	23
C1.4:	HEALTH AND SAFETY AGREEMENT	26
C1.5:	ADJUDICATOR'S AGREEMENT.....	28

C1.1 FORM OF OFFER AND ACCEPTANCE

STAMP

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

TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH A COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-A): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

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

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all 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 nature of the tender is an as and when required basis and the total in the Bill of Quantities is not the total value of the tender and is for evaluation purposes only. The quantities in the Bill of Quantities are therefore subject to change. The unit rates in the Bill of Quantities will remain fixed and the appointment will be on the unit rates.

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

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

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

1.

2.

ACCEPTANCE

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

The terms of the contract, are contained in

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

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

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

Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties¹.

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.

CONFIRMATION OF RECEIPT

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

FOR AND ON BEHALF OF THE CONTRACTOR:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

C1.2 CONTRACT DATA

TABLE OF CONTENTS

C1.2.1 GENERAL CONDITIONS OF CONTRACT 9

C1.2.2 VARIATIONS AND ADDITIONS TO THE CONDITIONS OF CONTRACT 10

C1.2.3 DATA PROVIDED BY THE EMPLOYER..... 19

C1.2.4 DATA PROVIDED BY THE CONTRACTOR..... 22

C.1.2.1 GENERAL CONDITIONS OF CONTRACT

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

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

C1.2.2 VARIATIONS AND ADDITIONS TO THE CONDITIONS OF CONTRACT

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

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
1.1	Add the following definitions: 1.1.1.35 <i>“Work Package” is work to be carried out under this contract.</i> 1.1.1.36 <i>“Package Order” is an instruction to carry out a Work Package.</i>
1.2.1	Add the following to the clause: 1.2.1.3 <i>Sent by facsimile, electronic or any like communication irrespective of it being during office hours or otherwise.</i>
1.2.3	Add the following to the clause: 1.2.3.1 <i>The Employer has authorised the Group Head: Water and Sanitation Business Unit to act on his behalf in respect of this Contract, save for such duties or functions:</i> 1.2.3.1.1 <i>which other holders of office ex officio execute on behalf of the Employer; or</i> 1.2.3.1.2 <i>for which the Group Head: Water and Sanitation Business Unit has no authority and the Employer’s approval is required before execution thereof.</i>
4.3	Add the following new sub-clause: 1.3.3 <i>Wages and conditions of work:</i> i. <i>For conventional construction works the Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) shall apply and the minimum employment conditions which will apply shall be guided by the latest Sectoral Determination: Civil Engineering Sector published from time to time.</i> ii. <i>Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) as per Government Notice R63 of 25 January 2002, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.</i> Add the following new sub-clause: 4.3.4 <i>Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract, it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37(2) of the Act. The Contractor shall sign the Occupational Health and Safety Agreement for Contract Work in the City of Tshwane Metropolitan Municipality included in section C1.5.</i> Add the following new sub-clause:

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	4.3.5 <i>The Employer retains an interest in all inquiries conducted under this Contract in terms of Section 31 and/or 32 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and its Regulations following any incident involving the Contractor and/or Sub-Contractor and/or their employees. The Contractor shall notify the Employer in writing of all investigations, complaints or criminal charges which may arise pursuant to work performed under this Contract in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Regulations.</i> Add the following new sub-clause: 4.3.6 <i>Contractor's Designer</i> <i>The Contractor and his designer shall accept full responsibility and liability to comply with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the Construction Regulations, 2014 for the design of the Temporary Works and those part of the Permanent Works which the Contractor is responsible to design in terms of the Contract</i>
5.12	Add the following new sub-clause 5.12.5 <i>Critical path provision</i> <i>A delay in so far as extension of time is concerned, will be regarded as a delay only if, on a claim by the Contractor in accordance with the General Conditions of Contract, the Engineer rules that all progress on an item or items of work on the critical path of the approved programme for the execution of the Works by the Contractor, has been brought to a halt. Delays on normal working days only, based on a working week, of five normal working days, will be taken in account for the extension of time.</i> Add the following new sub-clause 5.12.6 <i>Extension of time due to abnormal rainfall</i> <i>Extension of time due to abnormal rainfall shall be determined by means of Method 1, if rainfall records and/or values derived from rainfall records are supplied in the Scope of Work, otherwise Method 2 shall apply.</i> <u><i>Method 1: Rainfall formula method</i></u> <i>The rainfall records and/or values derived from rainfall records from a suitable rainfall station near the Site, which are supplied in the Project Specifications, shall be considered suitable for the determination of extension of time due to abnormal rainfall in accordance with this method.</i> <i>Extension of time arising from abnormal rainfall, shall be calculated separately for each calendar month or part thereof for the full period of completion of the Contract, including any extension thereof, in accordance with the rainfall formula given below:</i> $V = (N_w - N_n) + \frac{(R_w - R_n)}{X}$ <i>If V is negative and its absolute value exceeds N_n, then V shall be equal to minus N_n.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>If V is positive and greater than the number of calendar days in the calendar month under consideration, V shall be taken as equal to the number of calendar days in the relevant calendar month.</i> <i>The symbols shall have the following meaning:</i> <i>V = Extension of time in calendar days in respect of the calendar month under consideration</i> <i>N_w = Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.</i> <i>R_w = Actual rainfall in mm for the calendar month under consideration.</i> <i>N_n = Average number of days as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month. Rainfall records and/or the derived values of N_n will be provided in the Specifications.</i> <i>R_n = Average rainfall in mm for the calendar month, as derived from existing rainfall records. Rainfall records and/or the derived values of R_n will be provided in the Project Specifications.</i> <i>X = 20 unless otherwise provided in the Project Specifications</i> <i>Y = 10 unless otherwise provided in the Project Specifications</i> <i>The total extension of time shall be the algebraic sum of the monthly totals for the period under consideration. However, if the grand total is negative the time for completion shall not be reduced on account of abnormal rainfall. Extension of time for parts of a month shall be calculated by pro rata values of N_n and R_n being used.</i> <i>The factor (N_w – N_n) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm and wet conditions prevented or disrupted work.</i> <i>The factor $\frac{(R_w - R_n)}{X}$ shall be considered to represent a fair allowance for variations from the allowance for variations from the average number of days when wet conditions further to that allowed for the factor (N_w – N_n), prevented or disrupted work during the calendar month.</i> <i>Accurate rain gauging shall be taken at a suitable point on Site, and the Contractor shall, at his own expense, take all necessary precautions to ensure that the rain gauges cannot be interfered with.</i> <i>This formula does not take into account further on concurrent delays which could be caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i> <u><i>Method 2: Expected delay method</i></u> <i>The Contractor shall make provision in his programme for the execution of the Works, for an expected delay of "n" normal working days (based on a working week of five normal working days) due to normal rainfall, for which he will not receive any extension of time.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>Unless otherwise provided in the Project Specifications, the value of "n" shall be taken as equal to the tendered time for completion of the Works in months, rounded off to an integer.</i> <i>Extension of time during normal working days will be granted to the degree to which actual delays as determined in accordance with Sub-Clause (42.5 Critical Path Provision) hereof, exceed the number of "n" normal working days.</i> <i>The value of "n" does not take into account further or concurrent delays which are caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i>
6.1	Add the following new sub-clause: 6.1.2 <i>Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way of his obligations either in contract or in delict.</i> Add the following new sub-clause 6.1.3 <i>The Contractor shall be paid at Pretoria in the currency of the Republic of South Africa only at the Office of the Chief Financial Officer of the CITY OF TSHWANE, unless otherwise stated in the Data provided by Employer.</i>
8.6	Replace clause 8.6 with the following: 8.6 Insurances 8.6.1 <i>Without limiting the Contractor's/Sub-contractor's obligation in terms of the Contract, the Employer will affect 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):</i> 8.6.2 <i>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:</i> <i>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.</i> <i>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.</i> <i>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.</i> <i>Removal of debris.</i> <i>Surrounding property.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	f. Work away. g. Off-site storage. h. Temporary repairs. i. Contribution clause – marine. j. Escalation during Contract Period. k. Post loss escalation. l. Automatic reinstatement. m. Principals' maintenance. n. Property taken over. o. Beneficial occupation. p. Escalation due to currency fluctuation. q. Manufacturers guarantees.
8.6.3	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/Subcontractor); 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).
8.7	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 budget per financial year and the insurance premium will be charged out to the relevant departments by the Section: Insurance and Risk Management.
8.8	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 8.6.1.1 of this Clause.
8.9	Additional insurance by the Contractor / Subcontractor The Contractor and Sub-contractor shall be free to effect and maintain at their own cost any additional insurance which the Contractor/Subcontractor 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/Subcontractor.
8.10	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 affected by the Employer.
8.11	Contractor to observe conditions

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>The Contractor shall give all notices and observe all conditions and requirements imposed by the relevant insurance policies, which shall be binding on the Contractor.</i>
8.12	Contractor to insure <i>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:</i> <i>All Risk Insurance cover with regard to all Plant and Materials and Equipment, owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</i> <i>Motor Vehicle and Liability Insurance cover indicating the registration numbers of the vehicles owned, leased or hired by the Contractor that are used in the execution of the contract to the amount of at least R10-million per claim with the number of claims unlimited.</i> <i>SASRIA cover for motor vehicles and Plant and Materials and Equipment owned, leased or hired by the Contractor that are used in the execution of the contract for the full replacement value thereof.</i> <i>In respect of Plant and Materials and Equipment and Motor Vehicles brought onto the Site by or on behalf of Subcontractors, the Contractor shall be deemed to have complied with the provisions of this Sub-Clause by ensuring that such Subcontractors have similarly insured such Plant and Materials and Equipment and Motor Vehicles.</i> <i>Proof must also be submitted that the Contractor complies with the conditions of the following legislation:</i> <i>Compensation for Occupational Injuries and disease, 1993</i> <i>Unemployment Insurance Act, 1996</i> <i>The Contractor shall in respect of the Site of the contract works appoint in writing a Section 16 appointee to meet the requirements of the Health and Safety Act, No 85 of 1993 as amended.</i>
8.13	<i>The Employer's Agent involved must furnish the required insurance documentation 30 (thirty) days before the inception of the contract to the Section: Insurance and Risk Management.</i>
8.14	Reporting of incidents <i>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 / Subcontractors and Project Manager will adhere to the following procedures:</i> <i>In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Employer's Agent of every occurrence within 48 (forty-eight) hours giving the circumstances, nature and an estimate of the loss or damage.</i> <i>The Employer's Agent will be responsible to complete and submit the relevant claim documentation for each incident within 30 (thirty) days</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Employer's Agent 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 Director motivating the reason(s) for the late reporting of the incident, but the Project Manager must take note the Insurer might repudiate the loss if it is found that the insurers rights have been compromised as a result of the late reporting.</i> <i>c. The following documentation must be included with the claim documentation:</i> <i>- Photos of damages caused or suffered as proof or substantiation of the claims.</i> <i>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.</i> <i>e. 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 Employer's Agent, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i> 8.15 Reporting of catastrophic incidents <i>In the event of an occurrence, which is likely to give rise to a claim, under the insurance policy effected by the Employer, with an estimated loss or damage of more than R250 000,00, the Contractor and the Employer's Agent will adhere to the following procedures:</i> <i>a. In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Employer's Agent Manager of every occurrence within 24 (twenty-four) hours giving the circumstances, nature and an estimate of the loss or damage.</i> <i>b. The Employer's Agent 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.</i> <i>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 Employer's Agent, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i> <i>d. The Employer's Agent 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.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	8.16 <i>Reporting of crime related incidents</i> <i>All crime related incidents, losses or shortages irrespective of the value, must be reported within 24 (twenty-four) hours by the person who was involved or who has discovered the incident to the nearest South African Police Services (SAPS) station. The name of the Police Station, Investigation Officer and the Case number must be obtained and stated on the Contractor Claim Form. Should the incident not be reported to the SAPS, the claim will be repudiated.</i> 8.17 <i>Claim documentation</i> <i>The Employer's Agent must obtain all relevant information from the Contractor/Sub-contractor and complete the Contractor Claim Form, included in this report as Annexure B that is available on the Intranet. The project number must be stated on the Contractor Claim Form.</i> <i>The Employer's Agent must submit with the Contractor Claim Form a detailed cost sheet indicating the estimate of the loss or damage.</i> <i>Any misrepresentation, misdescription or non-disclosure of material facts, at the option of the insurers, can result in claims submitted being declared null and void.</i> 8.18 <i>Authorization of claim forms</i> <i>It is imperative that a formally delegated official or his nominee of the Employer should authorize the Contractor Claim forms as proof of the appropriate authorization, verification and approval of claims submitted. The Strategic Executive Director must provide an authorization letter to the Section: Insurance and Risk Management stating the names and the specimen signatures of the delegated official or his nominee within 30 (thirty) days from approval of this report by Council. Should the delegated official or his nominee not sign the relevant claim form, the claim will be repudiated as this may lead to inappropriate independent verification of the validity of claims, thereby increasing the risk of insurance fraud and consequent reputation damage to the Employer.</i> 8.19 <i>Contractor to pay deductibles</i> <i>Any claim in terms of the insurance affected by the Employer shall be subject to the Contractor being responsible for the payment of the amount stated in the Annexure to the Policies as being the deductible (first amount payable or Excess) as defined in the Certificate of Insurance issued by the Employer's insurer in terms of the Policy.</i> 8.20 <i>Settlement of claims</i> <i>All incidents reported to the Section: Insurance and Risk Management in respect of an occurrence, which is likely to give rise to a claim will be forwarded to the Employer's insurer who will take the necessary actions for the settlement of any such claims.</i> <i>The Contractor <u>shall negotiate</u> 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.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>Should action for the settlement of any such claim to the satisfaction of the Employer's Agent 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.</i> <i>The foregoing provisions of this Sub-Clause shall apply mutatis mutandis to any such claim received by the Contractor directly.</i>

C1.2.3 DATA PROVIDED BY THE EMPLOYER

CLAUSE/OPTION		DATA																											
1.1.1.13	The Defects Liability period is:	12 (twelve) months from the date of the Certificate of Completion.																											
1.1.1.14	The time for achieving Practical Completion is:	The time allocated by the Employer’s Agent																											
1.1.1.15	The name of the Employer is:	City of Tshwane Metropolitan Municipality.																											
1.1.1.26	The Pricing Strategy is:	Re-measurement Contract																											
1.2.1.2	The address of the Employer is:	Physical Address:	225 Madiba Street, Pretoria, 0001																										
		Postal Address:	P.O. Box 1022 PRETORIA 0001																										
		E-Mail Address:	SimphiweJ@tshwane.gov.za																										
1.1.1.16	The name of the Employer’s Agent is:	Mr. Simphiwe July																											
1.2.1.2	The address of the Employer’s Agent is:	Physical Address:	225 Madiba Street, Pretoria, 0001																										
		Postal Address:	225 Madiba Street, Pretoria, 0001																										
		E-Mail Address:	SimphiweJ@tshwane.gov.za																										
3.1.3		- The Employer’s Agent is required to obtain approval of the Employer: - for expenditure on the Contract to exceed the Contract Price; - prior to the execution of any of the following duties of functions: <table><tr><th>CLAUSE</th><th>DUTY/FUNCTION</th></tr><tr><td>3.2.4</td><td>Authorization to Employer’s Agent Representative or any other person</td></tr><tr><td>3.3.1</td><td>Nomination of person as Employer’s Agent Representative</td></tr><tr><td>4.10.1</td><td>Approval to use the Site for any other purpose such as housing</td></tr><tr><td>5.3.1</td><td>Delivery of the written notice to commence the execution of the works</td></tr><tr><td>5.6.3</td><td>Approval of programme of construction</td></tr><tr><td>5.7.2</td><td>Permission to carry out work by day and by night</td></tr><tr><td>5.8.1.1</td><td>Approval to work on weekends, special non-working days and between sunset and sunrise</td></tr><tr><td>5.9.7</td><td>Approval of Contractor’s designs</td></tr><tr><td>5.11</td><td>Suspension of progress of the Works</td></tr><tr><td>5.13.2</td><td>Reduction of penalty for delay per allocated work package</td></tr><tr><td>5.14.2</td><td>The issue of a Certificate of Practical Completion</td></tr><tr><td>5.14.4</td><td>The issue of a Certificate of Completion</td></tr></table>		CLAUSE	DUTY/FUNCTION	3.2.4	Authorization to Employer’s Agent Representative or any other person	3.3.1	Nomination of person as Employer’s Agent Representative	4.10.1	Approval to use the Site for any other purpose such as housing	5.3.1	Delivery of the written notice to commence the execution of the works	5.6.3	Approval of programme of construction	5.7.2	Permission to carry out work by day and by night	5.8.1.1	Approval to work on weekends, special non-working days and between sunset and sunrise	5.9.7	Approval of Contractor’s designs	5.11	Suspension of progress of the Works	5.13.2	Reduction of penalty for delay per allocated work package	5.14.2	The issue of a Certificate of Practical Completion	5.14.4	The issue of a Certificate of Completion
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		5.16.1	The issue of a Final Approval Certificate
		6.3.1	Variation Orders in respect of variations which are not small
		6.6	Instruction to expend on Provisional and Prime Cost Sums
		6.11	Adjustment of Preliminary and General allowances
		7.8.1	Order to execute work of repair, etc, during the Defects Liability Period
		7.8.2	Determination of value of repair work
		8.2.2.2	Order to repair and make good damage arising from any excepted risk
5.3.1	The documentation required before commencement with Works execution are:	• Health and Safety Plan (Refer to Clause 4.3) • Initial programme (Refer to Clause 5.6) • Security (Refer to Clause 6.2) • Proof that all contributions required in terms of the provisions of the Workman's Compensation Act (Act no 30 of 1941) as amended in 1993, 2002 have been paid (Refer to Cause 4.3.2) • A certified copy of Unemployment Insurance Certificate, Act of 1996 (Refer to Clause 4.3.2) or proof of registration • Valid Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)	
5.3.2	The time to submit the documentation required from the Commencement Date is:	14 days	
5.8.1	The non-working days are:	Sundays	
	The special non-working days are:	• Annual builders holiday • Statutory public holidays	
5.13.1	The penalty for failing to complete the works is:	0.05% of the contract amount of each work package with a minimum of R5 000 per working day.	
	Non-conforming in terms of the Construction Regulations	Hazardous chemical/oil spill and/or dumping in non-approved sites.	R10 000 per incident
		Damage to cultural and historical sites.	R10 000 per incident
		Unauthorised blasting activities.	R5 000 per incident
		Transportation of workers in an unsecure vehicle (transporting tools, equipment and material).	R5 000 per incident
		Insufficient road signs or unavailability of flag personnel or improper road signs layout.	R5 000 per incident
		No OHS Officer appointed by the contractor.	R10 000 + work stoppage per incident
		Failure to correct OHS file notices within 7 days	R5 000 per incident
		Littering on site.	R1 000 per incident
		Lighting of illegal fires on site.	R1 000 per incident
		Persistent or un-repaired fuel and oil leaks.	R1 000 per incident
		Dumping of material inside drains.	R1 000 per incident

		Possession or use of intoxicating substances on site.	R1 000 per incident															
		Any vehicles being driven in excess of designated speed limits.	R1 000 per incident															
		Urination and defecation anywhere except in designated areas.	R1 000 per incident															
		Failure to issue PPE to Employees.	R5 000 per incident															
		Non usage of PPE issued.	R500 per incident															
		All unsafe/ practices on site e.g.: - Boarding on/off moving vehicle or plant. - Talking with a cell phone while operating a plant. - Smoking near hazardous chemicals.	R500 per incident															
		Unnecessary damage or unauthorised removal of trees.	R5 000 per tree															
	Late submission of monthly progress reports.	R3 000 per month																
	Late submission of monthly Payment Certificate and all supporting documents, outside the agreed window period for submission.	R5 000 per month																
5.16.3	The latent defect period is:	10 (ten) Year																
6.2.1	Type of security for due performance:	- Guarantee from approved financial institution or cash deposit. - The Form of Guarantee is to contain the wording of the pro forma document included as C1.3 contained herein.																
	Liability of performance guarantee	Performance guarantee (Once off R2 500 000 at the commencement of the three (3) year contract period for the duration of the contract per area).																
6.2.2	Retention money guarantee	Not permitted																
6.8.2	Adjustment in rates and/or prices	The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: “L” is the “Labour Index” and shall be Gauteng, under CPI as published by Statistics South Africa. “P” is the “Plant Index” and shall be Plant and equipment, under Mining and construction plant and equipment price index as published by Statistics South Africa. “M” is the “Material Index” and shall be Civil Engineering – total, under Civil engineering material price indices as published by Statistics South Africa. “F” is the “Fuel Index” and shall be Diesel, under PPI as published by Statistics South Africa. <table><tr><td>Coefficient</td><td>Description</td><td>Value</td></tr><tr><td>X</td><td>Portion not subject to adjustment</td><td>0.10</td></tr><tr><td>A</td><td>Labour</td><td>0.20</td></tr><tr><td>B</td><td>Civil Engineering Plant</td><td>0.35</td></tr><tr><td>C</td><td>Civil Engineering Materials</td><td>0.30</td></tr></table>		Coefficient	Description	Value	X	Portion not subject to adjustment	0.10	A	Labour	0.20	B	Civil Engineering Plant	0.35	C	Civil Engineering Materials	0.30
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		<table border="1"> <tr> <td>D</td><td>Fuel</td><td>0.15</td></tr> </table> (Coefficients a, b, c and d must sum to one) - The urban area nearest the Site is Tshwane, Region 1. - The base month is the month prior to the closing of the procurement process required for a financial offer.	D	Fuel	0.15
D	Fuel	0.15			
6.8.3	Price adjustment for variations in the cost of special materials	Not allowed			
6.10.1.5	The percentage on materials not yet built into the Permanent Works is:	80% (Eighty percent)			
6.10.3	Percentage retention is:	10% (ten percent) exclusive of VAT			
	The limit of retention money is:	5% (five percent) of the Work Package Sum allocated, excluding contingencies and VAT.			
8.6	Insurance of the Works and Public Liability Insurance	The Employer shall arrange this insurance. A copy of the policy and the list of excesses may be obtained from Contractors All Risk and Liability Insurance Ms. Morongwa Mokoena (Tel: 012 358 1126) (morongwam@tshwane.gov.za) Mrs Ronett Marlow-Reid (Tel: 012 358 1131) (ronettm@tshwane.gov.za) Mr Lawrence Matjila (Tel: 012 358 1374) (lawrencem@tshwane.gov.za)			
	The value of plant and materials supplied by the Employer to be included in the insurance sum is:	R 0 (zero)			
	Responsibility for payment of deductibles in respect of Insurance of Works as well as Public Liability Insurance:	Deductibles are the responsibility of the Contractor			
	Construction Plant:	Contractor to insure. Policy to be approved by Employer			
10.5	Determination of disputes	Ad-hoc Adjudication Board			
10.5.3	Number of Adjudication Board members to be appointed:	One			
10.6	Disagreement with Adjudication Board's decision, refer matters to:	Court proceedings			

C1.2.4 DATA PROVIDED BY THE CONTRACTOR

CLAUSE/OPTION		DATA		
1.1.1.9	The name of the Contractor is:			
1.2.1.2	The address of the Contract is:	• Physical Address:		
		• Postal Address:		
		• Facsimile:		
		• E-Mail Address:		
6.2.1	The security to be provided by the Contractor shall be	Performance guarantee (Once off R2 500 000 at the commencement of the three (3) year contract period for the duration of the contract).		
6.8.3	Price adjustments for variations in the cost of special materials	The variation in cost of special materials is:		
		Type of material	Unit	Base Rate or Price

C1.3 FORM OF GUARANTEE

WHEREAS

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

enters into a Contract (No _____) with

(hereinafter referred to as the "Contractor")

for _____

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

NOW THEREFORE we the undersigned _____
_____ (full names of authorized agent(s))

and acting in my/our capacity as _____

and _____

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

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

R _____ (_____)

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

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

R _____ (_____)

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

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

Exceptio non numerate pecuniae

Exception non causa debiti

Beneficium de duobus vel pluribus reis debendi

Beneficium ordinis deu excussionis

Beneficium divisionis

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

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

This document is not negotiable or transferable.

FOR AND ON BEHALF OF THE BANKER/INSURER:

BANKER/INSURER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

ANNEXURE

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

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

C1.4 HEALTH AND SAFETY AGREEMENT

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

CITY OF TSHWANE

(Hereinafter referred to as the "EMPLOYER")

AND

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

WHEREAS the CONTRACTOR is the mandatory of the EMPLOYER as contemplated in an agreement in respect of
**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH
COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-A): THREE
(3) YEAR PERIOD, AS AND WHEN REQUIRED**

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

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

NOW THEREFORE the parties agree as follows:

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

inspect any appropriate records held by the CONTRACTOR or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

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

FOR AND ON BEHALF OF THE CONTRACTOR:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

FOR AND ON BEHALF OF THE EMPLOYER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

C1.5 ADJUDICATOR'S AGREEMENT

This agreement is made on the _____ day of _____ between:

(name of company /
organisation)

of _____

(address) and

(name of company /
organisation)

of _____

(address)

(the Parties) and

(name of
Adjudicator)

of _____

(address)

(the Adjudicator).

Disputes or differences may arise/have arisen¹ between the Parties under a Contract dated _____ and known as _____

and these disputes or differences shall be/have been² referred to adjudication in accordance with the CIDB Adjudication Procedure, (hereinafter called "the Procedure") and the Adjudicator may be or has been requested to act.

IT IS NOW AGREED as follows:

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

¹ Delete as necessary

² Delete as necessary

SIGNED by:

Name:

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

SIGNED by:

Name:

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

SIGNED by:

Name:

the Adjudicator in the presence of

Witness

Name:

Address:

Witness:

Name

Address:

Witness:

Name:

Address:

Date:

Date:

Date:

Contract Data

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

³ Delete as necessary

PORTION 2: CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

CONTENTS

C1.1	FORM OF OFFER AND ACCEPTANCE	2
C1.2.	CONTRACT DATA.....	8
C1.3	FORM OF GUARANTEE.....	23
C1.4:	HEALTH AND SAFETY AGREEMENT	26
C1.5:	ADJUDICATOR'S AGREEMENT.....	28

C1.1 FORM OF OFFER AND ACCEPTANCE

STAMP

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

TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH A COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

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

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all 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 nature of the tender is an as and when required basis and the total in the Bill of Quantities is not the total value of the tender and is for evaluation purposes only. The quantities in the Bill of Quantities are therefore subject to change. The unit rates in the Bill of Quantities will remain fixed and the appointment will be on the unit rates.

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

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

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

1.

2.

ACCEPTANCE

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

The terms of the contract, are contained in

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

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The Tenderer shall within two weeks after receiving a letter of acceptance, contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement. Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties¹.

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

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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.

CONFIRMATION OF RECEIPT

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

FOR AND ON BEHALF OF THE CONTRACTOR:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

C1.2 CONTRACT DATA

TABLE OF CONTENTS

C1.2.1 GENERAL CONDITIONS OF CONTRACT 9

C1.2.2 VARIATIONS AND ADDITIONS TO THE CONDITIONS OF CONTRACT 10

C1.2.3 DATA PROVIDED BY THE EMPLOYER..... 19

C1.2.4 DATA PROVIDED BY THE CONTRACTOR..... 22

C.1.2.1 GENERAL CONDITIONS OF CONTRACT

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

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

C1.2.2 VARIATIONS AND ADDITIONS TO THE CONDITIONS OF CONTRACT

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

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
1.1	Add the following definitions: 1.1.1.35 <i>“Work Package” is work to be carried out under this contract.</i> 1.1.1.36 <i>“Package Order” is an instruction to carry out a Work Package.</i>
1.2.1	Add the following to the clause: 1.2.1.3 <i>Sent by facsimile, electronic or any like communication irrespective of it being during office hours or otherwise.</i>
1.2.3	Add the following to the clause: 1.2.3.1 <i>The Employer has authorised the Group Head: Water and Sanitation Business Unit to act on his behalf in respect of this Contract, save for such duties or functions:</i> 1.2.3.1.1 <i>which other holders of office ex officio execute on behalf of the Employer; or</i> 1.2.3.1.2 <i>for which the Group Head: Water and Sanitation Business Unit has no authority and the Employer’s approval is required before execution thereof.</i>
4.3	Add the following new sub-clause: 1.3.3 <i>Wages and conditions of work:</i> i. <i>For conventional construction works the Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) shall apply and the minimum employment conditions which will apply shall be guided by the latest Sectoral Determination: Civil Engineering Sector published from time to time.</i> ii. <i>Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) as per Government Notice R63 of 25 January 2002, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.</i> Add the following new sub-clause: 4.3.4 <i>Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract, it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37(2) of the Act. The Contractor shall sign the Occupational Health and Safety Agreement for Contract Work in the City of Tshwane Metropolitan Municipality included in section C1.5.</i> Add the following new sub-clause:

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	4.3.5 <i>The Employer retains an interest in all inquiries conducted under this Contract in terms of Section 31 and/or 32 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and its Regulations following any incident involving the Contractor and/or Sub-Contractor and/or their employees. The Contractor shall notify the Employer in writing of all investigations, complaints or criminal charges which may arise pursuant to work performed under this Contract in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Regulations.</i> Add the following new sub-clause: 4.3.6 <i>Contractor's Designer</i> <i>The Contractor and his designer shall accept full responsibility and liability to comply with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the Construction Regulations, 2014 for the design of the Temporary Works and those part of the Permanent Works which the Contractor is responsible to design in terms of the Contract</i>
5.12	Add the following new sub-clause 5.12.5 <i>Critical path provision</i> <i>A delay in so far as extension of time is concerned, will be regarded as a delay only if, on a claim by the Contractor in accordance with the General Conditions of Contract, the Engineer rules that all progress on an item or items of work on the critical path of the approved programme for the execution of the Works by the Contractor, has been brought to a halt. Delays on normal working days only, based on a working week, of five normal working days, will be taken in account for the extension of time.</i> Add the following new sub-clause 5.12.6 <i>Extension of time due to abnormal rainfall</i> <i>Extension of time due to abnormal rainfall shall be determined by means of Method 1, if rainfall records and/or values derived from rainfall records are supplied in the Scope of Work, otherwise Method 2 shall apply.</i> <u><i>Method 1: Rainfall formula method</i></u> <i>The rainfall records and/or values derived from rainfall records from a suitable rainfall station near the Site, which are supplied in the Project Specifications, shall be considered suitable for the determination of extension of time due to abnormal rainfall in accordance with this method.</i> <i>Extension of time arising from abnormal rainfall, shall be calculated separately for each calendar month or part thereof for the full period of completion of the Contract, including any extension thereof, in accordance with the rainfall formula given below:</i> $V = (N_w - N_n) + \frac{(R_w - R_n)}{X}$ <i>If V is negative and its absolute value exceeds N_n, then V shall be equal to minus N_n.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>If V is positive and greater than the number of calendar days in the calendar month under consideration, V shall be taken as equal to the number of calendar days in the relevant calendar month.</i> <i>The symbols shall have the following meaning:</i> <i>V = Extension of time in calendar days in respect of the calendar month under consideration</i> <i>N_w = Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.</i> <i>R_w = Actual rainfall in mm for the calendar month under consideration.</i> <i>N_n = Average number of days as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month. Rainfall records and/or the derived values of N_n will be provided in the Specifications.</i> <i>R_n = Average rainfall in mm for the calendar month, as derived from existing rainfall records. Rainfall records and/or the derived values of R_n will be provided in the Project Specifications.</i> <i>X = 20 unless otherwise provided in the Project Specifications</i> <i>Y = 10 unless otherwise provided in the Project Specifications</i> <i>The total extension of time shall be the algebraic sum of the monthly totals for the period under consideration. However, if the grand total is negative the time for completion shall not be reduced on account of abnormal rainfall. Extension of time for parts of a month shall be calculated by pro rata values of N_n and R_n being used.</i> <i>The factor (N_w – N_n) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm and wet conditions prevented or disrupted work.</i> <i>The factor $\frac{(R_w - R_n)}{X}$ shall be considered to represent a fair allowance for variations from the allowance for variations from the average number of days when wet conditions further to that allowed for the factor (N_w – N_n), prevented or disrupted work during the calendar month.</i> <i>Accurate rain gauging shall be taken at a suitable point on Site, and the Contractor shall, at his own expense, take all necessary precautions to ensure that the rain gauges cannot be interfered with.</i> <i>This formula does not take into account further on concurrent delays which could be caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i> <u><i>Method 2: Expected delay method</i></u> <i>The Contractor shall make provision in his programme for the execution of the Works, for an expected delay of "n" normal working days (based on a working week of five normal working days) due to normal rainfall, for which he will not receive any extension of time.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>Unless otherwise provided in the Project Specifications, the value of "n" shall be taken as equal to the tendered time for completion of the Works in months, rounded off to an integer.</i> <i>Extension of time during normal working days will be granted to the degree to which actual delays as determined in accordance with Sub-Clause (42.5 Critical Path Provision) hereof, exceed the number of "n" normal working days.</i> <i>The value of "n" does not take into account further or concurrent delays which are caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i>
6.1	Add the following new sub-clause: 6.1.2 <i>Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way of his obligations either in contract or in delict.</i> Add the following new sub-clause 6.1.3 <i>The Contractor shall be paid at Pretoria in the currency of the Republic of South Africa only at the Office of the Chief Financial Officer of the CITY OF TSHWANE, unless otherwise stated in the Data provided by Employer.</i>
8.6	Replace clause 8.6 with the following: 8.6 Insurances 8.6.1 <i>Without limiting the Contractor's/Sub-contractor's obligation in terms of the Contract, the Employer will affect 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):</i> 8.6.2 <i>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:</i> <i>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.</i> <i>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.</i> <i>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.</i> <i>Removal of debris.</i> <i>Surrounding property.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	f. Work away. g. Off-site storage. h. Temporary repairs. i. Contribution clause – marine. j. Escalation during Contract Period. k. Post loss escalation. l. Automatic reinstatement. m. Principals' maintenance. n. Property taken over. o. Beneficial occupation. p. Escalation due to currency fluctuation. q. Manufacturers guarantees.
8.6.3	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/Subcontractor); 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).
8.7	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 budget per financial year and the insurance premium will be charged out to the relevant departments by the Section: Insurance and Risk Management.
8.8	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 8.6.1.1 of this Clause.
8.9	Additional insurance by the Contractor / Subcontractor The Contractor and Sub-contractor shall be free to effect and maintain at their own cost any additional insurance which the Contractor/Subcontractor 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/Subcontractor.
8.10	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 affected by the Employer.
8.11	Contractor to observe conditions

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>The Contractor shall give all notices and observe all conditions and requirements imposed by the relevant insurance policies, which shall be binding on the Contractor.</i>
8.12	<i>Contractor to insure</i> <i>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:</i> <i>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.</i> <i>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.</i> <i>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.</i> <i>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.</i> <i>e. Proof must also be submitted that the Contractor complies with the conditions of the following legislation:</i> <i>- Compensation for Occupational Injuries and disease, 1993</i> <i>- Unemployment Insurance Act, 1996</i> <i>- The Contractor shall in respect of the Site of the contract works appoint in writing a Section 16 appointee to meet the requirements of the Health and Safety Act, No 85 of 1993 as amended.</i>
8.13	<i>The Employer's Agent involved must furnish the required insurance documentation 30 (thirty) days before the inception of the contract to the Section: Insurance and Risk Management.</i>
8.14	<i>Reporting of incidents</i> <i>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 / Subcontractors and Project Manager will adhere to the following procedures:</i> <i>a. In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Employer's Agent of every occurrence within 48 (forty-eight) hours giving the circumstances, nature and an estimate of the loss or damage.</i> <i>b. The Employer's Agent will be responsible to complete and submit the relevant claim documentation for each incident within 30 (thirty) days</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Employer's Agent 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 Director motivating the reason(s) for the late reporting of the incident, but the Project Manager must take note the Insurer might repudiate the loss if it is found that the insurers rights have been compromised as a result of the late reporting.</i> <i>c. The following documentation must be included with the claim documentation:</i> <i>- Photos of damages caused or suffered as proof or substantiation of the claims.</i> <i>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.</i> <i>e. 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 Employer's Agent, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i> 8.15 Reporting of catastrophic incidents <i>In the event of an occurrence, which is likely to give rise to a claim, under the insurance policy effected by the Employer, with an estimated loss or damage of more than R250 000,00, the Contractor and the Employer's Agent will adhere to the following procedures:</i> <i>a. In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Employer's Agent Manager of every occurrence within 24 (twenty-four) hours giving the circumstances, nature and an estimate of the loss or damage.</i> <i>b. The Employer's Agent 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.</i> <i>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 Employer's Agent, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i> <i>d. The Employer's Agent 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.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	8.16 <i>Reporting of crime related incidents</i> <i>All crime related incidents, losses or shortages irrespective of the value, must be reported within 24 (twenty-four) hours by the person who was involved or who has discovered the incident to the nearest South African Police Services (SAPS) station. The name of the Police Station, Investigation Officer and the Case number must be obtained and stated on the Contractor Claim Form. Should the incident not be reported to the SAPS, the claim will be repudiated.</i> 8.17 <i>Claim documentation</i> <i>The Employer's Agent must obtain all relevant information from the Contractor/Sub-contractor and complete the Contractor Claim Form, included in this report as Annexure B that is available on the Intranet. The project number must be stated on the Contractor Claim Form.</i> <i>The Employer's Agent must submit with the Contractor Claim Form a detailed cost sheet indicating the estimate of the loss or damage.</i> <i>Any misrepresentation, misdescription or non-disclosure of material facts, at the option of the insurers, can result in claims submitted being declared null and void.</i> 8.18 <i>Authorization of claim forms</i> <i>It is imperative that a formally delegated official or his nominee of the Employer should authorize the Contractor Claim forms as proof of the appropriate authorization, verification and approval of claims submitted. The Strategic Executive Director must provide an authorization letter to the Section: Insurance and Risk Management stating the names and the specimen signatures of the delegated official or his nominee within 30 (thirty) days from approval of this report by Council. Should the delegated official or his nominee not sign the relevant claim form, the claim will be repudiated as this may lead to inappropriate independent verification of the validity of claims, thereby increasing the risk of insurance fraud and consequent reputation damage to the Employer.</i> 8.19 <i>Contractor to pay deductibles</i> <i>Any claim in terms of the insurance affected by the Employer shall be subject to the Contractor being responsible for the payment of the amount stated in the Annexure to the Policies as being the deductible (first amount payable or Excess) as defined in the Certificate of Insurance issued by the Employer's insurer in terms of the Policy.</i> 8.20 <i>Settlement of claims</i> <i>All incidents reported to the Section: Insurance and Risk Management in respect of an occurrence, which is likely to give rise to a claim will be forwarded to the Employer's insurer who will take the necessary actions for the settlement of any such claims.</i> <i>The Contractor <u>shall negotiate</u> 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.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>Should action for the settlement of any such claim to the satisfaction of the Employer's Agent 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.</i> <i>The foregoing provisions of this Sub-Clause shall apply mutatis mutandis to any such claim received by the Contractor directly.</i>

C1.2.3 DATA PROVIDED BY THE EMPLOYER

CLAUSE/OPTION		DATA																											
1.1.1.13	The Defects Liability period is:	12 (twelve) months from the date of the Certificate of Completion.																											
1.1.1.14	The time for achieving Practical Completion is:	The time allocated by the Employer’s Agent																											
1.1.1.15	The name of the Employer is:	City of Tshwane Metropolitan Municipality.																											
1.1.1.26	The Pricing Strategy is:	Re-measurement Contract																											
1.2.1.2	The address of the Employer is:	Physical Address:	225 Madiba Street, Pretoria, 0001																										
		Postal Address:	P.O. Box 1022 PRETORIA 0001																										
		E-Mail Address:	SimphiweJ@tshwane.gov.za																										
1.1.1.16	The name of the Employer’s Agent is:	Mr. Simphiwe July																											
1.2.1.2	The address of the Employer’s Agent is:	Physical Address:	225 Madiba Street, Pretoria, 0001																										
		Postal Address:	225 Madiba Street, Pretoria, 0001																										
		E-Mail Address:	SimphiweJ@tshwane.gov.za																										
3.1.3		- The Employer’s Agent is required to obtain approval of the Employer: - for expenditure on the Contract to exceed the Contract Price; - prior to the execution of any of the following duties of functions: <table><tr><th>CLAUSE</th><th>DUTY/FUNCTION</th></tr><tr><td>3.2.4</td><td>Authorization to Employer’s Agent Representative or any other person</td></tr><tr><td>3.3.1</td><td>Nomination of person as Employer’s Agent Representative</td></tr><tr><td>4.10.1</td><td>Approval to use the Site for any other purpose such as housing</td></tr><tr><td>5.3.1</td><td>Delivery of the written notice to commence the execution of the works</td></tr><tr><td>5.6.3</td><td>Approval of programme of construction</td></tr><tr><td>5.7.2</td><td>Permission to carry out work by day and by night</td></tr><tr><td>5.8.1.1</td><td>Approval to work on weekends, special non-working days and between sunset and sunrise</td></tr><tr><td>5.9.7</td><td>Approval of Contractor’s designs</td></tr><tr><td>5.11</td><td>Suspension of progress of the Works</td></tr><tr><td>5.13.2</td><td>Reduction of penalty for delay per allocated work package</td></tr><tr><td>5.14.2</td><td>The issue of a Certificate of Practical Completion</td></tr><tr><td>5.14.4</td><td>The issue of a Certificate of Completion</td></tr></table>		CLAUSE	DUTY/FUNCTION	3.2.4	Authorization to Employer’s Agent Representative or any other person	3.3.1	Nomination of person as Employer’s Agent Representative	4.10.1	Approval to use the Site for any other purpose such as housing	5.3.1	Delivery of the written notice to commence the execution of the works	5.6.3	Approval of programme of construction	5.7.2	Permission to carry out work by day and by night	5.8.1.1	Approval to work on weekends, special non-working days and between sunset and sunrise	5.9.7	Approval of Contractor’s designs	5.11	Suspension of progress of the Works	5.13.2	Reduction of penalty for delay per allocated work package	5.14.2	The issue of a Certificate of Practical Completion	5.14.4	The issue of a Certificate of Completion
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		5.16.1	The issue of a Final Approval Certificate
		6.3.1	Variation Orders in respect of variations which are not small
		6.6	Instruction to expend on Provisional and Prime Cost Sums
		6.11	Adjustment of Preliminary and General allowances
		7.8.1	Order to execute work of repair, etc, during the Defects Liability Period
		7.8.2	Determination of value of repair work
		8.2.2.2	Order to repair and make good damage arising from any excepted risk
5.3.1	The documentation required before commencement with Works execution are:	• Health and Safety Plan (Refer to Clause 4.3) • Initial programme (Refer to Clause 5.6) • Security (Refer to Clause 6.2) • Proof that all contributions required in terms of the provisions of the Workman's Compensation Act (Act no 30 of 1941) as amended in 1993, 2002 have been paid (Refer to Cause 4.3.2) • A certified copy of Unemployment Insurance Certificate, Act of 1996 (Refer to Clause 4.3.2) or proof of registration • Valid Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)	
5.3.2	The time to submit the documentation required from the Commencement Date is:	14 days	
5.8.1	The non-working days are:	Sundays	
	The special non-working days are:	• Annual builders holiday • Statutory public holidays	
5.13.1	The penalty for failing to complete the works is:	0.05% of the contract amount of each work package with a minimum of R5 000 per working day.	
	Non-conforming in terms of the Construction Regulations	Hazardous chemical/oil spill and/or dumping in non-approved sites.	R10 000 per incident
		Damage to cultural and historical sites.	R10 000 per incident
		Unauthorised blasting activities.	R5 000 per incident
		Transportation of workers in an unsecure vehicle (transporting tools, equipment and material).	R5 000 per incident
		Insufficient road signs or unavailability of flag personnel or improper road signs layout.	R5 000 per incident
		No OHS Officer appointed by the contractor.	R10 000 + work stoppage per incident
		Failure to correct OHS file notices within 7 days	R5 000 per incident
		Littering on site.	R1 000 per incident
		Lighting of illegal fires on site.	R1 000 per incident
		Persistent or un-repaired fuel and oil leaks.	R1 000 per incident
		Dumping of material inside drains.	R1 000 per incident

		Possession or use of intoxicating substances on site.	R1 000 per incident															
		Any vehicles being driven in excess of designated speed limits.	R1 000 per incident															
		Urination and defecation anywhere except in designated areas.	R1 000 per incident															
		Failure to issue PPE to Employees.	R5 000 per incident															
		Non usage of PPE issued.	R500 per incident															
		All unsafe/ practices on site e.g.: - Boarding on/off moving vehicle or plant. - Talking with a cell phone while operating a plant. - Smoking near hazardous chemicals.	R500 per incident															
		Unnecessary damage or unauthorised removal of trees.	R5 000 per tree															
	Late submission of monthly progress reports.	R3 000 per month																
	Late submission of monthly Payment Certificate and all supporting documents, outside the agreed window period for submission.	R5 000 per month																
5.16.3	The latent defect period is:	10 (ten) Year																
6.2.1	Type of security for due performance:	- Guarantee from approved financial institution or cash deposit. - The Form of Guarantee is to contain the wording of the pro forma document included as C1.3 contained herein.																
	Liability of performance guarantee	Performance guarantee (Once off R2 500 000 at the commencement of the three (3) year contract period for the duration of the contract per area).																
6.2.2	Retention money guarantee	Not permitted																
6.8.2	Adjustment in rates and/or prices	The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: “L” is the “Labour Index” and shall be Gauteng, under CPI as published by Statistics South Africa. “P” is the “Plant Index” and shall be Plant and equipment, under Mining and construction plant and equipment price index as published by Statistics South Africa. “M” is the “Material Index” and shall be Civil Engineering – total, under Civil engineering material price indices as published by Statistics South Africa. “F” is the “Fuel Index” and shall be Diesel, under PPI as published by Statistics South Africa. <table><tr><td>Coefficient</td><td>Description</td><td>Value</td></tr><tr><td>X</td><td>Portion not subject to adjustment</td><td>0.10</td></tr><tr><td>A</td><td>Labour</td><td>0.20</td></tr><tr><td>B</td><td>Civil Engineering Plant</td><td>0.35</td></tr><tr><td>C</td><td>Civil Engineering Materials</td><td>0.30</td></tr></table>		Coefficient	Description	Value	X	Portion not subject to adjustment	0.10	A	Labour	0.20	B	Civil Engineering Plant	0.35	C	Civil Engineering Materials	0.30
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C	Civil Engineering Materials	0.30																

		<table border="1"> <tr> <td>D</td><td>Fuel</td><td>0.15</td></tr> </table> (Coefficients a, b, c and d must sum to one) - The urban area nearest the Site is Tshwane, Region 3. - The base month is the month prior to the closing of the procurement process required for a financial offer.	D	Fuel	0.15
D	Fuel	0.15			
6.8.3	Price adjustment for variations in the cost of special materials	Not allowed			
6.10.1.5	The percentage on materials not yet built into the Permanent Works is:	80% (Eighty percent)			
6.10.3	Percentage retention is:	10% (ten percent) exclusive of VAT			
	The limit of retention money is:	5% (five percent) of the Work Package Sum allocated, excluding contingencies and VAT.			
8.6	Insurance of the Works and Public Liability Insurance	The Employer shall arrange this insurance. A copy of the policy and the list of excesses may be obtained from Contractors All Risk and Liability Insurance Ms. Morongwa Mokoena (Tel: 012 358 1126) (morongwam@tshwane.gov.za) Mrs Ronett Marlow-Reid (Tel: 012 358 1131) (ronettm@tshwane.gov.za) Mr Lawrence Matjila (Tel: 012 358 1374) (lawrencem@tshwane.gov.za)			
	The value of plant and materials supplied by the Employer to be included in the insurance sum is:	R 0 (zero)			
	Responsibility for payment of deductibles in respect of Insurance of Works as well as Public Liability Insurance:	Deductibles are the responsibility of the Contractor			
	Construction Plant:	Contractor to insure. Policy to be approved by Employer			
10.5	Determination of disputes	Ad-hoc Adjudication Board			
10.5.3	Number of Adjudication Board members to be appointed:	One			
10.6	Disagreement with Adjudication Board's decision, refer matters to:	Court proceedings			

C1.2.4 DATA PROVIDED BY THE CONTRACTOR

CLAUSE/OPTION		DATA		
1.1.1.9	The name of the Contractor is:			
1.2.1.2	The address of the Contract is:	• Physical Address:		
		• Postal Address:		
		• Facsimile:		
		• E-Mail Address:		
6.2.1	The security to be provided by the Contractor shall be	Performance guarantee (Once off R2 500 000 at the commencement of the three (3) year contract period for the duration of the contract).		
6.8.3	Price adjustments for variations in the cost of special materials	The variation in cost of special materials is:		
		Type of material	Unit	Base Rate or Price

C1.3 FORM OF GUARANTEE

WHEREAS

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

enters into a Contract (No _____) with

(hereinafter referred to as the "Contractor")

for _____

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

NOW THEREFORE we the undersigned _____

_____ (full names of authorized agent(s))

and acting in my/our capacity as _____

and _____

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

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

R _____ (_____)

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

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

R _____ (_____)

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

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

Exceptio non numerate pecuniae

Exception non causa debiti

Beneficium de duobus vel pluribus reis debendi

Beneficium ordinis deu excussionis

Beneficium divisionis

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

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

This document is not negotiable or transferable.

FOR AND ON BEHALF OF THE BANKER/INSURER:

BANKER/INSURER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

ANNEXURE

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

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

C1.4 HEALTH AND SAFETY AGREEMENT

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

CITY OF TSHWANE

(Hereinafter referred to as the "EMPLOYER")

AND

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

WHEREAS the CONTRACTOR is the mandatory of the EMPLOYER as contemplated in an agreement in respect of
**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH
COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE
(3) YEAR PERIOD, AS AND WHEN REQUIRED**

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

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

NOW THEREFORE the parties agree as follows:

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

inspect any appropriate records held by the CONTRACTOR or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

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

FOR AND ON BEHALF OF THE CONTRACTOR:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

FOR AND ON BEHALF OF THE EMPLOYER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

C1.5 ADJUDICATOR'S AGREEMENT

This agreement is made on the _____ day of _____ between:

(name of company /
organisation)

of _____

(address) and

(name of company /
organisation)

of _____

(address)

(the Parties) and

(name of
Adjudicator)

of _____

(address)

(the Adjudicator).

Disputes or differences may arise/have arisen¹ between the Parties under a Contract dated _____ and known as _____

and these disputes or differences shall be/have been² referred to adjudication in accordance with the CIDB Adjudication Procedure, (hereinafter called "the Procedure") and the Adjudicator may be or has been requested to act.

IT IS NOW AGREED as follows:

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

¹ Delete as necessary

² Delete as necessary

SIGNED by:

Name:

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

SIGNED by:

Name:

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

SIGNED by:

Name:

the Adjudicator in the presence of

Witness

Name:

Address:

Witness:

Name

Address:

Witness:

Name:

Address:

Date:

Date:

Date:

Contract Data

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

³ Delete as necessary

PORTION 2: CONTRACT

PART C1: AGREEMENTS AND CONTRACT DATA

CONTENTS

C1.1	FORM OF OFFER AND ACCEPTANCE	2
C1.2.	CONTRACT DATA.....	8
C1.3	FORM OF GUARANTEE.....	23
C1.4:	HEALTH AND SAFETY AGREEMENT	26
C1.5:	ADJUDICATOR'S AGREEMENT.....	28

C1.1 FORM OF OFFER AND ACCEPTANCE

STAMP

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

TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH A COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

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

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all 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 nature of the tender is an as and when required basis and the total in the Bill of Quantities is not the total value of the tender and is for evaluation purposes only. The quantities in the Bill of Quantities are therefore subject to change. The unit rates in the Bill of Quantities will remain fixed and the appointment will be on the unit rates.

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

NAME(s): (BLOCK LETTERS)

CAPACITY of authorized agents:

SIGNATURE(s) of authorized agents:

SIGNED at on this day of

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

1.

2.

ACCEPTANCE

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

The terms of the contract, are contained in

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

and drawings and documents or parts thereof, which may be incorporated by reference into Parts C1 to C4 above.

Deviations from and amendments to the documents listed in the Tender Data and any addenda thereto listed in the Tender Schedules as well as any changes to the terms of the Offer agreed by the Tenderer and the Employer during this process of offer and acceptance, are contained in the Schedule of Deviations attached to and forming part of this Agreement. No amendments to or deviations from said documents are valid unless contained in this schedule.

The Tenderer shall within two weeks after receiving a letter of acceptance, contact the Employer's agent (whose details are given in the Contract Data) to arrange the delivery of guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this Agreement. Notwithstanding anything contained herein, this Agreement comes into effect on the date when the Tenderer receives one fully completed original copy of this document, including the Schedule of Deviations (if any). Unless the Tenderer (now Contractor) within five days of the date of such receipt notifies the Employer in writing of any reason why he cannot accept the contents of this Agreement, this Agreement shall constitute a binding contract between the parties¹.

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.

CONFIRMATION OF RECEIPT

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

FOR AND ON BEHALF OF THE CONTRACTOR:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

C1.2 CONTRACT DATA

TABLE OF CONTENTS

C1.2.1 GENERAL CONDITIONS OF CONTRACT 9

C1.2.2 VARIATIONS AND ADDITIONS TO THE CONDITIONS OF CONTRACT 10

C1.2.3 DATA PROVIDED BY THE EMPLOYER..... 19

C1.2.4 DATA PROVIDED BY THE CONTRACTOR..... 22

C.1.2.1 GENERAL CONDITIONS OF CONTRACT

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

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

C1.2.2 VARIATIONS AND ADDITIONS TO THE CONDITIONS OF CONTRACT

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

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
1.1	Add the following definitions: 1.1.1.35 <i>“Work Package” is work to be carried out under this contract.</i> 1.1.1.36 <i>“Package Order” is an instruction to carry out a Work Package.</i>
1.2.1	Add the following to the clause: 1.2.1.3 <i>Sent by facsimile, electronic or any like communication irrespective of it being during office hours or otherwise.</i>
1.2.3	Add the following to the clause: 1.2.3.1 <i>The Employer has authorised the Group Head: Water and Sanitation Business Unit to act on his behalf in respect of this Contract, save for such duties or functions:</i> 1.2.3.1.1 <i>which other holders of office ex officio execute on behalf of the Employer; or</i> 1.2.3.1.2 <i>for which the Group Head: Water and Sanitation Business Unit has no authority and the Employer’s approval is required before execution thereof.</i>
4.3	Add the following new sub-clause: 1.3.3 <i>Wages and conditions of work:</i> i. <i>For conventional construction works the Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) shall apply and the minimum employment conditions which will apply shall be guided by the latest Sectoral Determination: Civil Engineering Sector published from time to time.</i> ii. <i>Basic Conditions of Employment Act of 1997 (Act No 75 of 1997) as per Government Notice R63 of 25 January 2002, shall apply to works described in the Scope of Work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.</i> Add the following new sub-clause: 4.3.4 <i>Notwithstanding any actions which the Employer may take, the Contractor accepts sole liability for due compliance with the relevant duties, obligations, prohibitions, arrangements and procedures imposed by the Occupational Health and Safety Act, 1993 (Act 85 of 1993), and all its regulations, including the Construction Regulations, 2014, for which he is liable as mandatory. By entering into this Contract, it shall be deemed that the parties have agreed in writing to the above provisions in terms of Section 37(2) of the Act. The Contractor shall sign the Occupational Health and Safety Agreement for Contract Work in the City of Tshwane Metropolitan Municipality included in section C1.5.</i> Add the following new sub-clause:

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	4.3.5 <i>The Employer retains an interest in all inquiries conducted under this Contract in terms of Section 31 and/or 32 of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and its Regulations following any incident involving the Contractor and/or Sub-Contractor and/or their employees. The Contractor shall notify the Employer in writing of all investigations, complaints or criminal charges which may arise pursuant to work performed under this Contract in terms of the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and Regulations.</i> Add the following new sub-clause: 4.3.6 <i>Contractor's Designer</i> <i>The Contractor and his designer shall accept full responsibility and liability to comply with the Occupational Health and Safety Act, 1993 (Act 85 of 1993) and the Construction Regulations, 2014 for the design of the Temporary Works and those part of the Permanent Works which the Contractor is responsible to design in terms of the Contract</i>
5.12	Add the following new sub-clause 5.12.5 <i>Critical path provision</i> <i>A delay in so far as extension of time is concerned, will be regarded as a delay only if, on a claim by the Contractor in accordance with the General Conditions of Contract, the Engineer rules that all progress on an item or items of work on the critical path of the approved programme for the execution of the Works by the Contractor, has been brought to a halt. Delays on normal working days only, based on a working week, of five normal working days, will be taken in account for the extension of time.</i> Add the following new sub-clause 5.12.6 <i>Extension of time due to abnormal rainfall</i> <i>Extension of time due to abnormal rainfall shall be determined by means of Method 1, if rainfall records and/or values derived from rainfall records are supplied in the Scope of Work, otherwise Method 2 shall apply.</i> <u><i>Method 1: Rainfall formula method</i></u> <i>The rainfall records and/or values derived from rainfall records from a suitable rainfall station near the Site, which are supplied in the Project Specifications, shall be considered suitable for the determination of extension of time due to abnormal rainfall in accordance with this method.</i> <i>Extension of time arising from abnormal rainfall, shall be calculated separately for each calendar month or part thereof for the full period of completion of the Contract, including any extension thereof, in accordance with the rainfall formula given below:</i> $V = (N_w - N_n) + \frac{(R_w - R_n)}{X}$ <i>If V is negative and its absolute value exceeds N_n, then V shall be equal to minus N_n.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>If V is positive and greater than the number of calendar days in the calendar month under consideration, V shall be taken as equal to the number of calendar days in the relevant calendar month.</i> <i>The symbols shall have the following meaning:</i> <i>V = Extension of time in calendar days in respect of the calendar month under consideration</i> <i>N_w = Actual number of days during the calendar month on which a rainfall of Y mm or more has been recorded.</i> <i>R_w = Actual rainfall in mm for the calendar month under consideration.</i> <i>N_n = Average number of days as derived from existing rainfall records, on which a rainfall of Y mm or more has been recorded for the calendar month. Rainfall records and/or the derived values of N_n will be provided in the Specifications.</i> <i>R_n = Average rainfall in mm for the calendar month, as derived from existing rainfall records. Rainfall records and/or the derived values of R_n will be provided in the Project Specifications.</i> <i>X = 20 unless otherwise provided in the Project Specifications</i> <i>Y = 10 unless otherwise provided in the Project Specifications</i> <i>The total extension of time shall be the algebraic sum of the monthly totals for the period under consideration. However, if the grand total is negative the time for completion shall not be reduced on account of abnormal rainfall. Extension of time for parts of a month shall be calculated by pro rata values of N_n and R_n being used.</i> <i>The factor (N_w – N_n) shall be considered to represent a fair allowance for variations from the average number of days during which rainfall exceeds Y mm and wet conditions prevented or disrupted work.</i> <i>The factor $\frac{(R_w - R_n)}{X}$ shall be considered to represent a fair allowance for variations from the allowance for variations from the average number of days when wet conditions further to that allowed for the factor (N_w – N_n), prevented or disrupted work during the calendar month.</i> <i>Accurate rain gauging shall be taken at a suitable point on Site, and the Contractor shall, at his own expense, take all necessary precautions to ensure that the rain gauges cannot be interfered with.</i> <i>This formula does not take into account further on concurrent delays which could be caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i> <u><i>Method 2: Expected delay method</i></u> <i>The Contractor shall make provision in his programme for the execution of the Works, for an expected delay of "n" normal working days (based on a working week of five normal working days) due to normal rainfall, for which he will not receive any extension of time.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>Unless otherwise provided in the Project Specifications, the value of "n" shall be taken as equal to the tendered time for completion of the Works in months, rounded off to an integer.</i> <i>Extension of time during normal working days will be granted to the degree to which actual delays as determined in accordance with Sub-Clause (42.5 Critical Path Provision) hereof, exceed the number of "n" normal working days.</i> <i>The value of "n" does not take into account further or concurrent delays which are caused by other abnormal climatic conditions such as floods, which have to be determined separately in accordance with Sub-Clause (42.5 Critical Path Provision) hereof.</i>
6.1	Add the following new sub-clause: 6.1.2 <i>Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the Scope of Work. Any non-payment for such works shall not relieve the Contractor in any way of his obligations either in contract or in delict.</i> Add the following new sub-clause 6.1.3 <i>The Contractor shall be paid at Pretoria in the currency of the Republic of South Africa only at the Office of the Chief Financial Officer of the CITY OF TSHWANE, unless otherwise stated in the Data provided by Employer.</i>
8.6	Replace clause 8.6 with the following: 8.6 Insurances 8.6.1 <i>Without limiting the Contractor's/Sub-contractor's obligation in terms of the Contract, the Employer will affect 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):</i> 8.6.2 <i>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:</i> <i>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.</i> <i>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.</i> <i>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.</i> <i>Removal of debris.</i> <i>Surrounding property.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	f. Work away. g. Off-site storage. h. Temporary repairs. i. Contribution clause – marine. j. Escalation during Contract Period. k. Post loss escalation. l. Automatic reinstatement. m. Principals' maintenance. n. Property taken over. o. Beneficial occupation. p. Escalation due to currency fluctuation. q. Manufacturers guarantees.
8.6.3	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/Subcontractor); 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).
8.7	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 budget per financial year and the insurance premium will be charged out to the relevant departments by the Section: Insurance and Risk Management.
8.8	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 8.6.1.1 of this Clause.
8.9	Additional insurance by the Contractor / Subcontractor The Contractor and Sub-contractor shall be free to effect and maintain at their own cost any additional insurance which the Contractor/Subcontractor 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/Subcontractor.
8.10	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 affected by the Employer.
8.11	Contractor to observe conditions

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>The Contractor shall give all notices and observe all conditions and requirements imposed by the relevant insurance policies, which shall be binding on the Contractor.</i>
8.12	<i>Contractor to insure</i> <i>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:</i> <i>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.</i> <i>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.</i> <i>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.</i> <i>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.</i> <i>e. Proof must also be submitted that the Contractor complies with the conditions of the following legislation:</i> <i>- Compensation for Occupational Injuries and disease, 1993</i> <i>- Unemployment Insurance Act, 1996</i> <i>- The Contractor shall in respect of the Site of the contract works appoint in writing a Section 16 appointee to meet the requirements of the Health and Safety Act, No 85 of 1993 as amended.</i>
8.13	<i>The Employer's Agent involved must furnish the required insurance documentation 30 (thirty) days before the inception of the contract to the Section: Insurance and Risk Management.</i>
8.14	<i>Reporting of incidents</i> <i>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 / Subcontractors and Project Manager will adhere to the following procedures:</i> <i>a. In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Employer's Agent of every occurrence within 48 (forty-eight) hours giving the circumstances, nature and an estimate of the loss or damage.</i> <i>b. The Employer's Agent will be responsible to complete and submit the relevant claim documentation for each incident within 30 (thirty) days</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>after the incident occurred to the Section: Insurance and Risk Management. Should the incident be reported by the Employer's Agent 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 Director motivating the reason(s) for the late reporting of the incident, but the Project Manager must take note the Insurer might repudiate the loss if it is found that the insurers rights have been compromised as a result of the late reporting.</i> <i>c. The following documentation must be included with the claim documentation:</i> <i>- Photos of damages caused or suffered as proof or substantiation of the claims.</i> <i>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.</i> <i>e. 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 Employer's Agent, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i> 8.15 Reporting of catastrophic incidents <i>In the event of an occurrence, which is likely to give rise to a claim, under the insurance policy effected by the Employer, with an estimated loss or damage of more than R250 000,00, the Contractor and the Employer's Agent will adhere to the following procedures:</i> <i>a. In addition to any statutory obligations and/or requirements contained in the General Conditions of Contract, the Contractor shall notify the Employer and the Employer's Agent Manager of every occurrence within 24 (twenty-four) hours giving the circumstances, nature and an estimate of the loss or damage.</i> <i>b. The Employer's Agent 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.</i> <i>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 Employer's Agent, the Employer's insurers and/or representatives for the purpose of assessment of any loss or damage.</i> <i>d. The Employer's Agent 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.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	8.16 <i>Reporting of crime related incidents</i> <i>All crime related incidents, losses or shortages irrespective of the value, must be reported within 24 (twenty-four) hours by the person who was involved or who has discovered the incident to the nearest South African Police Services (SAPS) station. The name of the Police Station, Investigation Officer and the Case number must be obtained and stated on the Contractor Claim Form. Should the incident not be reported to the SAPS, the claim will be repudiated.</i> 8.17 <i>Claim documentation</i> <i>The Employer's Agent must obtain all relevant information from the Contractor/Sub-contractor and complete the Contractor Claim Form, included in this report as Annexure B that is available on the Intranet. The project number must be stated on the Contractor Claim Form.</i> <i>The Employer's Agent must submit with the Contractor Claim Form a detailed cost sheet indicating the estimate of the loss or damage.</i> <i>Any misrepresentation, misdescription or non-disclosure of material facts, at the option of the insurers, can result in claims submitted being declared null and void.</i> 8.18 <i>Authorization of claim forms</i> <i>It is imperative that a formally delegated official or his nominee of the Employer should authorize the Contractor Claim forms as proof of the appropriate authorization, verification and approval of claims submitted. The Strategic Executive Director must provide an authorization letter to the Section: Insurance and Risk Management stating the names and the specimen signatures of the delegated official or his nominee within 30 (thirty) days from approval of this report by Council. Should the delegated official or his nominee not sign the relevant claim form, the claim will be repudiated as this may lead to inappropriate independent verification of the validity of claims, thereby increasing the risk of insurance fraud and consequent reputation damage to the Employer.</i> 8.19 <i>Contractor to pay deductibles</i> <i>Any claim in terms of the insurance affected by the Employer shall be subject to the Contractor being responsible for the payment of the amount stated in the Annexure to the Policies as being the deductible (first amount payable or Excess) as defined in the Certificate of Insurance issued by the Employer's insurer in terms of the Policy.</i> 8.20 <i>Settlement of claims</i> <i>All incidents reported to the Section: Insurance and Risk Management in respect of an occurrence, which is likely to give rise to a claim will be forwarded to the Employer's insurer who will take the necessary actions for the settlement of any such claims.</i> <i>The Contractor <u>shall negotiate</u> 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.</i>

CLAUSE / SUB-CLAUSE	VARIATION / ADDITION
	<i>Should action for the settlement of any such claim to the satisfaction of the Employer's Agent 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.</i> <i>The foregoing provisions of this Sub-Clause shall apply mutatis mutandis to any such claim received by the Contractor directly.</i>

C1.2.3 DATA PROVIDED BY THE EMPLOYER

CLAUSE/OPTION		DATA																											
1.1.1.13	The Defects Liability period is:	12 (twelve) months from the date of the Certificate of Completion.																											
1.1.1.14	The time for achieving Practical Completion is:	The time allocated by the Employer’s Agent																											
1.1.1.15	The name of the Employer is:	City of Tshwane Metropolitan Municipality.																											
1.1.1.26	The Pricing Strategy is:	Re-measurement Contract																											
1.2.1.2	The address of the Employer is:	Physical Address:	225 Madiba Street, Pretoria, 0001																										
		Postal Address:	P.O. Box 1022 PRETORIA 0001																										
		E-Mail Address:	SimphiweJ@tshwane.gov.za																										
1.1.1.16	The name of the Employer’s Agent is:	Mr. Simphiwe July																											
1.2.1.2	The address of the Employer’s Agent is:	Physical Address:	225 Madiba Street, Pretoria, 0001																										
		Postal Address:	225 Madiba Street, Pretoria, 0001																										
		E-Mail Address:	SimphiweJ@tshwane.gov.za																										
3.1.3		- The Employer’s Agent is required to obtain approval of the Employer: - for expenditure on the Contract to exceed the Contract Price; - prior to the execution of any of the following duties of functions: <table><tr><th>CLAUSE</th><th>DUTY/FUNCTION</th></tr><tr><td>3.2.4</td><td>Authorization to Employer’s Agent Representative or any other person</td></tr><tr><td>3.3.1</td><td>Nomination of person as Employer’s Agent Representative</td></tr><tr><td>4.10.1</td><td>Approval to use the Site for any other purpose such as housing</td></tr><tr><td>5.3.1</td><td>Delivery of the written notice to commence the execution of the works</td></tr><tr><td>5.6.3</td><td>Approval of programme of construction</td></tr><tr><td>5.7.2</td><td>Permission to carry out work by day and by night</td></tr><tr><td>5.8.1.1</td><td>Approval to work on weekends, special non-working days and between sunset and sunrise</td></tr><tr><td>5.9.7</td><td>Approval of Contractor’s designs</td></tr><tr><td>5.11</td><td>Suspension of progress of the Works</td></tr><tr><td>5.13.2</td><td>Reduction of penalty for delay per allocated work package</td></tr><tr><td>5.14.2</td><td>The issue of a Certificate of Practical Completion</td></tr><tr><td>5.14.4</td><td>The issue of a Certificate of Completion</td></tr></table>		CLAUSE	DUTY/FUNCTION	3.2.4	Authorization to Employer’s Agent Representative or any other person	3.3.1	Nomination of person as Employer’s Agent Representative	4.10.1	Approval to use the Site for any other purpose such as housing	5.3.1	Delivery of the written notice to commence the execution of the works	5.6.3	Approval of programme of construction	5.7.2	Permission to carry out work by day and by night	5.8.1.1	Approval to work on weekends, special non-working days and between sunset and sunrise	5.9.7	Approval of Contractor’s designs	5.11	Suspension of progress of the Works	5.13.2	Reduction of penalty for delay per allocated work package	5.14.2	The issue of a Certificate of Practical Completion	5.14.4	The issue of a Certificate of Completion
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		5.16.1	The issue of a Final Approval Certificate
		6.3.1	Variation Orders in respect of variations which are not small
		6.6	Instruction to expend on Provisional and Prime Cost Sums
		6.11	Adjustment of Preliminary and General allowances
		7.8.1	Order to execute work of repair, etc, during the Defects Liability Period
		7.8.2	Determination of value of repair work
		8.2.2.2	Order to repair and make good damage arising from any excepted risk
5.3.1	The documentation required before commencement with Works execution are:	• Health and Safety Plan (Refer to Clause 4.3) • Initial programme (Refer to Clause 5.6) • Security (Refer to Clause 6.2) • Proof that all contributions required in terms of the provisions of the Workman's Compensation Act (Act no 30 of 1941) as amended in 1993, 2002 have been paid (Refer to Cause 4.3.2) • A certified copy of Unemployment Insurance Certificate, Act of 1996 (Refer to Clause 4.3.2) or proof of registration • Valid Letter of Good Standing (i.e., COIDA, Department of Labour or any other accredited Institutions)	
5.3.2	The time to submit the documentation required from the Commencement Date is:	14 days	
5.8.1	The non-working days are:	Sundays	
	The special non-working days are:	• Annual builders holiday • Statutory public holidays	
5.13.1	The penalty for failing to complete the works is:	0.05% of the contract amount of each work package with a minimum of R5 000 per working day.	
	Non-conforming in terms of the Construction Regulations	Hazardous chemical/oil spill and/or dumping in non-approved sites.	R10 000 per incident
		Damage to cultural and historical sites.	R10 000 per incident
		Unauthorised blasting activities.	R5 000 per incident
		Transportation of workers in an unsecure vehicle (transporting tools, equipment and material).	R5 000 per incident
		Insufficient road signs or unavailability of flag personnel or improper road signs layout.	R5 000 per incident
		No OHS Officer appointed by the contractor.	R10 000 + work stoppage per incident
		Failure to correct OHS file notices within 7 days	R5 000 per incident
		Littering on site.	R1 000 per incident
		Lighting of illegal fires on site.	R1 000 per incident
		Persistent or un-repaired fuel and oil leaks.	R1 000 per incident
		Dumping of material inside drains.	R1 000 per incident

		Possession or use of intoxicating substances on site.	R1 000 per incident															
		Any vehicles being driven in excess of designated speed limits.	R1 000 per incident															
		Urination and defecation anywhere except in designated areas.	R1 000 per incident															
		Failure to issue PPE to Employees.	R5 000 per incident															
		Non usage of PPE issued.	R500 per incident															
		All unsafe/ practices on site e.g.: - Boarding on/off moving vehicle or plant. - Talking with a cell phone while operating a plant. - Smoking near hazardous chemicals.	R500 per incident															
		Unnecessary damage or unauthorised removal of trees.	R5 000 per tree															
		Late submission of monthly progress reports.	R3 000 per month															
		Late submission of monthly Payment Certificate and all supporting documents, outside the agreed window period for submission.	R5 000 per month															
5.16.3	The latent defect period is:	10 (ten) Year																
6.2.1	Type of security for due performance:	- Guarantee from approved financial institution or cash deposit. - The Form of Guarantee is to contain the wording of the pro forma document included as C1.3 contained herein.																
	Liability of performance guarantee	Performance guarantee <i>(Once off R2 500 000 at the commencement of the three (3) year contract period for the duration of the contract per area).</i>																
6.2.2	Retention money guarantee	Not permitted																
6.8.2	Adjustment in rates and/or prices	The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values: “L” is the “Labour Index” and shall be Gauteng, under CPI as published by Statistics South Africa. “P” is the “Plant Index” and shall be Plant and equipment, under Mining and construction plant and equipment price index as published by Statistics South Africa. “M” is the “Material Index” and shall be Civil Engineering – total, under Civil engineering material price indices as published by Statistics South Africa. “F” is the “Fuel Index” and shall be Diesel, under PPI as published by Statistics South Africa.																
		<table><tr><td>Coefficient</td><td>Description</td><td>Value</td></tr><tr><td>X</td><td>Portion not subject to adjustment</td><td>0.10</td></tr><tr><td>A</td><td>Labour</td><td>0.20</td></tr><tr><td>B</td><td>Civil Engineering Plant</td><td>0.35</td></tr><tr><td>C</td><td>Civil Engineering Materials</td><td>0.30</td></tr></table>		Coefficient	Description	Value	X	Portion not subject to adjustment	0.10	A	Labour	0.20	B	Civil Engineering Plant	0.35	C	Civil Engineering Materials	0.30
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		<table border="1"> <tr> <td>D</td><td>Fuel</td><td>0.15</td></tr> </table> (Coefficients a, b, c and d must sum to one) - The urban area nearest the Site is Tshwane, Regions 2, 4, 5, 6 and 7. - The base month is the month prior to the closing of the procurement process required for a financial offer.	D	Fuel	0.15
D	Fuel	0.15			
6.8.3	Price adjustment for variations in the cost of special materials	Not allowed			
6.10.1.5	The percentage on materials not yet built into the Permanent Works is:	80% (Eighty percent)			
6.10.3	Percentage retention is:	10% (ten percent) exclusive of VAT			
	The limit of retention money is:	5% (five percent) of the Work Package Sum allocated, excluding contingencies and VAT.			
8.6	Insurance of the Works and Public Liability Insurance	The Employer shall arrange this insurance. A copy of the policy and the list of excesses may be obtained from Contractors All Risk and Liability Insurance Ms. Morongwa Mokoena (Tel: 012 358 1126) (morongwam@tshwane.gov.za) Mrs Ronett Marlow-Reid (Tel: 012 358 1131) (ronettm@tshwane.gov.za) Mr Lawrence Matjila (Tel: 012 358 1374) (lawrencem@tshwane.gov.za)			
	The value of plant and materials supplied by the Employer to be included in the insurance sum is:	R 0 (zero)			
	Responsibility for payment of deductibles in respect of Insurance of Works as well as Public Liability Insurance:	Deductibles are the responsibility of the Contractor			
	Construction Plant:	Contractor to insure. Policy to be approved by Employer			
10.5	Determination of disputes	Ad-hoc Adjudication Board			
10.5.3	Number of Adjudication Board members to be appointed:	One			
10.6	Disagreement with Adjudication Board's decision, refer matters to:	Court proceedings			

C1.2.4 DATA PROVIDED BY THE CONTRACTOR

CLAUSE/OPTION		DATA		
1.1.1.9	The name of the Contractor is:			
1.2.1.2	The address of the Contract is:	• Physical Address:		
		• Postal Address:		
		• Facsimile:		
		• E-Mail Address:		
6.2.1	The security to be provided by the Contractor shall be	Performance guarantee (Once off R2 500 000 at the commencement of the three (3) year contract period for the duration of the contract).		
6.8.3	Price adjustments for variations in the cost of special materials	The variation in cost of special materials is:		
		Type of material	Unit	Base Rate or Price

C1.3 FORM OF GUARANTEE

WHEREAS

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

enters into a Contract (No _____) with

(hereinafter referred to as the "Contractor")

for _____

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

NOW THEREFORE we the undersigned _____

_____ (full names of authorized agent(s))

and acting in my/our capacity as _____

and _____

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

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

R _____ (_____)

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

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

R _____ (_____)

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

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

Exceptio non numerate pecuniae

Exception non causa debiti

Beneficium de duobus vel pluribus reis debendi

Beneficium ordinis deu excussionis

Beneficium divisionis

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

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

This document is not negotiable or transferable.

FOR AND ON BEHALF OF THE BANKER/INSURER:

BANKER/INSURER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

ANNEXURE

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

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

C1.4 HEALTH AND SAFETY AGREEMENT

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

CITY OF TSHWANE

(Hereinafter referred to as the "EMPLOYER")

AND

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

WHEREAS the CONTRACTOR is the mandatory of the EMPLOYER as contemplated in an agreement in respect of
**TENDER FOR THE APPOINTMENT OF A CONTRACTOR FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH
COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE
(3) YEAR PERIOD, AS AND WHEN REQUIRED**

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

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

NOW THEREFORE the parties agree as follows:

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

inspect any appropriate records held by the CONTRACTOR or to take such steps it may deem necessary to remedy the default of the CONTRACTOR at the cost of the CONTRACTOR.

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

FOR AND ON BEHALF OF THE CONTRACTOR:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

FOR AND ON BEHALF OF THE EMPLOYER:

NAME:

(in BLOCK letters)

CAPACITY:

(of authorized agent)

SIGNATURE:

(of authorized agent)

SIGNED at _____ on this _____ day of _____

WITNESSES:

(Full name in BLOCK letters and signature)

1. _____

2. _____

C1.5 ADJUDICATOR'S AGREEMENT

This agreement is made on the _____ day of _____ between:

(name of company / organisation)

of _____

(address) and

(name of company / organisation)

of _____

(address)

(the Parties) and

(name of Adjudicator)

of _____

(address)

(the Adjudicator).

Disputes or differences may arise/have arisen¹ between the Parties under a Contract dated _____ and known as _____

and these disputes or differences shall be/have been² referred to adjudication in accordance with the CIDB Adjudication Procedure, (hereinafter called "the Procedure") and the Adjudicator may be or has been requested to act.

IT IS NOW AGREED as follows:

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

¹ Delete as necessary

² Delete as necessary

SIGNED by:

Name:

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

SIGNED by:

Name:

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

SIGNED by:

Name:

the Adjudicator in the presence of

Witness

Name:

Address:

Witness:

Name

Address:

Witness:

Name:

Address:

Date:

Date:

Date:

Contract Data

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

³ Delete as necessary

PRICING DATA

INDEX

Section	Description	Page No
C2.1	PRICING INSTRUCTIONS	C2.1-1
C2.2	PRICING SCHEDULE	C2.2-1
C2.3	SUMMARY OF SCHEDULES	C2.3-1

C2.1 PRICING INSTRUCTIONS

1. General

1.1 This section provides the tenderer with guidelines and requirements with regard to the completion of the Bill of Quantities. The Schedule 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. Pay Items

2.1 The method of measurement published by the City of Tshwane in section 001 clause 04 and the clauses titled "Measurement and Payment" in the various sections of the Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005, is applicable for all civil works, subject to the variations and amendments contained in section C3.4.3.

2.2 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.

2.3 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.

2.4 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.

- 2.5 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 supersede any of the requirements in the generic labour-intensive specification in the Scope of Works.
- 2.6 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.
- 2.7 Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
- 2.8 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.
- 2.9 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

3. Rates

- 3.1 The prices and rates to be inserted in the Bill of Quantities are to be full inclusive prices for the work described under 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.

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

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

- 3.3 The Tenderer shall fill in a rate against all items.
- 3.4 The Tenderer shall not group together a number of items and tender one rate for such group of items.
- 3.5 All rates and sums of money quoted in the Bill of Quantities shall be in rands and whole cents. Fractions of a cent shall be discarded.
- 3.6 All prices and rates entered in the Bill of Quantities must be excluding VAT. VAT will be added last on the summary page of the Bill of Quantities.
- 3.7 Should excessively high unit prices be tendered, such prices may be of sufficient importance to warrant rejection of a tender by the Employer.
- 3.7.1 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.

4. LABOUR-INTENSIVE CONSTRUCTION

- 4.1 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)* included under section C3.7.1 in volume 1.

The items marked LIC are not necessarily an exhaustive list of all the activities which must be done by hand, and this clause does not over-ride any of the requirements in the generic labour-intensive specification included under section C3.7.1 of volume 1.

- 4.2 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.

5. PIPE SCHEDULE

5.1 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.

5.2 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

5.3 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 microns.
- (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.

5.4 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.

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-A): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES O: GENERAL - GENERAL REQUIREMENTS AND CHARGES : SECTION 001

Item	Description	Unit	Qty	Rate	Amount
B001.01	Preliminary and General Charges(as specified in Part C3.8 Corrections and Amendments to the Standard Specifications, Section 001: General requirement and Charges, B31: Measurement and Payment)				
	B001.01.01 Fixed charges	month/per project	72		
	B001.01.02 Time-related charges	month/per project	72		
	B001.01.03 The Contractor's establishment on site	Number	9		
B001.03 Li	Excavate by hand to expose existing services, and backfill	m3	50		
B001.04	Compliance with the Occupational Health and Safety Act and applicable regulations				
	B001.04.01 Provision of Health and Safety Plan	Lsum/per project	9		
	B001.04.02 Provision of Health and Safety file	Lsum/per project	9		
	B001.04.03 Provision of construction supervisors	per month/ per project	36		
	B001.04.04 Provision of a Safety Officer (full time)	per month/ per project	36		
	B001.04.08.01 Implementation of OHS Act (including provision of personal protective clothing, equipment, training, safety fences, etc.)	Lsum/per project	3		
B001.05	Community Liason officer				
	B001.05 .01 Salary	per month/ per project	72	16 928,00	1 218 816,00
	B001.05 .02 Charges required by the Contractor on subitem B001.05.01 above	%	1		
B001.06 SC	Security guards(as specified in Part C3.8 Corrections and Amendments to the Standard Specifications, Section 001: General requirement and Charges, B31: Appointment of Local Security Company)				
	B001.06.01 Appointment of Local Security Company	per month/ per site	72		
B001.07	Provision of construction and materials manager	per month/ per project	72		
B001.09	Training of targeted subcontractors and labourers				
	B001.09 .01 Training of targeted labourers	hour	27		
	B001.09 .02 Charges required by the Contractor on sub-item B001.09.01 above	%	1		
B001.10	Sums stated provisionally				
	B001.10.01 Expenditure on daywork items (wages paid to workmen)	hour	900		
	B001.10.02 Expenditure on daywork items (plant cost)	hour	300		
B001.11	Sums stated provisionally				
	B001.11.01 Materials to be used during the excavation of dayworks	Lsum/per project	9		
	B001.11.02 Extra-Over on B001.06.01 for mark-up	%	1		
B001.12	DAYWORKS				
	B001.12.01 Labour				
	B001.12.01.01 Qualified Artisans (9 hour/day)	w/day	2250		
	B001.12.01.02 Foreman (9 hour/day)	w/day	750		
	B001.12.01.03 Semi-skilled (9 hour/day)	w/day	3000		
	B001.12.01.04 Labourer (9 hour/day)	w/day	9000		
	B001.12.02 Plant Hire : Work Rates on Site				
carry forward					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-A): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES O: GENERAL - GENERAL REQUIREMENTS AND CHARGES : SECTION 001

Item	Description	Unit	Qty	Rate	Amount
				brought forward	
	B001.12.02.01 Tipper Truck				
	B001.12.02.01.01 1 m3 (small)	hour	100		
	B001.12.02.01.02 3 m3 (large)	hour	100		
	B001.12.02.02 Flatbed Truck				
	B001.12.02.02.01 1 ton (small)	hour	100		
	B001.12.02.02.02 3 ton (large)	hour	100		
	B001.12.02.03 LDV (0.5 ton)	hour	100		
	B001.12.02.04 Wheel Loader	hour	100		
	B001.12.02.05 Motor Grader	hour	100		
	B001.12.02.06 Back-actor	hour	100		
	B001.12.02.07 Tractor Loader-Backhoe	hour	1000		
	B001.12.02.08 Pedestrian Roller				
	B001.12.02.08.01 Bomag BW 90	hour	100		
	B001.12.02.08.02 Bomag BW 61	hour	100		
	B001.12.02.10 Concrete Mixer				
	B001.12.02.10.01 170 l (small)	hour	100		
	B001.12.02.10.02 280 l (large)	hour	100		
	B001.12.02.10.03 Miscellaneous				
	B001.12.02.10.03.01 Compressor 250 Cfm.	hour	100		
	B001.12.02.10.03.02 Water Pump with 25 l/s	hour	100		
	B001.12.02.10.03.03 Water Pump with 10 l/s	hour	100		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES O: GENERAL - GENERAL REQUIREMENTS AND CHARGES : SECTION 001

Item	Description	Unit	Qty	Rate	Amount
B001.01	Preliminary and General Charges(as specified in Part C3.8 Corrections and Amendments to the Standard Specifications, Section 001: General requirement and Charges, B31: Measurement and Payment)				
	B001.01.01 Fixed charges	month/per project	72		
	B001.01.02 Time-related charges	month/per project	72		
	B001.01.03 The Contractor's establishment on site	Number	9		
B001.03 Li	Excavate by hand to expose existing services, and backfill	m3	50		
B001.04	Compliance with the Occupational Health and Safety Act and applicable regulations				
	B001.04.01 Provision of Health and Safety Plan	Lsum/per project	9		
	B001.04.02 Provision of Health and Safety file	Lsum/per project	9		
	B001.04.03 Provision of construction supervisors	per month/ per project	36		
	B001.04.04 Provision of a Safety Officer (full time)	per month/ per project	36		
	B001.04.08.01 Implementation of OHS Act (including provision of personal protective clothing, equipment, training, safety fences, etc.)	Lsum/per project	3		
B001.05	Community Liason officer				
	B001.05 .01 Salary	per month/ per project	72	16 928,00	1 218 816,00
	B001.05 .02 Charges required by the Contractor on subitem B001.05.01 above	%	1		
B001.06 SC	Security guards(as specified in Part C3.8 Corrections and Amendments to the Standard Specifications, Section 001: General requirement and				
	B001.06.01 Appointment of Local Security Company	per month/ per site	72		
B001.07	Provision of construction and materials manager	per month/ per project	72		
B001.09	Training of targeted subcontractors and labourers				
	B001.09 .01 Training of targeted labourers	hour	27		
	B001.09 .02 Charges required by the Contractor on sub-item B001.09.01 above	%	1		
B001.10	Sums stated provisionally				
	B001.10.01 Expenditure on daywork items (wages paid to workmen)	hour	900		
	B001.10.02 Expenditure on daywork items (plant cost)	hour	300		
B001.11	Sums stated provisionally				
	B001.11.01 Materials to be used during the excavation of dayworks	Lsum/per project	9		
	B001.11.02 Extra-Over on B001.06.01 for mark-up	%	1		
B001.12	DAYWORKS				
	B001.12.01 Labour				
	B001.12.01.01 Qualified Artisans (9 hour/day)	w/day	2250		
	B001.12.01.02 Foreman (9 hour/day)	w/day	750		
	B001.12.01.03 Semi-skilled (9 hour/day)	w/day	3000		
	B001.12.01.04 Labourer (9 hour/day)	w/day	9000		
	B001.12.02 Plant Hire : Work Rates on Site				
carry forward					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES O: GENERAL - GENERAL REQUIREMENTS AND CHARGES : SECTION 001

Item	Description	Unit	Qty	Rate	Amount
				brought forward	
	B001.12.02.01 Tipper Truck				
	B001.12.02.01.01 1 m3 (small)	hour	100		
	B001.12.02.01.02 3 m3 (large)	hour	100		
	B001.12.02.02 Flatbed Truck				
	B001.12.02.02.01 1 ton (small)	hour	100		
	B001.12.02.02.02 3 ton (large)	hour	100		
	B001.12.02.03 LDV (0.5 ton)	hour	100		
	B001.12.02.04 Wheel Loader	hour	100		
	B001.12.02.05 Motor Grader	hour	100		
	B001.12.02.06 Back-actor	hour	100		
	B001.12.02.07 Tractor Loader-Backhoe	hour	1000		
	B001.12.02.08 Pedestrian Roller				
	B001.12.02.08.01 Bomag BW 90	hour	100		
	B001.12.02.08.02 Bomag BW 61	hour	100		
	B001.12.02.10 Concrete Mixer				
	B001.12.02.10.01 170 l (small)	hour	100		
	B001.12.02.10.02 280 l (large)	hour	100		
	B001.12.02.10.03 Miscellaneous				
	B001.12.02.10.03.01 Compressor 250 Cfm.	hour	100		
	B001.12.02.10.03.02 Water Pump with 25 l/s	hour	100		
	B001.12.02.10.03.03 Water Pump with 10 l/s	hour	100		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 0 : GENERAL - ENGINEERS ACCOMMODATION : SECTION 002

Item	Description	Unit	Qty	Rate	Amount
B002.01	Services				
	002.01.01 Services for Office	month/per project	36		
B002.02 SC/Li	Maintenance of area around offices	month/per project	36		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 1 : ANCILLARY WORKS - SITE CLEARING AND GRUBBING : SECTION 101

Item	Description	Unit	Qty	Rate	Amount
101.01	Clearing and Grubbing				
SC/Li	101.01.01 Areas	m2	1500		
101.02	Cutting and removal of large trees with a girth				
SC/Li	101.02.01 Exceeding 1m to 2m	No	3		
SC/Li	101.02.02 Exceeding 2m to 3m	No	2		
101.03	Grubbing and removal of large stumps and roots or large trees with a girth:				
SC/Li	101.03.01 Exceeding 1m to 2m	No	5		
SC/Li	101.03.02 Exceeding 2m to 3m	No	5		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 1 : ANCILLARY WORKS - ACCOMMODATION OF TRAFFIC : SECTION 102

Item	Description	Unit	Qty	Rate	Amount
102.12	Provision of temporary bridges for maintaining access to properties				
SC	102.12.01 Temporary pedestrain bridges	No	25		
SC	102.12.02 Temporary vehicular bridges	No	10		
102.13	Moving of temporary bridges to and their re-erection in entirely new positions				
SC/Li	102.13.01 Temporary pedestrian bridges	No	10		
SC/Li	102.13.02 Temporary vehicular bridges	No	10		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 2 : EARTHWORKS - GENERAL : SECTION 201					
Item	Description	Unit	Qty	Rate	Amount
201.02	Temporary stockpiling of material	m3	500		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 2 : EARTHWORKS - TRENCHING : SECTION 202

Item	Description	Unit	Qty	Rate	Amount
202.01 (LI/SC)	Trench excavations.				
(LI/SC)	202.01.01 Up to 1.0m deep	m3	1 742		
	202.01.02 Over 1.0m and up to 2m deep	m3	20 964		
	202.01.03 Over 2m and up to 3m deep	m3	7 223		
	202.01.04 Over 3m and up to 4m deep	m3	4 081		
	202.01.05 Over 4m and up to 5m deep	m3	3 906		
202.02 (LI/SC)	Extra over item 202.01, 202.03, 202.04 for excavating in-				
	202.02.02 Hard material	m2	25		
202.03 (LI/SC)	Excavations outside the normal trench profile	m3	814		
202.04 (LI/SC)	Hand excavation (extra over item 202.01)	m3	150		
202.06 (LI/SC)	The backfilling of trenches (excluding backfill around the pipe barrel) with material obtained from excavations	m3	21 842		
202.07 (LI/SC)	Extra over item 202.06 for using backfill material obtained -				
	202.07.01 From borrow areas	m3	4 375		
	202.07.02 From sources provided by the Contractor	m3	1 089		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 3 : SEWERS - CONSTRUCTION : SECTION 302

Item	Description	Unit	Qty	Rate	Amount
302,01	Supplying, laying, jointing of sewer pipes irrespective of depth/width of trench.				
	302.01.01. 160mm Class PE100 PN 6, SDR26	m	1 304		
	302.01.02. 200mm Class PE100 PN 6, SDR26	m	145		
	302.01.03. 225mm Class PE100 PN 6, SDR26	m	2		
	302.01.04. 250mm Class PE100 PN 6, SDR26	m	7		
	302.01.05. 280mm Class PE100 PN 6, SDR26	m	2		
	302.01.06. 315mm Class PE100 PN 6, SDR26	m	54		
	302.01.07. 355mm Class PE100 PN 6, SDR26	m	14		
	302.01.08. 400mm Class PE100 PN 6, SDR26	m	3		
	302.01.09. 450mm Class PE100 PN 6, SDR26	m	8		
	302.01.10. 500mm Class PE100 PN 6, SDR26	m	3		
	302.01.11. 560mm Class PE100 PN 6, SDR26	m	3		
	302.01.12. 630mm Class PE100 PN 6, SDR26	m	3		
	302.01.13. 800mm Class PE100 PN 6, SDR26	m	3		
	302.01.14. 900mm Class PE100 PN 6, SDR26	m	3		
	302.01.15. 1 200mm Class PE100 PN 6, SDR26	m	3		
302,02	Construction of pipe bedding				
	302.02.01 Class B bedding				
	302.02.01.01. 160mm Class PE100 PN 6, SDR26	m	1 304		
	302.02.02. 200mm Class PE100 PN 6, SDR26	m	145		
	302.02.03. 225mm Class PE100 PN 6, SDR26	m	2		
	302.02.04. 250mm Class PE100 PN 6, SDR26	m	7		
	302.02.05. 280mm Class PE100 PN 6, SDR26	m	2		
	302.02.06. 315mm Class PE100 PN 6, SDR26	m	54		
	302.02.07. 355mm Class PE100 PN 6, SDR26	m	14		
	302.02.08. 400mm Class PE100 PN 6, SDR26	m	3		
	302.02.09. 450mm Class PE100 PN 6, SDR26	m	8		
	302.02.10. 500mm Class PE100 PN 6, SDR26	m	3		
	302.02.11. 560mm Class PE100 PN 6, SDR26	m	3		
	302.02.12. 630mm Class PE100 PN 6, SDR26	m	3		
	302.02.13. 800mm Class PE100 PN 6, SDR26	m	3		
	302.02.14. 900mm Class PE100 PN 6, SDR26	m	3		
	302.02.15. 1 200mm Class PE100 PN 6, SDR26	m	3		
carry forward					
brought forward					
302,09	Construction of manholes up to 1.0m deep				

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 3 : SEWERS - CONSTRUCTION : SECTION 302

Item	Description	Unit	Qty	Rate	Amount
SC	302.09.01 For sewers 300mm in diameter and smaller				
	302.09.01.01.01 Type III	No	25		
	Extra over 302.06 for construction of manholes in excess of 1.0m deep				
302.10	302.10.01 For sewers 300mm in diameter and smaller				
SC	302.10.01.01 Type III	m	25		
SC	302.09.01 For sewers larger than 300mm in diameter				
	302.09.01.01.01 Type III		10		
	Extra over 302.06 for construction of manholes in excess of 1.0m deep		10		
302,1	302.10.01 For sewers larger than 300mm in diameter		10		
SC	302.10.01.01 Type III		10		
302,12	Supplying and installing manhole covers and frames				
SC	302.12.01 SANS 558 Type 4 circular	No	5 152		
	302.12.02 SANS 558 Type 2A circular	No	4 184		
	302.12.03 Precast concrete cover with type 2A CI frame	No	10		
	302.12.04 Precast concrete cover with type 4 CI frame	No	8		
302.14	Supplying and placing selected backfill material around and up to 300mm above pipe barrels using				
	302.14.01 Excavated material	m3	1 500		
	302.14.02 Imported material	m3	1 000		
B302.23 SC	Supply and install lamphole covers and frames for rodding eyes	No	10		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 5 : DRAINAGE AND EROSION PROTECTION - KERBING AND CHANNELLING : SECTION 503

Item	Description	Unit	Qty	Rate	Amount
503,01	Concrete kerbing 503.01.01 to match existing kerbing	m	50		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 6 : ROAD AND PARKING AREAS - GRAVEL PAVEMENT LAYERS : SECTION 601

Item	Description	Unit	Qty	Rate	Amount
601.02	Gravel layers constructed from material obtained from borrow pits:				
	601.02.01 Subgrade				
	601.02.01.01 Compacted to 90% of modified AASHTO density	m3	15		
	601.02.01.02 Compacted to 93% of modified AASHTO density	m3	15		
	601.02.01.03 Compacted to 95% of modified AASHTO density	m3	15		
	601.02.02 Subbase				
	601.02.02.01 Compacted to 95% of modified AASHTO density	m3	15		
	601.02.02.02 Compacted to 97% of modified AASHTO density	m3	15		
	601.02.03 Base				
	601.02.03.01 Compacted to 98% of modified AASHTO density	m3	15		
601.03	Gravel layers constructed from material obtained from material obtained from excavations:				
	601.03.01 Subgrade				
	601.03.01.01 Compacted to 90% of modified AASHTO density	m3	10		
	601.03.01.02 Compacted to 93% of modified AASHTO density	m3	10		
	601.03.01.03 Compacted to 95% of modified AASHTO density	m3	10		
	601.03.02 Subbase				
	601.03.02.01 Compacted to 95% of modified AASHTO density	m3	10		
	601.03.02.02 Compacted to 97% of modified AASHTO density	m3	10		
	601.03.03 Base				
	601.03.03.01 Compacted to 98% of modified AASHTO density	m3	10		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 6 : ROAD AND PARKING AREAS - BASE AND ASPHALT SURFACING : SECTION 606

Item	Description	Unit	Qty	Rate	Amount
606.01	Asphalt base				
	606.01.01 Prime the stabilised area 60% emulsion	m2	250		
606.02	Asphalt surfacing (50mm)				
	606.02.01 Continuously graded	m2	250		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 6 : ROAD AND PARKING AREAS - ROAD AND SURFACING REHABILITATION AND OVERLAY : SECTION 608

Item	Description	Unit	Qty	Rate	Amount
608.04	Treatment type 2 (crusher-sand seal) using :				
	608.04.01 60% spray-grade emulsion	ℓ	40		
	608.04.02 60% An application of doubly washed slurry-seal aggregate	m3	15		
608.10	Single-seal surface treatment where 80/100 penetration grade bitumen is used -				
	608.10.01 with 6,7 mm aggregate	m2	250		
	608.10.02 with 9,5 mm aggregate	m2	150		
608.14	Application of fog spray				
	608.14.01 60%-spray-grade emulsion	ℓ	40		
	608.14.02 30%-spray-grade emulsion	ℓ	30		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 6:ROAD AND PARKING AREAS - SEGMENTED PAVING : SECTION 609

Item	Description	Unit	Qty	Rate	Amount
609,05	Construction of segmented paving with material supplied by the Employer or from the stockpile				
SC	609.05.01 Segmental-block paving	m2	250		
	609.05.02 Concrete-slab paving	m2	250		
609.06	Extra over on item B609.05.01 for the supply of new material	m2	150		
609.07	Extra over on item B609.05.02 for the supply of new material	m2	150		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

CLEANING OF SEWERS : SECTION B810

Item	Description	Unit	Qty	Rate	Amount
B810.01	Removal of sand, silt, roots, etc. (all causes) from sewer pipes using various rodding equipment for pipe diameter::				
SC	B810.01.01 100mm inside diameter	m	500		
	B810.01.02 150mm inside diameter	m	5000		
	B810.01.03 200mm inside diameter	m	500		
	B810.01.04 225mm inside diameter	m	500		
	B810.01.05 300mm inside diameter	m	1500		
	B810.01.06 350mm nominal diameter	m	500		
	B810.01.07 375mm nominal diameter	m	500		
	B810.01.08 400mm nominal diameter	m	500		
	B810.01.09 425mm nominal diameter	m	500		
B810.02	Removal of isolated point blockages from sewer pipes using various rodding equipment for pipe diameter:				
SC	B810.02.01 100mm inside diameter	No	50		
	B810.02.02 150mm inside diameter	No	100		
	B810.02.03 200mm inside diameter	No	50		
	B810.02.04 225mm inside diameter	No	50		
	B810.02.05 300mm inside diameter	No	100		
	B810.02.06 350mm nominal diameter	No	50		
	B810.02.07 375mm nominal diameter	No	50		
	B810.02.08 400mm nominal diameter	No	50		
	B810.02.09 425mm nominal diameter	No	50		
B810.04	Removal of sand, silt, roots, etc. (all causes) using high pressure water jetting equipment at ± 450 Bar pressure for pipe diameter				
	B810.04.01 100mm	m	500		
	B810.04.02 150mm	m	1000		
	B810.04.03 230mm	m	500		
	B810.04.04 300mm	m	250		
	B810.04.05 350mm	m	100		
	B810.04.06 375mm	m	100		
	B810.04.07 400mm	m	100		
	B810.04.08 450mm	m	100		
	B810.04.09 525mm	m	100		
	B810.04.10 >525mm	m	100		
B810.05	Removal of silt, fat, etc. (all causes) using combination of vacuum jetting methods apart from high pressure equipment for sewer pipes for pipe diameter				
	B810.05.01 100mm	m	50		
	B810.05.02 150mm	m	500		
	B810.05.03 230mm	m	50		
carry forward					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

CLEANING OF SEWERS : SECTION B810

Item	Description	Unit	Qty	Rate	Amount
brought forward					
B810.05.04	300mm	m	250		
B810.05.05	350mm	m	50		
B810.05.06	375mm	m	50		
B810.05.07	400mm	m	50		
B810.05.08	450mm	m	50		
B810.05.09	525mm	m	50		
B810.05.10	>525mm	m	50		
B810.06	Combination truck with a storage size of 10 kl or better, complete with high pressure washing and vacuum suction facility	day	20		
B810.07	Water tanker, 10 kl	day	20		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

CCTV INSPECTION OF SEWERS : SECTION B811

Item	Description	Unit	Qty	Rate	Amount
B811.01	Closed-Circuit Pan-and-Rotate Television Inspection of sewer lines for pipe diameter:				
	B811.01.01 100mm inside diameter	m	250		
	B811.01.02 150mm inside diameter	m	1250		
	B811.01.03 200mm inside diameter	m	100		
	B811.01.04 225mm inside diameter	m	100		
	B811.01.05 300mm inside diameter	m	500		
	B811.01.06 350mm nominal diameter	m	100		
	B811.01.07 375mm nominal diameter	m	100		
	B811.01.08 400mm nominal diameter	m	100		
	B811.01.09 >=425mm nominal diameter	m	100		
B811.04	Extra over item B811.01 Blocking of sewers before inspection for pipe diameter:				
	B811.04.01 100-300mm	No	50		
	B811.04.02 325-600mm	No	10		
	B811.04.03 >600mm	No	5		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 8 : REHABILITATION/ REPLACEMENT OF SEWERS BY TRENCHLESS METHODS : SECTION B815

Item	Description	Unit	Qty	Rate	Amount
B815.01	Dealing with sewer flows by gravity pipe/temporary ditch diversion during sliplining and pipecracking	m	250		
B815.02	Dealing with sewage flow by overpumping with a water pump able to handle peak dry weather flow				
	B815.02.01 Up to 15 litres /second	hrs	350		
	B815.02.02 Between 15 and 25 litres /second	hrs	350		
B815.03 (LI/SC)	Breaking and repairing of access openings through manhole walls per manhole	No.	25		
B815.04 (LI/SC)	Breaking and repairing benching and channeling in existing manhole to accommodate	No.	25		
B815.05	Supply and installation of pipes.				
	B815.05.01. 160mm Class PE100 PN 6, SDR26 into existing 100mm Clay/uPVC/PF	m	4 800		
	B815.05.02. 160mm Class PE100 PN 6, SDR26 into existing 150-160mm Clay/uPVC/PF	m	11 200		
	B815.05.03. 200mm Class PE100 PN 6, SDR26 into existing 110-160mm Clay/uPVC/PF - upsize	m	2 000		
	B815.05.04. 225 mm Class PE100, PN 6, SDR26 into existing 180-210mm Clay/uPVC/PF	m	50		
	B815.05.05. 250 mm Class PE100, PN 6, SDR26 into existing 220-230mm Clay/uPVC/PF	m	58		
	B815.05.06. 250mm Class PE100 PN 6, SDR26 into existing 110-160mm Clay/uPVC/PF - upsize	m	58		
	B815.05.07. 250mm Class PE100 PN 6, SDR26 into existing 200mm Clay/uPVC/PF - upsize	m	58		
	B815.05.08. 280 mm Class PE100, PN 6, SDR26 into existing 240-260mm Clay/uPVC/PF	m	20		
	B815.05.09. 280 mm Class PE100, PN 6, SDR26 into existing 200mm Clay/uPVC/PF - upsize	m	750		
	B815.05.10. 315mm Class PE100, PN 6, SDR26 into existing 230mm Clay/uPVC/PF - upsize	m	150		
	B815.05.11. 355 mm Class PE100, PN 6, SDR26 into existing 280-330mm Clay/uPVC/PF	m	50		
	B815.05.12. 400mm Class PE100, PN 6, SDR26 into existing 340-375mm Clay/uPVC/PF	m	100		
	B815.05.13. 450mm Class PE100, PN 6, SDR26 into existing 380-420mm Clay/uPVC/PF	m	10		
	B815.05.14. 500mm Class PE100, PN 6, SDR26 into existing 430-460mm Clay/uPVC/PF	m	10		
	B815.05.15. 560mm Class PE100, PN 6, SDR26 into existing 470-520mm Clay/uPVC/PF	m	10		
	B815.05.16. 630mm Class PE100, PN 6, SDR26 into existing 470-520mm Clay/uPVC/PF	m	10		
B815.06	Service reconnections				
(LI/SC)	B815.06.01 For newly laid 160mm OD				
	B815.06.01.01 With Type B connection (Without lamphole and previously called Type 1)	No.	250		
	B815.06.01.02 With Type A or Type C connections (Previously called Type 2 or Type 3)	No.	250		
	B815.06.01.03 With Type B connection (Previously called Type 4)	No.	250		
(LI/SC)	B815.06.02 For newly laid 200 - 300mm OD				
	B815.06.02.01 With Type B connection (Without lamphole and previously called Type 1)	No.	25		
	B815.06.02.02 With Type A or Type C connections (Previously called Type 2 or Type 3)	No.	25		
	B815.06.02.03 With Type B connection (Previously called Type 4)	No.	25		
(LI/SC)	B815.06.03 For newly laid >=315mm OD				
	B815.06.03.01 With Type B connection (Without lamphole and previously called Type 1)	No.	5		
	B815.06.03.02 With Type A or Type C connections (Previously called Type 2 or Type 3)	No.	5		
	B815.06.03.03 With Type B connection (Previously called Type 4)	No.	5		
carry forward					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 8 : REHABILITATION/ REPLACEMENT OF SEWERS BY TRENCHLESS METHODS : SECTION B815

Item	Description	Unit	Qty	Rate	Amount
brought forward					
B815.07 (LI/SC)	Point repairs				
	B815.07.01 Point repair by replacing pipe	No.	35		
(LI/SC)	(Extra over item 302.01 if pipe is replaced during point repair as specified)	No.	10		
B815.08 (LI/SC)	B815.07.02 Point repair of backfall in new pipe				
B815.09 (LI/SC)	Breaking and removing concrete surrounded erf connections	m3	5		
B815.10	Reinstate Back-Drop manholes to suit HDPE pipe.	No.	1		
B815.11	Re-rounding existing pipe	m	10		
B815.11	Material testing				
	B815.11.01 Control test for E - Modulus	No.	1		
B815.12 (LI/SC)	Removal / clearing of obstructions over launch or exit pits or sewer lateral connections and replace	Hrs	25		
B815.13	Connect existing sewer line to newly laid sewers.				
	B815.13.01 For newly laid sewer of 160mm OD	No.	25		
	B815.13.02 For newly laid sewer of 200mm OD	No.	1		
	B815.13.03 For newly laid sewer of 250mm OD	No.	1		
	B815.13.04 For newly laid sewer of 280mm OD	No.	1		
	B815.13.05 For newly laid sewer of 315mm OD	No.	5		
	B815.13.06 For newly laid sewer of 355mm OD	No.	1		
	B815.13.07 For newly laid sewer of 400mm OD	No.	1		
	B815.13.08 For newly laid sewer of 450mm OD	No.	1		
	B815.13.09 For newly laid sewer of 560mm OD	No.	1		
	B815.13.10 For newly laid sewer of 630mm OD	No.	1		
B815.14 (LI/SC)	Breaking of concrete surfaces & reinstating with 25 MPa concrete to the original state	m2	25		
B815.15 (LI/SC)	Reinstating existing brickwork pavement according to specifications	m2	25		
B815.16	Installation of CIPP Liner				
	B815.16.01 Structural liner for diameters				
	B815.16.01.01 160mm	m	250		
	B815.16.01.02 Greater than 160mm up to 200mm	m	80		
	B815.16.01.03 Greater than 200mm up to 300mm	m	80		
	B815.16.01.04 Greater than 300mm up to 400mm	m	80		
	B815.16.01.05 Greater than 400mm up to 500mm	m	80		
	B815.16.02 Non-structural liner for diameters				
	B815.16.02.01 160mm	m	150		
	B815.16.02.02 Greater than 160mm up to 200mm	m	50		
	B815.16.02.03 Greater than 200mm up to 300mm	m	50		
	B815.16.02.04 Greater than 300mm up to 400mm	m	50		
	B815.16.02.05 Greater than 400mm up to 500mm	m	50		
carry forward					
brought forward					
B815.17	Service reconnections to newly laid sewers by CIPP Liners	No	25		

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 8 : REHABILITATION/ REPLACEMENT OF SEWERS BY TRENCHLESS METHODS : SECTION B815

Item	Description	Unit	Qty	Rate	Amount
B815.18	Installation of "Top Hat" sections at service connections	No	5		
B815.19	Point repair by short sections of CIPP				
	B815.19.01 CIPP Short sections straight	No	5		
	B815.19.02 CIPP short sections with lateral pretrution	No	5		
Total carried forward to Summary					

PART C2: PRICING DATA

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-B): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

PART C2: PRICING DATA: SUMMARY

SERIES 0: GENERAL	
SECTION 001: GENERAL REQUIREMENTS AND CHARGES	
SECTION 002: ENGINEERS ACCOMMODATION	
SERIES 1: ANCILLARY WORKS	
SECTION 101 : SITE CLEARING AND GRUBBING	
SECTION 102 : ACCOMMODATION OF TRAFFIC	
SERIES 2 : EARTHWORKS	
SECTION 201 : GENERAL	
SECTION 202 : TRENCHING	
SERIES 3 : SEWERS	
SECTION 302 : CONSTRUCTION	
SERIES 5 : DRAINAGE AND EROSION PROTECTION	
SECTION 503 : KERBING AND CHANNELING	
SERIES 6 : ROAD AND PARKING AREAS	
SECTION 601 : GRAVEL PAVEMENT LAYERS	
SECTION 606 : BASE AND ASPHALT SURFACING	
SECTION 608 : REHABILITATION AND OVERLAY CONSTRUCTION	
SECTION 609 : SEGMENTED PAVING	
SERIES 8: SPECIFIC WORKS	
SECTION B810 : CLEANING OF SEWERS	
SECTION B811: CCTV INSPECTION OF SEWERS	
SECTION B815 : REHABILITATION/ REPLACEMENT OF SEWERS BY TRENCHLESS METHODS	
(a) SUBTOTAL (CONTRACT PRICE)	
(b) SUBTOTAL: CONTINGENCIES 10% OF (a)	
(c) SUBTOTAL: ESCALATION ALLOWANCE 5% OF [(a) + (b)]	
TOTAL = (a) + (b) + (c) = TENDER AMOUNT	
VAT @ 15%	
TENDER AMOUNT	carried forward to Form of Offer - Part C1

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES O: GENERAL - GENERAL REQUIREMENTS AND CHARGES : SECTION 001

Item	Description	Unit	Qty	Rate	Amount
B001.01	Preliminary and General Charges(as specified in Part C3.8 Corrections and Amendments to the Standard Specifications, Section 001: General requirement and Charges, B31: Measurement and Payment)				
	B001.01.01 Fixed charges	month/per project	72		
	B001.01.02 Time-related charges	month/per project	72		
	B001.01.03 The Contractor's establishment on site	Number	9		
B001.03 Li	Excavate by hand to expose existing services, and backfill	m3	50		
B001.04	Compliance with the Occupational Health and Safety Act and applicable regulations				
	B001.04.01 Provision of Health and Safety Plan	Lsum/per project	9		
	B001.04.02 Provision of Health and Safety file	Lsum/per project	9		
	B001.04.03 Provision of construction supervisors	per month/per project	36		
	B001.04.04 Provision of a Safety Officer (full time)	per month/per project	36		
	B001.04.08.01 Implementation of OHS Act (including provision of personal protective clothing, equipment, training, safety fences, etc.)	Lsum/per project	3		
B001.05	Community Liason officer				
	B001.05 .01 Salary	per month/per project	72	16 928,00	1 218 816,00
	B001.05 .02 Charges required by the Contractor on subitem B001.05.01 above	%	1		
B001.06 SC	Security guards(as specified in Part C3.8 Corrections and Amendments to the Standard Specifications, Section 001: General requirement and Charges, B31: Appointment of Local Security Company)	per month/per site	72		
B001.07	Provision of construction and materials manager	per month/per project	72		
B001.09	Training of targeted subcontractors and labourers				
	B001.09 .01 Training of targeted labourers	hour	27		
	B001.09 .02 Charges required by the Contractor on sub-item B001.09.01 above	%	1		
B001.10	Sums stated provisionally				
	B001.10.01 Expenditure on daywork items (wages paid to workmen)	hour	900		
	B001.10.02 Expenditure on daywork items (plant cost)	hour	300		
B001.11	Sums stated provisionally				
	B001.11.01 Materials to be used during the excavation of dayworks	Lsum/per project	9		
	B001.11.02 Extra-Over on B001.06.01 for mark-up	%	1		
B001.12	DAYWORKS				
	B001.12.01 Labour				
	B001.12.01.01 Qualified Artisans (9 hour/day)	w/day	2250		
	B001.12.01.02 Foreman (9 hour/day)	w/day	750		
	B001.12.01.03 Semi-skilled (9 hour/day)	w/day	3000		
	B001.12.01.04 Labourer (9 hour/day)	w/day	9000		
	B001.12.02 Plant Hire : Work Rates on Site				
carry forward					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES O: GENERAL - GENERAL REQUIREMENTS AND CHARGES : SECTION 001

Item	Description	Unit	Qty	Rate	Amount
				brought forward	
	B001.12.02.01 Tipper Truck				
	B001.12.02.01.01 1 m3 (small)	hour	100		
	B001.12.02.01.02 3 m3 (large)	hour	100		
	B001.12.02.02 Flatbed Truck				
	B001.12.02.02.01 1 ton (small)	hour	100		
	B001.12.02.02.02 3 ton (large)	hour	100		
	B001.12.02.03 LDV (0.5 ton)	hour	100		
	B001.12.02.04 Wheel Loader	hour	100		
	B001.12.02.05 Motor Grader	hour	100		
	B001.12.02.06 Back-actor	hour	100		
	B001.12.02.07 Tractor Loader-Backhoe	hour	1000		
	B001.12.02.08 Pedestrian Roller				
	B001.12.02.08.01 Bomag BW 90	hour	100		
	B001.12.02.08.02 Bomag BW 61	hour	100		
	B001.12.02.10 Concrete Mixer				
	B001.12.02.10.01 170 l (small)	hour	100		
	B001.12.02.10.02 280 l (large)	hour	100		
	B001.12.02.10.03 Miscellaneous				
	B001.12.02.10.03.01 Compressor 250 Cfm.	hour	100		
	B001.12.02.10.03.02 Water Pump with 25 l/s	hour	100		
	B001.12.02.10.03.03 Water Pump with 10 l/s	hour	100		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 0 : GENERAL - ENGINEERS ACCOMMODATION : SECTION 002

Item	Description	Unit	Qty	Rate	Amount
B002.01	Services				
	002.01.01 Services for Office	month/per project	36		
B002.02 SC/Li	Maintenance of area around offices	month/per project	36		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 1 : ANCILLARY WORKS - SITE CLEARING AND GRUBBING : SECTION 101

Item	Description	Unit	Qty	Rate	Amount
101.01	Clearing and Grubbing				
SC/Li	101.01.01 Areas	m2	1500		
101.02	Cutting and removal of large trees with a girth				
SC/Li	101.02.01 Exceeding 1m to 2m	No	3		
SC/Li	101.02.02 Exceeding 2m to 3m	No	2		
101.03	Grubbing and removal of large stumps and roots or large trees with a girth:				
SC/Li	101.03.01 Exceeding 1m to 2m	No	5		
SC/Li	101.03.02 Exceeding 2m to 3m	No	5		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 1 : ANCILLARY WORKS - ACCOMMODATION OF TRAFFIC : SECTION 102

Item	Description	Unit	Qty	Rate	Amount
102.12	Provision of temporary bridges for maintaining access to properties				
SC	102.12.01 Temporary pedestrain bridges	No	25		
SC	102.12.02 Temporary vehicular bridges	No	10		
102.13	Moving of temporary bridges to and their re-erection in entirely new positions				
SC/Li	102.13.01 Temporary pedestrian bridges	No	10		
SC/Li	102.13.02 Temporary vehicular bridges	No	10		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 2 : EARTHWORKS - GENERAL : SECTION 201					
Item	Description	Unit	Qty	Rate	Amount
201.02	Temporary stockpiling of material	m3	500		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 2 : EARTHWORKS - TRENCHING : SECTION 202

Item	Description	Unit	Qty	Rate	Amount
202.01 (LI/SC)	Trench excavations.				
(LI/SC)	202.01.01 Up to 1.0m deep	m3	1 742		
	202.01.02 Over 1.0m and up to 2m deep	m3	20 964		
	202.01.03 Over 2m and up to 3m deep	m3	7 223		
	202.01.04 Over 3m and up to 4m deep	m3	4 081		
	202.01.05 Over 4m and up to 5m deep	m3	3 906		
202.02 (LI/SC)	Extra over item 202.01, 202.03, 202.04 for excavating in-				
	202.02.02 Hard material	m2	25		
202.03 (LI/SC)	Excavations outside the normal trench profile	m3	814		
202.04 (LI/SC)	Hand excavation (extra over item 202.01)	m3	150		
202.06 (LI/SC)	The backfilling of trenches (excluding backfill around the pipe barrel) with material obtained from excavations	m3	21 842		
202.07 (LI/SC)	Extra over item 202.06 for using backfill material obtained -				
	202.07.01 From borrow areas	m3	4 375		
	202.07.02 From sources provided by the Contractor	m3	1 089		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 3 : SEWERS - CONSTRUCTION : SECTION 302

Item	Description	Unit	Qty	Rate	Amount
302,01	Supplying, laying, jointing of sewer pipes irrespective of depth/width of trench.				
	302.01.01. 160mm Class PE100 PN 6, SDR26	m	1 304		
	302.01.02. 200mm Class PE100 PN 6, SDR26	m	145		
	302.01.03. 225mm Class PE100 PN 6, SDR26	m	2		
	302.01.04. 250mm Class PE100 PN 6, SDR26	m	7		
	302.01.05. 280mm Class PE100 PN 6, SDR26	m	2		
	302.01.06. 315mm Class PE100 PN 6, SDR26	m	54		
	302.01.07. 355mm Class PE100 PN 6, SDR26	m	14		
	302.01.08. 400mm Class PE100 PN 6, SDR26	m	3		
	302.01.09. 450mm Class PE100 PN 6, SDR26	m	8		
	302.01.10. 500mm Class PE100 PN 6, SDR26	m	3		
	302.01.11. 560mm Class PE100 PN 6, SDR26	m	3		
	302.01.12. 630mm Class PE100 PN 6, SDR26	m	3		
	302.01.13. 800mm Class PE100 PN 6, SDR26	m	3		
	302.01.14. 900mm Class PE100 PN 6, SDR26	m	3		
	302.01.15. 1 200mm Class PE100 PN 6, SDR26	m	3		
302,02	Construction of pipe bedding				
	302.02.01 Class B bedding				
	302.02.01.01. 160mm Class PE100 PN 6, SDR26	m	1 304		
	302.02.02. 200mm Class PE100 PN 6, SDR26	m	145		
	302.02.03. 225mm Class PE100 PN 6, SDR26	m	2		
	302.02.04. 250mm Class PE100 PN 6, SDR26	m	7		
	302.02.05. 280mm Class PE100 PN 6, SDR26	m	2		
	302.02.06. 315mm Class PE100 PN 6, SDR26	m	54		
	302.02.07. 355mm Class PE100 PN 6, SDR26	m	14		
	302.02.08. 400mm Class PE100 PN 6, SDR26	m	3		
	302.02.09. 450mm Class PE100 PN 6, SDR26	m	8		
	302.02.10. 500mm Class PE100 PN 6, SDR26	m	3		
	302.02.11. 560mm Class PE100 PN 6, SDR26	m	3		
	302.02.12. 630mm Class PE100 PN 6, SDR26	m	3		
	302.02.13. 800mm Class PE100 PN 6, SDR26	m	3		
	302.02.14. 900mm Class PE100 PN 6, SDR26	m	3		
	302.02.15. 1 200mm Class PE100 PN 6, SDR26	m	3		
carry forward					
brought forward					
302,09	Construction of manholes up to 1.0m deep				

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 3 : SEWERS - CONSTRUCTION : SECTION 302

Item	Description	Unit	Qty	Rate	Amount
SC	302.09.01 For sewers 300mm in diameter and smaller				
	302.09.01.01.01 Type III	No	25		
	Extra over 302.06 for construction of manholes in excess of 1.0m deep				
302.10	302.10.01 For sewers 300mm in diameter and smaller				
SC	302.10.01.01 Type III	m	25		
SC	302.09.01 For sewers larger than 300mm in diameter				
	302.09.01.01.01 Type III		10		
	Extra over 302.06 for construction of manholes in excess of 1.0m deep		10		
302,1	302.10.01 For sewers larger than 300mm in diameter		10		
SC	302.10.01.01 Type III		10		
302,12	Supplying and installing manhole covers and frames				
SC	302.12.01 SANS 558 Type 4 circular	No	5 152		
	302.12.02 SANS 558 Type 2A circular	No	4 184		
	302.12.03 Precast concrete cover with type 2A CI frame	No	10		
	302.12.04 Precast concrete cover with type 4 CI frame	No	8		
302.14	Supplying and placing selected backfill material around and up to 300mm above pipe barrels using				
	302.14.01 Excavated material	m3	1 500		
	302.14.02 Imported material	m3	1 000		
B302.23 SC	Supply and install lamphole covers and frames for rodding eyes	No	10		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 5 : DRAINAGE AND EROSION PROTECTION - KERBING AND CHANNELLING : SECTION 503

Item	Description	Unit	Qty	Rate	Amount
503,01	Concrete kerbing 503.01.01 to match existing kerbing	m	50		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 6 : ROAD AND PARKING AREAS - GRAVEL PAVEMENT LAYERS : SECTION 601

Item	Description	Unit	Qty	Rate	Amount
601.02	Gravel layers constructed from material obtained from borrow pits:				
	601.02.01 Subgrade				
	601.02.01.01 Compacted to 90% of modified AASHTO density	m3	15		
	601.02.01.02 Compacted to 93% of modified AASHTO density	m3	15		
	601.02.01.03 Compacted to 95% of modified AASHTO density	m3	15		
	601.02.02 Subbase				
	601.02.02.01 Compacted to 95% of modified AASHTO density	m3	15		
	601.02.02.02 Compacted to 97% of modified AASHTO density	m3	15		
	601.02.03 Base				
	601.02.03.01 Compacted to 98% of modified AASHTO density	m3	15		
601.03	Gravel layers constructed from material obtained from material obtained from excavations:				
	601.03.01 Subgrade				
	601.03.01.01 Compacted to 90% of modified AASHTO density	m3	10		
	601.03.01.02 Compacted to 93% of modified AASHTO density	m3	10		
	601.03.01.03 Compacted to 95% of modified AASHTO density	m3	10		
	601.03.02 Subbase				
	601.03.02.01 Compacted to 95% of modified AASHTO density	m3	10		
	601.03.02.02 Compacted to 97% of modified AASHTO density	m3	10		
	601.03.03 Base				
	601.03.03.01 Compacted to 98% of modified AASHTO density	m3	10		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 6 : ROAD AND PARKING AREAS - BASE AND ASPHALT SURFACING : SECTION 606

Item	Description	Unit	Qty	Rate	Amount
606.01	Asphalt base				
	606.01.01 Prime the stabilised area 60% emulsion	m2	250		
606.02	Asphalt surfacing (50mm)				
	606.02.01 Continuously graded	m2	250		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 6 : ROAD AND PARKING AREAS - ROAD AND SURFACING REHABILITATION AND OVERLAY : SECTION 608

Item	Description	Unit	Qty	Rate	Amount
608.04	Treatment type 2 (crusher-sand seal) using :				
	608.04.01 60% spray-grade emulsion	ℓ	40		
	608.04.02 60% An application of doubly washed slurry-seal aggregate	m3	15		
608.10	Single-seal surface treatment where 80/100 penetration grade bitumen is used -				
	608.10.01 with 6,7 mm aggregate	m2	250		
	608.10.02 with 9,5 mm aggregate	m2	150		
608.14	Application of fog spray				
	608.14.01 60%-spray-grade emulsion	ℓ	40		
	608.14.02 30%-spray-grade emulsion	ℓ	30		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 6:ROAD AND PARKING AREAS - SEGMENTED PAVING : SECTION 609

Item	Description	Unit	Qty	Rate	Amount
609,05	Construction of segmented paving with material supplied by the Employer or from the stockpile				
SC	609.05.01 Segmental-block paving	m2	250		
	609.05.02 Concrete-slab paving	m2	250		
609.06	Extra over on item B609.05.01 for the supply of new material	m2	150		
609.07	Extra over on item B609.05.02 for the supply of new material	m2	150		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

CLEANING OF SEWERS : SECTION B810

Item	Description	Unit	Qty	Rate	Amount
B810.01	Removal of sand, silt, roots, etc. (all causes) from sewer pipes using various rodding equipment for pipe diameter::				
SC	B810.01.01 100mm inside diameter	m	500		
	B810.01.02 150mm inside diameter	m	5000		
	B810.01.03 200mm inside diameter	m	500		
	B810.01.04 225mm inside diameter	m	500		
	B810.01.05 300mm inside diameter	m	1500		
	B810.01.06 350mm nominal diameter	m	500		
	B810.01.07 375mm nominal diameter	m	500		
	B810.01.08 400mm nominal diameter	m	500		
	B810.01.09 425mm nominal diameter	m	500		
B810.02	Removal of isolated point blockages from sewer pipes using various rodding equipment for pipe diameter:				
SC	B810.02.01 100mm inside diameter	No	50		
	B810.02.02 150mm inside diameter	No	100		
	B810.02.03 200mm inside diameter	No	50		
	B810.02.04 225mm inside diameter	No	50		
	B810.02.05 300mm inside diameter	No	100		
	B810.02.06 350mm nominal diameter	No	50		
	B810.02.07 375mm nominal diameter	No	50		
	B810.02.08 400mm nominal diameter	No	50		
	B810.02.09 425mm nominal diameter	No	50		
B810.04	Removal of sand, silt, roots, etc. (all causes) using high pressure water jetting equipment at ±450Bar pressure for pipe diameter				
	B810.04.01 100mm	m	500		
	B810.04.02 150mm	m	1000		
	B810.04.03 230mm	m	500		
	B810.04.04 300mm	m	250		
	B810.04.05 350mm	m	100		
	B810.04.06 375mm	m	100		
	B810.04.07 400mm	m	100		
	B810.04.08 450mm	m	100		
	B810.04.09 525mm	m	100		
	B810.04.10 >525mm	m	100		
B810.05	Removal of silt, fat, etc. (all causes) using combination of vacuum jetting methods apart from high pressure equipment for sewer pipes for pipe diameter				
	B810.05.01 100mm	m	50		
	B810.05.02 150mm	m	500		
	B810.05.03 230mm	m	50		
carry forward					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

CLEANING OF SEWERS : SECTION B810

Item	Description	Unit	Qty	Rate	Amount
brought forward					
	B810.05.04 300mm	m	250		
	B810.05.05 350mm	m	50		
	B810.05.06 375mm	m	50		
	B810.05.07 400mm	m	50		
	B810.05.08 450mm	m	50		
	B810.05.09 525mm	m	50		
	B810.05.10 >525mm	m	50		
B810.06	Combination truck with a storage size of 10 kl or better, complete with high pressure washing and vacuum suction facility	day	20		
B810.07	Water tanker, 10 kl	day	20		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

CCTV INSPECTION OF SEWERS : SECTION B811

Item	Description	Unit	Qty	Rate	Amount
B811.01	Closed-Circuit Pan-and-Rotate Television Inspection of sewer lines for pipe diameter:				
	B811.01.01 100mm inside diameter	m	250		
	B811.01.02 150mm inside diameter	m	1250		
	B811.01.03 200mm inside diameter	m	100		
	B811.01.04 225mm inside diameter	m	100		
	B811.01.05 300mm inside diameter	m	500		
	B811.01.06 350mm nominal diameter	m	100		
	B811.01.07 375mm nominal diameter	m	100		
	B811.01.08 400mm nominal diameter	m	100		
	B811.01.09 >=425mm nominal diameter	m	100		
B811.04	Extra over item B811.01 Blocking of sewers before inspection for pipe diameter:				
	B811.04.01 100-300mm	No	50		
	B811.04.02 325-600mm	No	10		
	B811.04.03 >600mm	No	5		
Total carried forward to Summary					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 8 : REHABILITATION/ REPLACEMENT OF SEWERS BY TRENCHLESS METHODS : SECTION B815

Item	Description	Unit	Qty	Rate	Amount
B815.01	Dealing with sewer flows by gravity pipe/temporary ditch diversion during sliplining and pipecracking	m	250		
B815.02	Dealing with sewage flow by overpumping with a water pump able to handle peak dry weather flow				
	B815.02.01 Up to 15 litres /second	hrs	350		
	B815.02.02 Between 15 and 25 litres /second	hrs	350		
B815.03 (LI/SC)	Breaking and repairing of access openings through manhole walls per manhole	No.	25		
B815.04 (LI/SC)	Breaking and repairing benching and channeling in existing manhole to accommodate	No.	25		
B815.05	Supply and installation of pipes.				
	B815.05.01. 160mm Class PE100 PN 6, SDR26 into existing 100mm Clay/uPVC/PF	m	4 800		
	B815.05.02. 160mm Class PE100 PN 6, SDR26 into existing 150-160mm Clay/uPVC/PF	m	11 200		
	B815.05.03. 200mm Class PE100 PN 6, SDR26 into existing 110-160mm Clay/uPVC/PF - upsize	m	2 000		
	B815.05.04. 225 mm Class PE100, PN 6, SDR26 into existing 180-210mm Clay/uPVC/PF	m	50		
	B815.05.05. 250 mm Class PE100, PN 6, SDR26 into existing 220-230mm Clay/uPVC/PF	m	58		
	B815.05.06. 250mm Class PE100 PN 6, SDR26 into existing 110-160mm Clay/uPVC/PF - upsize	m	58		
	B815.05.07. 250mm Class PE100 PN 6, SDR26 into existing 200mm Clay/uPVC/PF - upsize	m	58		
	B815.05.08. 280 mm Class PE100, PN 6, SDR26 into existing 240-260mm Clay/uPVC/PF	m	20		
	B815.05.09. 280 mm Class PE100, PN 6, SDR26 into existing 200mm Clay/uPVC/PF - upsize	m	750		
	B815.05.10. 315mm Class PE100, PN 6, SDR26 into existing 230mm Clay/uPVC/PF - upsize	m	150		
	B815.05.11. 355 mm Class PE100, PN 6, SDR26 into existing 280-330mm Clay/uPVC/PF	m	50		
	B815.05.12. 400mm Class PE100, PN 6, SDR26 into existing 340-375mm Clay/uPVC/PF	m	100		
	B815.05.13. 450mm Class PE100, PN 6, SDR26 into existing 380-420mm Clay/uPVC/PF	m	10		
	B815.05.14. 500mm Class PE100, PN 6, SDR26 into existing 430-460mm Clay/uPVC/PF	m	10		
	B815.05.15. 560mm Class PE100, PN 6, SDR26 into existing 470-520mm Clay/uPVC/PF	m	10		
	B815.05.16. 630mm Class PE100, PN 6, SDR26 into existing 470-520mm Clay/uPVC/PF	m	10		
B815.06	Service reconnections				
(LI/SC)	B815.06.01 For newly laid 160mm OD				
	B815.06.01.01 With Type B connection (Without lamphole and previously called Type 1)	No.	250		
	B815.06.01.02 With Type A or Type C connections (Previously called Type 2 or Type 3)	No.	250		
	B815.06.01.03 With Type B connection (Previously called Type 4)	No.	250		
(LI/SC)	B815.06.02 For newly laid 200 - 300mm OD				
	B815.06.02.01 With Type B connection (Without lamphole and previously called Type 1)	No.	25		
	B815.06.02.02 With Type A or Type C connections (Previously called Type 2 or Type 3)	No.	25		
	B815.06.02.03 With Type B connection (Previously called Type 4)	No.	25		
(LI/SC)	B815.06.03 For newly laid >=315mm OD				
	B815.06.03.01 With Type B connection (Without lamphole and previously called Type 1)	No.	5		
	B815.06.03.02 With Type A or Type C connections (Previously called Type 2 or Type 3)	No.	5		
	B815.06.03.03 With Type B connection (Previously called Type 4)	No.	5		
carry forward					

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 8 : REHABILITATION/ REPLACEMENT OF SEWERS BY TRENCHLESS METHODS : SECTION B815

Item	Description	Unit	Qty	Rate	Amount
brought forward					
B815.07 (LI/SC)	Point repairs				
	B815.07.01 Point repair by replacing pipe	No.	35		
(LI/SC)	(Extra over item 302.01 if pipe is replaced during point repair as specified)	No.	10		
B815.08 (LI/SC)	B815.07.02 Point repair of backfall in new pipe				
B815.09 (LI/SC)	Breaking and removing concrete surrounded erf connections	m3	5		
B815.10	Reinstate Back-Drop manholes to suit HDPE pipe.	No.	1		
B815.11	Re-rounding existing pipe	m	10		
B815.11	Material testing				
	B815.11.01 Control test for E - Modulus	No.	1		
B815.12 (LI/SC)	Removal / clearing of obstructions over launch or exit pits or sewer lateral connections and replace	Hrs	25		
B815.13	Connect existing sewer line to newly laid sewers.				
	B815.13.01 For newly laid sewer of 160mm OD	No.	25		
	B815.13.02 For newly laid sewer of 200mm OD	No.	1		
	B815.13.03 For newly laid sewer of 250mm OD	No.	1		
	B815.13.04 For newly laid sewer of 280mm OD	No.	1		
	B815.13.05 For newly laid sewer of 315mm OD	No.	5		
	B815.13.06 For newly laid sewer of 355mm OD	No.	1		
	B815.13.07 For newly laid sewer of 400mm OD	No.	1		
	B815.13.08 For newly laid sewer of 450mm OD	No.	1		
	B815.13.09 For newly laid sewer of 560mm OD	No.	1		
	B815.13.10 For newly laid sewer of 630mm OD	No.	1		
B815.14 (LI/SC)	Breaking of concrete surfaces & reinstating with 25 MPa concrete to the original state	m2	25		
B815.15 (LI/SC)	Reinstating existing brickwork pavement according to specifications	m2	25		
B815.16	Installation of CIPP Liner				
	B815.16.01 Structural liner for diameters				
	B815.16.01.01 160mm	m	250		
	B815.16.01.02 Greater than 160mm up to 200mm	m	80		
	B815.16.01.03 Greater than 200mm up to 300mm	m	80		
	B815.16.01.04 Greater than 300mm up to 400mm	m	80		
	B815.16.01.05 Greater than 400mm up to 500mm	m	80		
	B815.16.02 Non-structural liner for diameters				
	B815.16.02.01 160mm	m	150		
	B815.16.02.02 Greater than 160mm up to 200mm	m	50		
	B815.16.02.03 Greater than 200mm up to 300mm	m	50		
	B815.16.02.04 Greater than 300mm up to 400mm	m	50		
	B815.16.02.05 Greater than 400mm up to 500mm	m	50		
carry forward					
brought forward					
B815.17	Service reconnections to newly laid sewers by CIPP Liners	No	25		

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

SERIES 8 : REHABILITATION/ REPLACEMENT OF SEWERS BY TRENCHLESS METHODS : SECTION B815

Item	Description	Unit	Qty	Rate	Amount
B815.18	Installation of "Top Hat" sections at service connections	No	5		
B815.19	Point repair by short sections of CIPP				
	B815.19.01 CIPP Short sections straight	No	5		
	B815.19.02 CIPP short sections with lateral pretrution	No	5		
Total carried forward to Summary					

PART C2: PRICING DATA

Contract No: WSBU 02-2025/26: TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREA-C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED.

PART C2: PRICING DATA: SUMMARY

SERIES 0: GENERAL	
SECTION 001: GENERAL REQUIREMENTS AND CHARGES	
SECTION 002: ENGINEERS ACCOMMODATION	
SERIES 1: ANCILLARY WORKS	
SECTION 101 : SITE CLEARING AND GRUBBING	
SECTION 102 : ACCOMMODATION OF TRAFFIC	
SERIES 2 : EARTHWORKS	
SECTION 201 : GENERAL	
SECTION 202 : TRENCHING	
SERIES 3 : SEWERS	
SECTION 302 : CONSTRUCTION	
SERIES 5 : DRAINAGE AND EROSION PROTECTION	
SECTION 503 : KERBING AND CHANNELING	
SERIES 6 : ROAD AND PARKING AREAS	
SECTION 601 : GRAVEL PAVEMENT LAYERS	
SECTION 606 : BASE AND ASPHALT SURFACING	
SECTION 608 : REHABILITATION AND OVERLAY CONSTRUCTION	
SECTION 609 : SEGMENTED PAVING	
SERIES 8: SPECIFIC WORKS	
SECTION B810 : CLEANING OF SEWERS	
SECTION B811: CCTV INSPECTION OF SEWERS	
SECTION B815 : REHABILITATION/ REPLACEMENT OF SEWERS BY TRENCHLESS METHODS	
(a) SUBTOTAL (CONTRACT PRICE)	
(b) SUBTOTAL: CONTINGENCIES 10% OF (a)	
(c) SUBTOTAL: ESCALATION ALLOWANCE 5% OF [(a) + (b)]	
TOTAL = (a) + (b) + (c) = TENDER AMOUNT	
VAT @ 15%	
TENDER AMOUNT carried forward to Form of Offer - Part C1	

Contract WSBU 02 2025/26 Tender for the appointment of Contractors for the replacement of deficient sewers with combination of trenchless and conventional methods in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required.

Part C3: Scope of work

Section: C3.1: Description of the Works

CITY OF TSHWANE
WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

PORTION 2: CONTRACT

PART C3: SCOPE OF WORK

SCOPE OF WORK

INDEX

Section	Description	Page No
C3.1	DESCRIPTION OF THE WORKS	3-10
C3.2	ENGINEERING	11-12
C3.3	PROCUREMENT	13-14
C3.4	CONSTRUCTION	15-46
C3.5	MANAGEMENT	47-56
C3.6	PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS	57-134
C3.7	HEALTH AND SAFETY SPECIFICATION	135-181
C3.8	REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE ENVIRONMENTAL MANAGEMENT PLAN	182-191

Contract WSBU 02 2025/26 Tender for the appointment of Contractors for the replacement of deficient sewers with combination of trenchless and conventional methods in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required.

Part C3: Scope of work

Section: C3.1: Description of the Works

CITY OF TSHWANE
WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.1 DESCRIPTION OF THE WORKS

C3.1 DESCRIPTION OF THE WORKS

3.1.1 Employers objectives

The employer's objectives are to appoint service providers to replace, upgrade and/or augment existing public infrastructure to improve the service delivery to the community.

The works are to be executed using primarily trenchless technology construction, pipe bursting and in some specific circumstances Cured-In-Place-Pipe (CIPP) lining will be executed. Personnel directly involved with the installation of pipes using pipe bursting shall have received training and shall have related experience. Only qualified staff who have been instructed and have experience in the use of butt-fusion and electro fusion equipment shall be permitted to perform polyethylene pipe welding and installation of electro fusion couplings, as applicable.

Personnel directly involved with the installation of pipes using pipe bursting shall have received training and shall have related experience. Only qualified staff who have been instructed and have experience in the use of butt-fusion and electro fusion equipment shall be permitted to perform polyethylene pipe welding and installation of electro fusion couplings, as applicable.

Works earmarked for Labour Intensive Construction methods will be numbered with a prefix "LIC" in the bill of quantities to distinguish them from the conventional construction works. Such work shall be constructed using local workers who are temporarily employed in terms of the project specification. These local workers must be sourced from the City of Tshwane (CoT) EPWP Central Database.

During the contract the contractor will be required to make use of subcontractors to execute dedicated portions of the work. Only approved tendered rates will apply for work executed. The contractor will be compensated for the site supervision, material management additionally to assist the subcontractors, training, managing and personal protective clothing that may be required for the subcontractors.

Work earmarked for subcontractors will be numbered with a prefix "SC" in the bill of quantities to distinguish them from the conventional construction works. Such work shall be constructed by subcontractors who will be temporarily employed in terms of the project specifications.

It is the objective of the City to appoint three contractors for a three-year period with a CIDB grading per area as follows:

- Area A: Region 1 - CIDB 6CE or higher
- Area B: Region 3 - CIDB 6CE or higher
- Area C: Regions 2, 4, 5, 6 and 7 - CIDB 6CE or higher

This tender is a rates only tender, and the tender rates will be approved. The quantities in the Bill of Quantities will be for tender evaluation purposes only. The rates will be fixed however the quantities will vary subject to the scope of work per project and the availability of budget.

The contractors will receive confirmation of the following year's list of projects approximately 2 to 3 months prior to each new financial year. The contractors together with the Engineer will compile the program. This program can be changed if critical projects have to be done.

3.1.2 Location of Site

It has to be emphasised that the contracts will be executed through the entire Tshwane area in the Region groupings specified below and the contractor must therefore make provision in his rates for all travelling and related costs. No additional payment will be made for these costs and therefore the tender rates must be all inclusive. The tenders are divided into three areas in the City of Tshwane, and a contractor will be appointed per area. Area-A consists of Region 1, Area-B of Region 3, Area-C of Regions 2, 4, 5, 6 and 7.

3.1.3 Overview of the Works

The work to be done will be specialised TRENCHLESS REPLACEMENT OF SEWERS, mainly by the pipe bursting method, whereby selected structurally degraded sewers are burst open by specialised equipment while at the same time pulling in a new HDPE pipe. Beforehand launch and exit pits are hand excavated as well as existing sewer connections. Afterwards sewer connections are re-instated, and rehabilitation is done.

This contract is targeting network sewers as well as some collector sewers. Most network sewers are situated in midblock positions. Replacement by open excavation is seldom advisable due to the high cost that would be involved, the proximity of structures, challenges dealing with the life sewer flow, paving and gardens and the inconvenience and danger to the community of extensive open excavations.

In certain instances, pipe bursting is not advisable: mostly very deep sewers and sewers underneath structures. The existing sewers are then lined by cured-in-place pipe (CIPP) method or alternative lining materials. In most cases very little cleaning is necessary. CCTV inspections are done as a quality control measure, both before and after.

Project specifications B810 Cleaning of Sewers, B811 Inspection of Sewers and B815 Replacement of Sewers by trenchless methods in C3.8: Amendments and additions to the Standard Specifications apply.

3.1.4 Extent of the Works

The site of the proposed works is located within the boundaries of the City of Tshwane. Approximately 60km of sewer pipes have already been identified for sewer pipe replacement, however, the length of sewers to be finally replaced under this contract will be dependent on the availability and allocated budget in the respective financial years.

The project will be implemented through the use of a maximum of three contracts, one Contractor in each area and shall be implemented and administered independently. A Contractor should be grade CIDB 6CE or higher to qualify for one area.

The Bidders' attention is drawn to the fact that the highest scoring bidder will be given priority to be appointed for their preferred Area, the second highest scoring bidder will be given the second priority, and the third highest scoring bidder will be allocated the last remaining Area. Should a bidder score the highest points in more than one Area, such a bidder will only be allocated their preferred Area and other service providers will be considered for other Areas.

Bidders to indicate their preferred Area on the table below:

Bidder's Preferred Area

Areas	Bidder to indicate their preferred Area
Area-A (Region 1)	
Area-B (Region 3)	
Area-C (Regions 2, 4, 5, 6 and 7)	

The contracts shall be compiled as follows:

Area-A:

This Contract will mainly be executed within the boundaries of Region 1.
The scope comprises an estimated quantity of approximately 20 000m pipe.
CIDB 6CE or higher will be required.

Area-B:

This Contract will mainly be executed within the boundaries of Region 3.
The scope comprises an estimated quantity of approximately 20 000m pipe.
CIDB 6CE or higher will be required.

Area-C:

This Contract will mainly be executed within the boundaries of Regions 2, 4, 5, 6 and 7.
The scope comprises an estimated quantity of approximately 20 000m pipe.
CIDB 6CE or higher will be required.

CONTRACTOR	AREA	REGIONS	PLANNED SCOPE / CONTRACTOR (m)	PLANNED SCOPE / CONTRACTOR / FINANCIAL YEAR (m)		
				2025/26 FY	2026/27 FY	2027/28FY
CONTRACTOR 1	AREA A	1	20 000	6 667	6 667	6 667
CONTRACTOR 2	AREA B	3	20 000	6 667	6 667	6 667
CONTRACTOR 3	AREA C	2, 4, 5, 6, 7	20 000	6 667	6 667	6 667
Total			60 000	20 000	20 000	20 000

Further, allowance has been made for nine site establishments in each area over the 3-year contract period for the execution of the scope of work. Each establishment in the area of convenience or proximity to the works, will be administered as a project with a defined scope for which the Contractor will be expected to submit a programme for approval. Should the Contractor not complete the project within the approved programme, all time related costs shall cease for the project/site in question.

In the event of non-performance of a Contractor in their appointed area, apart from termination of the contract, the City of Tshwane reserves the right to select a contractor from another area to assist with completion of the works. The selection of the support from the appointed Contractors will be based on performance and at the discretion of the City of Tshwane.

Extent of the Works

- Locating existing Services not identified by other Utilities and Agencies.
- Hand excavation to expose sewer connections.
- Hand excavation of launch and retrieve pits to accommodate trenchless equipment.
- Preparation of the trench bottom at launch and retrieval pits before bedding construction.
- Laying of different diameter sewer pipeline types (conventional trench construction).

- Installing new HDPE pipe by means of Trenchless Technology methods.
- Cutting exactly positioned holes in the newly replaced pipe to re-connect the sewer connections to the new pipe with new material.
- Reconnection of lateral connections.
- Point repair where needed when cable can't be threaded.
- Repairing manhole benching and sealing off new pipe at manholes.
- Backfilling and compaction of the excavations and reinstatement.
- All the above, as well as other related items are to be done as per project specifications.

3.1.5 Nature of the Works

a) Conventional and trenchless construction methods

- The excavation of the trenches and installation of the pipes will be done conventionally or trenchless depending on the condition on site. The portions of pipe installation where launch, retrieve and lateral excavations are done are considered conventional pipe laying and the remaining portions must be considered as trenchless pipe bursting and have to be priced under the respective payment items.
- Trenchless construction will mainly be used in dolomite areas where HDPE pipes are installed.
- The trenchless construction method can also be utilised in non-dolomite areas where the conditions are suitable or conventional excavation is not possible.

b) Labour intensive construction methods (EPWP)

- Excavate by hand to expose existing services and backfill.
- Clear and grub of site.
- Cutting and removing trees.
- Grubbing and the removal of the stumps and roots of large trees.
- Flagmen.
- Hand trimming.
- Hand excavation.
- Backfilling of trench.
- Laying and jointing of sewer pipes irrespective of depth.
- Install erf connections.

The City of Tshwane (CoT) has a mandate and responsibility to fight poverty, build clean, healthy, safe and sustainable communities. To achieve this, the City adopted an Integrated Poverty Reduction and Community Development Strategy which requires all departments to cooperate and contribute towards poverty reduction through employing EPWP participants on projects. Therefore, the Water and Sanitation Business Unit is committed to utilize participants that are registered on the CoT Central Database on all projects. The aim is to ensure commitment by each contractor on a project to utilize 100% of its labourer personnel of the EPWP Central Database to enhance poverty alleviation and the uplifting of participants.

The successful contractor appointed will have to request labour from the EPWP Office that will do a random selection from the Central Database. Hundred percent of all labourer personnel on a project must be appointed from the Central Database provided by the EPWP Office. The idea is to place beneficiaries in the correct or appropriate project roles/occupations to help them achieve income capacity and/or to equip them through skills development. The contractor must provide data about the number of beneficiaries required, qualifications, type of placement/occupation and gender before the project starts. The successful contractor appointed must accommodate students that are in need of practical training or in- service training. One student per region per annum must be trained on this contract. The minimum wage as per Sectoral Determination: Civil Engineering Sector published in the Government Gazette will be payable for students.

3.1.5 Local Economic Participation Specification

3.1.5.1 PREAMBLE

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

3.1.5.2 DEFINITIONS

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

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

3.1.6 Location of the works

The sites of the proposed works are located inside the boundaries of the City of Tshwane. The tender is divided into Area-A consisting of Region 1, Area-B of Region 3, Area-C of Regions 2, 4, 5, 6 and 7.

3.1.7 Project Allocation

- A tenderer will be required to tender per area specified.
- The City of Tshwane is divided into three areas.
 - Area-A (Region 1)

- Area-B (Region 3)
 - Area-C (Regions 2, 4, 5, 6 and 7)
- A maximum of three tenderers will be appointed for different areas.
- Tenderers are allowed to tender for all three areas independently, provided they meet the requirements as follows:
 - Tenderers are encouraged to tender for more than one area, if they have the capacity in terms the mandatory requirements.
 - The city reserves the right to award areas to different tenderers based on scoring points.
 - The intension is to appoint three highest-scoring tenderers, one in each of the three areas, and the three tenderers be subjected to market related price negotiation as per clause 3.1.8 below.

3.1.8 Market Related Price Negotiation

The city further reserves the right to negotiate a market related price with a tenderer scoring the highest points. If the tenderer does not agree to a market-related price, the city reserves the right to negotiate a market-related price with the tenderer scoring the second highest points, if the tenderer scoring the second highest points does not agree to a market-related price, negotiate a market-related price with the tenderer scoring the third highest points. If a market-related price is not agreed, the city reserves the right to cancel the tender and re-advertise it.

3.1.9 Geotechnical Information

No dedicated geotechnical investigation has been compiled for this contract. The Tenderer should however convince himself of the ground conditions of the works, before the Tenderer completes the tender document. The Contractor must take note that only soft or hard material, no intermediate material will be paid under this contract. Intermediate material will be paid under soft material. Hard excavation shall be defined as the excavation of all hard, compacted or rock materials that require blasting or the use of ripping and excavation equipment larger than defined for common excavation. See B202.03.

3.1.10 Supplying of Materials

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

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

3.1.11 Quality Control

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

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

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

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

Contract: WSBU 02 2025/26 Tender for the appointment of Contractors for the replacement of deficient sewers with combination of trenchless and conventional methods in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required
Part C3: Scope of work
Section: C3.2: Engineering

CITY OF TSHWANE
WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.2 ENGINEERING

C3.2 ENGINEERING

C3.2.1 STANDARDS AND CODES OF PRACTICE

The following design standards for civil engineering infrastructure will apply:

- i) Principles and standards for the design and construction of water and sanitation systems in the City of Tshwane by the Utility Services Department: Water and Sanitation Division of the CoT (Revised January 2017).
- ii) *General Conditions of Contract for Construction Works, Third Edition (2015) of the South African Institution of Civil Engineering (SAICE).*
- iii) *Standard Specifications for Municipal Civil Engineering Works of the City of Tshwane (Third Edition 2005).*

Take note: The information contained in the drawings, relating to the position, material and size of the existing pipe, may not be 100% accurate.

C3.2.2: LIST OF DRAWINGS

Layout drawings of the intended work sites etc. will not be issued before appointment. Such drawings will be shown at the site clarification meeting, if available in time.

The Principal Contractor will receive 2 sets of construction drawings, of which 1 set shall be designated for as-built records and updated by the Principal Contractor daily.

The latter shall be:

- Made available to the Engineer or his/her duly authorised representative within 1 working day on request.
- Submitted to the Engineer with the completion of each project.

CITY OF TSHWANE
WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.3 PROCUREMENT

C3.3 PROCUREMENT

C.3.3.1 Preferential Procurement Procedures

Preferential procurement procedures as described in section T1.2 TENDER DATA shall be used.

C3.3.1.1 Requirements

The City of Tshwane (CoT) has a mandate and responsibility to fight poverty, build clean, healthy, safe, and sustainable communities. To achieve this, the City adopted an Integrated Poverty Reduction and Community Development Strategy which requires all departments to cooperate and contribute towards poverty reduction through employing EPWP participants on projects. Therefore, the Water and Sanitation is committed to utilize participants that are registered on the CoT Central Database on all projects. The aim is to ensure commitment by each contractor on a project to utilize 100% of its personnel of the EPWP Central Database in order to enhance poverty alleviation and the uplifting of participants.

The successful contractor appointed will have to request labour from the EPWP Office that will do a random selection from the Central Database. Hundred percent of all personnel on a project must be appointed from the Central Database provided by the EPWP Office. The idea is to place beneficiaries in the correct or appropriate project roles/occupations to help them achieve income capacity and/or to equip them through skills development. The contractor must provide data about the number of beneficiaries required, qualifications, type of placement/occupation and gender before the project starts. The successful contractor appointed must accommodate students that are in need of practical training or in- service training. One student per annum must be trained on this contract. The minimum wage as per Sectoral Determination: Civil Engineering Sector published in the Government Gazette will be payable for students.

C3.3.1.1.1 Employment of unskilled and semi-skilled labour in Labour Intensive Construction works

1. Requirements for the sourcing and engagement of labour

1.1 Unskilled and semi-skilled labour required for the execution of all labour-intensive works shall be sourced from the EPWP Office.

1.2 The guideline pay rate will be as set by the CIDB/ SAFCEC Gazetted rates

1.3 Tasks by the Contractor must be such that:

- (a) the average worker completes 5 tasks per week in 40 hours or less; and
- (b) the weakest worker completes 5 tasks per week in 55 hours or less.

1.4 The Contractor must revise the time taken to complete a task whenever it is

established that the time taken to complete a weekly task is not within the requirements of 1.3.

C3.3.1.1.2 Appointment Process

C3.3.1.1.2.1 Project Steering Committee (PSC)

Section 6.1.3.1 of the Expanded Public Works Programme (EPWP) Recruitment Framework requires the Office of the Speaker, in consultation with the Ward Councillor, to hold a public meeting, and elect a Project Steering Committee (PSC).

Project Steering Committee will be limited to a minimum of four (4) members and a maximum of six (6) members, to avoid a situation of too many potential interest groups preventing the PSC from functioning.

C3.3.1.1.2.2 Community Liaison Officer

After selection of the PSC, at the same meeting indicated under item C3.3.1.1.2.1, residents and stakeholders in attendance are to vote for poll of three (3) potential CLO's coming from the community concerned.

In the event that a PSC is not constituted by public meeting, or cannot proceed with its work, as contemplated by section 6.1.3.5 of the Framework, the appointed PSC will nominate potential CLOs.

It is from this pool that the contractor, after interviewing the three (3) nominees and consultation with the PSC appoints the CLO.

Administrative processes for appointment of Community Liaison Officers.

- Minutes and an attendance register must be kept as evidence of the proceedings of the election meeting.
- The office of the speaker must submit the results (minutes) and attendance registrar of the community liaison officer election meeting to the chairperson of the PSC, the contractor and the Expanded Public Works Programme (EPWP) Division.
- The elected CLO will be appointed by the contractor for the duration of the project and also be remunerated by the contractor. Where the CLO is no longer available and another is appointed, the existing CLO shall cease to receive remuneration.
- An employment agreement containing the general terms and conditions of the contract, will be issued to the CLO and must be signed by the CLO before commencement of duties.
- A CLO will be appointed from the ward in which the project is executed.
- The CLO's will be remunerated according to the entry level basic salary of an

Administrator Officer position of the City of Tshwane (Task Level 5 notch 1). No benefits will be applicable.

The CLO must have the following attributes: -

- have credibility and standing in the community.
- have a strong personality.
- be able to be firm and decisive.
- be able to facilitate in disputes.
- be able to handle conflict.
- be able to keep minutes and records in a proper and orderly way.
- have a knowledge of labour laws and industrial relations (training will be provided where necessary).
- be objective and impartial.
- be fair.

C.3.3.2 Subcontracting

C3.3.2.1 Scope of mandatory subcontract works

The contractor is to identify and present to the Engineer the works to be subcontracted.
The following shall be subcontracted to the local subcontractors:

- Removal and reinstatement of Paving
- Establishment of the Contractor's base camp or depot
- Site Clearance
- Selected trench excavations
- Pipe laying smaller than 200 diameters (service ducts)
- Erection of traffic signs and Markings
- Traffic calming measures
- Bedding
- Construction of chambers and junction boxes
- Construction of kerb inlet, and outlet structures
- Paving for walkways
- Laying of Edge beams and kerbing

C3.3.2.2 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 priority and the below competent and capable designated groups should be prioritized.
 - a) An EME or QSE
 - b) An EME or QSE which is at least 51% Black Owned
 - c) An EME or QSE which is at least 51% Owned by Black youth
 - d) An EME or QSE which is at least 51% Black Women Owned
 - e) An EME or QSE which is at least 51% owned by black people with disabilities
 - f) An EME or QSE which is 51% owned by black people living in rural or underdeveloped areas or townships
 - g) A cooperative which is at least 51% owned by black people
 - h) An EME or QSE which is at least 51% owned by black people who are military veterans; or
 - i) 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.

C3.3.2.3.2 The contractor shall without delay to enter into a written contract with the successful tendering subcontractor based on their accepted tender submission.

C3.3.2.3.3 The contractor shall remain responsible for providing the subcontracted portion of the works as if the work had not been subcontracted.

C3.3.3 SUBCONTRACTING PROCEDURES FOR LOCAL SMME

The principal 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 SCM policy.

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

The ward councilor, PSC members and CLO shall confirm if the submitted bids originate within the ward where the works are being undertaken.

CITY OF TSHWANE
WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.4 CONSTRUCTION

C3.4 CONSTRUCTION

C3.4.1 WORKS SPECIFICATIONS

Tenderers, Contractors and Subcontractors shall obtain their own copies of the document “Standard Specifications for Municipal Civil Engineering Works, Third Edition 2005”, for tendering purposes and for use for the duration of the Contract from the Procurement Advice Tshwane House, 320 Madiba Street, Pretoria CBD, 0002 and shall bear all expenses in this regard.

The Standard Specifications have been written to cover all types of municipal civil engineering works, and it may therefore cover work not applicable to this contract.

C3.4.2 CONTRACTORS EXPERIENCE

The successful tenderer shall be fully trained and experienced in Conventional Construction Methods for laying pipes and/or be fully trained in the specified methods of Pipe Bursting for handling and installing pipe with bursting equipment. Only qualified staff who have been instructed in the use of butt-fusion/electro fusion equipment shall be permitted to perform polyethylene pipe welding.

The Contractor is required to furnish satisfactory evidence that he has had actual experience in the type of work for which he is tendering and must submit the evidence with his tender a statement on the prescribed form attached to this contract. The evidence must include details of the employing authority, nature of works, value of works and year completed.

A comprehensive organogram of the company must be submitted with the tender that clearly indicated the existing resource that will be utilized to execute the work successfully. The following points must be included in the operational plan: Infrastructure, equipment, labour.

C3.4.3 SITE FACILITIES AND ESTABLISHMENT

C3.4.3.1 Contractor's Camp Site

The CoT will not provide land for the use of a site camp, it is the responsibility of the Principal Contractor to obtain a site camp. The Principal Contractor shall provide a suitable site for his camp and for accommodating the work force. The choice of the site for the establishment of the camp, offices and the layout thereof, shall be approved.

The camp site shall be cleared and grubbed and properly fenced with a security fence around the perimeter. The Principal Contractor is to provide his own security at the camp or on the site if required, at his own expense.

After completion of the contract, the Principal Contractor shall remove all his temporary buildings, plant and equipment. The site shall be made good and be left in a neat and tidy condition before a certificate of completion shall be issued.

C3.4.3.2 Water Supply

Water for the Works shall be drawn from municipal mains, where available, through authorised

metered connections only. The Principal Contractor must bear the costs of all fees, deposits and water consumed. These costs are to be included in the rates in the Schedule of Quantities for the various construction methods and operations. The Principal Contractor shall make his own arrangements with the Municipality's Water and Sanitation Division, to obtain a metered connection, giving at least 14 days' notice. The size of the connection provided will be as specified in the By-Laws and the Principal Contractor must provide on-site storage should he consider this necessary.

The current tariffs applicable are available from the Water and Sanitation Division. The Principal Contractor can only draw water from fire hydrants specified by the Municipality in exceptional circumstances and then only after written authority has been granted. When permission is granted, the water must be drawn through a metered standpipe issued by the Water and Sanitation Division.

The Contractor shall cease to operate until other arrangements have been made for the supply of water. No claims for delays so caused will be considered.

C3.4.3.3. Ablution Facilities

The Principal Contractor shall, at each construction area, provide sufficient portable chemical latrine units. The latrine units shall be serviced daily and kept in a hygienic and orderly state to the approval of the engineer. No separate payment shall be made for this requirement, and the costs thereof shall be deemed to be included in the rates billed for the contractor's time-related obligations. All ablution facilities as stipulated in the Occupational Health and Safety act must be provided and no separate payment shall be made for the requirement.

C3.4.3.4 Electric Power Supply

The Principal Contractor shall make his own arrangements for the supply of electric power to suit his own and the Engineer's requirements and operations.

The cost of providing connections, any transformer sub-stations and switchgear, generators, fuel and/or overhead power lines or underground cables required to supply the electric power shall be included in the rates entered in the Schedule.

The cost of electric power consumption for construction, rock drilling, machinery operations, lighting, ventilation and domestic uses is to be included in the rates in the Schedule of Quantities for the various construction methods and operations.

C3.4.3.5 Cellular Telephone

It is a requirement of the contract that the Principal Contractor shall equip his site agent(s), CLO's and foremen with a cellular telephone to allow for effective communication between the contractor's supervisory personnel and the engineer's supervisory staff. All the applicable contact details must be made available to the Employer as well as the staff on site. All costs associated with the provision of cellular telephones for the contractor's personnel shall be deemed to be included in rates billed for time-related charges.

C3.4.3.6 Site Facilities required by the Engineer

The Engineer does not require housing for personnel or laboratory facilities, but an office suitable for site meetings needs to be provided.

C3.4.3.7 Access Road

Where the locality of the Works requires it, the Principal Contractor shall grade or construct, and keep in good and constant repair, temporary access roads connecting public roads in the vicinity with the Works. Such roads must be of a sufficiently high standard for reliable access of heavy transport vehicles in all weathers and shall communicate with all parts of the Works.

C3.4.3.8 Use of Site

All notice boards, sign boards and advertisements on the site shall be subject to the Engineer's approval.

The Principal Contractor shall take all precautions to preserve trees other than those which, of necessity, must be removed for the purpose of fulfilling the Contract.

The Principal Contractor shall maintain the site in a clean, orderly and sanitary condition and shall take all necessary steps and precautions to prevent the pollution of the surrounding area by his employees or animals in any way. These steps and precautions shall be to the satisfaction of the Engineer and Medical Officer of Health of Tshwane.

C3.4.3.9 Precautions against nuisance

The Principal Contractor's attention is drawn to the fact that operations are being conducted in an urban area and in the presence of passing traffic. Special precautions must be taken to protect the public and to prevent unnecessary noise, dust or other nuisance.

Plant used on the Works shall be as efficiently silenced as possible and noisy operations will be permitted only between the hours of 7.00 a.m. and 5.00 p.m. Any work outside normal hours will be permitted only on the written authority of the Engineer.

Wherever machinery is excavating or loading material, which is liable to form a dust nuisance, an effective method of spraying water over the cut area and loaded material shall be installed. Tarpaulins shall be provided to cover trucks and prevent dust blowing from loads during transport.

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 of completed construction by trucks transporting muddy material. The Engineer may order the Principal Contractor continuously to broom off and clean roads where the mud tracking of vehicles or falling debris may constitute a danger to the travelling public.

C3.4.3.10 Sanitary Accommodation

The Principal Contractor shall provide, maintain, move to positions as required and finally remove proper sanitary accommodation at each work front. Sanitary accommodation shall be properly screened, and its use strictly enforced. The situation of sanitary accommodation prescribed in terms of the Sanitary General By-Laws shall be approved by the Engineer as being convenient for the person whose use it is intended.

The sanitary accommodation provided must be adequately ventilated, properly disinfected and always kept in a thoroughly clean condition.

The Principal Contractor shall plan for the provision of the sewer connection in the case of water closets or the removal of pails in the case of pail closets.

The Principal Contractor shall bear all costs associated with the provision of sanitary accommodation. Compensation for these costs will be made under the relevant item in the Schedule of Quantities.

C3.4.3.11 Work in Servitudes

The Principal Contractor shall give 7 days' advance notice to both the Engineer and the property owner of his intention to commence work in a servitude. The Principal Contractor shall not permit his workmen and labourers to use the servitude as a temporary right-of-way and shall carry out the work expeditiously and with minimum inconvenience to the occupiers and to owners of adjacent property.

The Principal Contractor shall take all necessary precautions for the protection of persons, livestock, buildings and property.

The soil shall be kept segregated and all gardens, fences, paths, etc. shall be reinstated to their former condition.

Where acquisition of servitude has not been finalised, it may not be possible to obtain continuity of the work. The Principal Contractor will be required temporarily to omit such sections until instructed that the work may proceed.

No extra payment will be made to the Principal Contractor should it become necessary to omit sections and return to them later. It is not intended, however, that the Principal Contractor should be called upon to return to the Site after all other sections of the contract have been completed and the Principal Contractor has removed his plant and equipment.

Trees removed in a servitude shall remain the property of the stand owners if required by them.

C3.4.3.12 Access to Premises

The Principal Contractor shall always maintain adequate access to all public and private property unless otherwise sanctioned by the Engineer. Details of the proposed methods of providing access shall be submitted to the Engineer for approval before such access is restricted. Any claims arising from impeded access shall be wholly the responsibility of the Principal Contractor.

Provision shall be made to allow sanitary services to stands, to be unimpeded.

Where necessary to permit access or egress, the Principal Contractor shall provide for the laying of planks or other temporary covering over excavated and filled works or over concrete or asphalted surfaces to protect the work from damage.

Any temporary wooden bridges shall be provided with suitable tubular or other handrails and horizontal members shall be placed at 0,3 m, 0,6 m, 0,9 m and 1,2 m above the level of the boards.

Vehicular access must be maintained to properties at the end of each day's work unless the

Principal Contractor has made alternative arrangements with the occupiers.

C3.4.3.13 Waterways

Free waterways shall be maintained in gutters, drains, streams, etc. and existing conditions shall not be changed by depositing spoil in waterways or by diverting water into private property.

The Principal Contractor shall settle all claims and make good any damage at his own expense should flooding of private or public property occur through waterways being obstructed or diverted because of his operations.

C3.4.4 PLANT AND CONSTRUCTION EQUIPMENT

All items of plant used on the Works shall be approved, modern, efficient plant, well suited to the purpose for which the Principal Contractor uses them and shall be properly maintained. Items of plant which leak oil or which, in the opinion of the Engineer, generate excessive noise, smoke, or other nuisance shall be removed from the Works. The Engineer's decision in this respect shall be final and binding upon the Principal Contractor.

All vehicles used on the Works are to be in sound mechanical condition and shall conform to and be operated in accordance with the Gauteng Provincial Ordinance and the Gauteng Provincial Road Traffic regulations. All vehicles must be fully insured against accident or loss, including third party risk and the Principal Contractor shall produce evidence of this if required by the Engineer.

The Principal Contractor shall be deemed to have established the extent to which mechanical plant can be used for excavating and refilling before the submission of his tender. The Engineer's authority to use mechanical plant will not be unreasonably withheld, but if, in the Engineer's opinion, circumstances exist which make it desirable that the use of plant should be suspended either temporarily or permanently, the Principal Contractor shall change the method of performing the work affected at his own cost and he shall be deemed to have no cause for claim against the Municipality on account of having to continue the work by another method nor shall he be deemed to have cause for claim if any order issued by the Engineer result in the mechanical plant having to stand idle for a period of any duration whatsoever or having to be removed.

Particularly where it is impossible due to proximity to existing structures or services to excavate except by hand methods, then in such cases it shall be deemed reasonable for the purpose of this clause for the Engineer to withhold authority to use mechanical plant.

C3.4.5 MATERIALS

C3.4.5.1 General

All materials supplied shall be to South African National Standards (SANS) and the Group Head's applicable specification as amended or where no such specification exists, to the approval of the Engineer. Specifications not contained in the document may be examined by arrangement at the Water and Sanitation Business Unit. It will be required from each contractor to supply proof of conformation to the relevant SANS specifications of all material envisaged to be used on the contract to the Engineer for his approval. A list of approved material and fittings can be collected from the Water and Sanitation Business Unit.

C3.4.5.2 Storage

All materials shall be stored in storage areas which shall be agreed by the Engineer and shall be fenced with 1,8 m high chain link fencing and a lockable gate. Pipes shall be stacked off the ground.

Pipes shall be covered to prevent deterioration through ultra-violet attack.

C3.4.6 SCHEDULE OF QUANTITIES

The Schedule of Quantities include, as far as can be determined, every class of operation, construction and material which the Principal Contractor is likely to be called upon to perform or supply.

All measurements shall be net, and no allowance will be made for cutting, waste, laps, etc.

Should there be any doubt or obscurity as to the meaning of any item, the Tenderer must obtain an explanation of such item from the Engineer prior to submitting his tender. No claims for extras arising from any doubt or obscurity will be admitted after delivery of the tender.

Reference to clauses in the General Conditions of Contract and the Specification have been made against certain items in the Schedule for the purpose of highlighting the provisions of those clauses, but all relevant Contract requirements will, nevertheless, be applicable to each of these items.

The quantities given are stated purely for evaluation purpose. This is a rate only tender and therefore the rates will be approved. The quantities are only a guide to the estimated value of the contract.

The successful Tenderer shall however be bound to replace/upgrade whatever lengths of sewer pipes as the Municipality may require during the period of the contract irrespective of the extent to which the total as set out in the Schedule of Quantities may be in excess or below the estimated quantities scheduled.

Tenders not accompanied by a fully priced and extended copy of the Schedule of Quantities will be regarded as informal and reported accordingly.

Upon adjudication of tenders, the unit prices will be taken as correct and any errors in the extensions and/or additions in the priced Schedules will be corrected to comply with the unit prices. Consequently, total tender price will be adjusted.

In cases where any unit price is considered to be too high, or too low such price may be of sufficient importance to warrant rejection of the tender.

C3.4.6.1 Contractor to Price all Items

If any item in the Schedule is not priced, it will be understood that the item will be supplied or performed free of charge, an allowance covering it having been made in other items.

C3.4.6.2 Items not mentioned

Should the Tenderer wish to price any fixed charge or time related obligation, arising out of the work described in the Contract Documents but not specifically mentioned in the Schedule of Quantities, he is to do so in the spaces provided in Series 0 of the Schedule.

C3.4.6.3 Day Work

Where the Engineer orders work to be executed on a day work basis rates will be paid as per tender rate.

In all the above cases the cost and wages shall be those in force at the time when the work is carried out and consequently no further adjustment for escalation will be applied.

No additional payments over and above those listed above will be made for Head Office charges, profit, small tools such as picks, shovels, barrows, trowels, hand saws, chisels and all items of a like nature or protective clothing as these are deemed to be included in the percentage additions.

Likewise, site supervision and staff including foreman and walking gangers are included in the percentage additions, but the time of gangers working with their gangs will be paid for as workmen.

C3.4.7 CONSTRUCTION ISSUES

C3.4.7.1 Cleaning of pipes

Pipe laying operations and precautions taken during pipe laying shall be aimed at eliminating the necessity for cleaning of completed lines. However, if, in the opinion of the Engineer, foreign material has entered or remained in the pipelines, the Principal Contractor shall arrange for the mains to be cleaned prior to CCTV/testing.

The cost of cleaning including the cost of water used, if any, shall be for the Principal Contractor's account.

C3.4.7.2 Warning to customers

The Engineer together with the CoT Project Manager will warn the public of the execution of the works. The Principal Contractor must, however, give at least 14 (fourteen) days' notice to the Engineer of his requirements in this respect.

The Principal Contractor shall give all residents affected at least 24 hours' notice in writing of his proposals regarding every planned execution of his work. Failure to do so will result in the suspension of work for a period as determined by the Engineer.

The Principal Contractor shall give written notice to all residents, adjacent to the planned route, of work to be done. This notice shall be given well in advance of the starting date of construction. The notice will inform the residents that all grass, irrigation and valuable must be removed beforehand.

C3.4.7.3 Use of Explosives

Explosives shall not be used without the written permission of the Engineer.

C3.4.7.4 Excavation backfilling and reinstatement

Excavation, backfilling and reinstatement shall be carried out in accordance with the Project Specification and the Standard Specification for Municipal Civil Engineering work. All excavations shall be performed in terms of the Construction Regulations, 2014 of the Occupational Health and Safety Act.

C3.4.7.5 Position of New Pipeline

The Construction drawings give a guide only to the route of the new pipeline. The final position shall be determined on site by the Engineer. In cases where work is executed in the vicinity of existing services, precautions shall be taken to ensure that the existing services are not disturbed. A minimum of three inspection holes per block on each side will be done to determine the position of the new proposed pipe. The position must be determined and approved by the Engineer before construction may commence.

C3.4.7.6 Excavations

a) Trenches - General

Trenches shall be backfilled level with adjacent surfaces immediately after completion of pipe laying. Should pipe laying not be complete before work is due to cease for the day, the Engineer shall be entitled to instruct the Principal Contractor to backfill the trench and re-excavate it the following morning to complete pipe laying. The cost of the above shall be included in the Principal Contractor's rates for excavation and no additional payments will be made for this requirement.

Pads shall be fitted to the outriggers of excavating plant to prevent damage to road surfaces. Damage to any surfaces beyond the trench widths specified shall be repaired at the Principal Contractor's expense.

b) Trenches - Roads

Categories 1 to 3 roads (road categories to be obtained from Roads and Transport Department) may only be crossed using trenchless methods. If trenchless methods for some reason cannot be used, special permission to excavate must be obtained from Roads and Transport Department.

Even if a trenching machine is used, road surfaces shall first be cut with a diamond tipped saw or other approved method. After the trench has been backfilled and compacted, the road surface has to be cut again, 200mm from the edge, on both sides of the trench.

If a trenching machine is used for road crossings, the road shall first be cut with a diamond tipped saw, or other approved method. All trenches across the road shall be cut at right angles to the kerb. Damage to the road surfaces beyond the trench widths specified shall be repaired at the Principal Contractors expense.

The complete closure of any road shall not be permitted without the written consent of the Engineer.

During the time that the trenches have been backfilled and the time that the road surface is reinstated, the Principal Contractor will be responsible for the maintenance on the road.

The trench will be backfilled above the selected material with G5 material in 150mm layers, stabilised with 3% cement, compacted to 95% MOD AASHTO. No haulage will be paid separate but the rate for haulage must be included in items 202.

c) Trenches – Paving and driveways etc.

The last 450mm of backfill in the trench will be done with G5 material, compacted to 93% MOD AASHTO. Payment will be in accordance with items 202. No haulage is payable.

d) Removal of Excavated Material

Excavated material shall not remain on the work site for more than 96 hours.

The Principal Contractor's scheduled rates shall cover the cost of complying with this restriction including, inter alia, the cost of removing off site to temporary stockpiles and then returning to site, excavated material suitable for use as backfill or bedding. No haulage will be paid separately.

e) Maintenance of Excavations

The Principal Contractor shall be solely and entirely responsible for maintaining excavations in a safe condition and this responsibility shall be in no way diminished by any instruction by the Engineer to take additional or improved protection or precautionary measures.

It should be noted by tenderers that plastic tape is not regarded as adequate protection around excavations and its use for that purpose shall not be allowed.

Plastic New Jersey barricades or shade net fabric together with wire and anchor poles will be used. The rate under item 202 must include full compensation for the moving and maintenance of all barricades for the duration of the contract.

f) Intermediate Material

No intermediate material will be paid under this contract. Only soft or hard material will be paid.

Hard material will be classified as material where mechanical plant, such as compressors and jack hammers or blasting is required.

C3.4.7.7 Testing of backfill material

The compacted density of the backfill material shall be in accordance with Section 202 of the Standard Specification.

If the required compacted density cannot be achieved with the excavated material, G5 material will be imported and compacted to the required density for base layers.

Payment will be made under item 202. of the Standard Specifications and no haulage will be paid separately.

The Principal Contractor will be required to submit at least 3 lab tests for compaction, or as required by the Engineer. No payment will be approved if these tests have not been submitted and meet the required specification. Cost for the required test must be included in the rates. No additional payment will be done for the compaction tests.

C3.4.7.8 Clearing and Grubbing

If any paving is to be removed to place the new sewer pipeline in position the rate for the breaking out and removal of the paving shall be claimed under item B101.01.02 in the Schedule of Quantities. No clearing and grubbing will be paid where the new pipelines are to be laid on the sidewalk (area between the road and the erf boundary fence).

It must be noted that the area between the erf boundary and the road must be clean, with no stones or rocks which can damage any machine used to cut the lawn.

C3.4.7.9 Inspection at intermediate stages of construction

The Principal Contractor shall call for an inspection of the works at the following intermediate stages of construction:

- i) After completion of the trench excavation and preparation of the trench bottom; and before any pipe is laid.
- ii) After the selected backfill, material has been placed around the pipe; and before the remainder of the trench is backfilled.

Work shall not progress through the specified stages without the approval of the Engineer or his representative on site.

Failure to comply with the provision of this clause shall result in the suspension of work for a period as determined by the Engineer.

C3.4.8.0 Testing of Backfill Material

The compacted density of the backfill material shall be in accordance with Section 202 of the Standard Specification.

If the required compacted density cannot be achieved with the excavated material, G5 material will be imported and compacted to the required density for base layers.

Payment will be made under item 202.07 of the Standard Specifications, and no haulage will be paid separately, but the rate for haulage must be included in item 202.07.

The Principal Contractor will be required to submit at least 3 lab tests for compaction, or as required by the Engineer, per block completed, one per driveway and two per road crossing. No payment will be approved if these tests have not been submitted and meet the required specification. Cost for the required test must be included in the rates. No additional payment will be done for the compaction tests.

C3.4.8.1 Reinstatement

All repairs to Kerbings, Interlocking Blocks, Paving Slabs and Bricks will be carried out by the contractor.

C3.4.8.1.1 General Issues regarding paving, concrete and kerbing repair work

- Work will only commence once the DCP tests have been received and approved.
- A dimensioned sketch of the repairs must be provided (on the job card) by the Contractor.
- All materials must comply with the relevant SANS specifications or as specified by the Engineer.
- The removal of all excess material, rubble, etc. to an approved dumping site must be included in the tender rates and must be removed within 2 days from the work that has been completed.
- No haulage will be paid separately but must be included in the tender rates.
- Barricades must be erected on the perimeter of all areas where work is in progress, during curing time and to barricade any excess material.
- A quality control method must be submitted by the Contractor to control the repairs of concrete and paving. This quality control method must be approved by the Engineer.
- The Contractor needs to submit a photo attached to all job cards of the repair work before work is done and a photo of the completed job card from the same angle. Each photo must have the job card number clearly indicated on the photo.
- The Engineer will request random core drill tests of any concrete work to verify the concrete strength. No additional cost will be paid for these tests, and the contractor must allow this in the tendered rates.
- The contractor must ensure that sufficient communication exists between the contractor and the municipality.

C3.4.8.1.2 Construction of Concrete on Projects

The repairs will be done in accordance with the Standard Specification of Municipal Engineering Works Series 6. At all conventional construction sites, it will be the responsibility of the Principal Contractor to ensure that the compaction of existing structures is in accordance with specifications and that concrete is cut square before any work can commence.

- The specified compressive strength of concrete must be 25 MPa.
- The concrete must be cut square/rectangular before repairs are carried out and any additional compaction needed must be done. No separate payment will be made for cutting. This must be included in the rate for the repairs of concrete.
- The texture and finishing of the concrete must be at least of the same standard as the existing concrete and must comply with the minimum acceptable standard or as specified by the Engineer.
- Concrete pavements will be painted according to section 806 of the Standard Specification for Municipal work if required.
- The concrete must have a minimum thickness of 100mm except for parking areas and entrances where concrete must be at least the thickness of the adjacent concrete, but not less than 100mm.
- Joints in concrete pavement must be provided at positions and spacing as indicated by the Engineer or to match those of the existing concrete. All joint edges must be finished off with a nosing tool.
- On sidewalks a minimum length of 1m will be repaired.

The trench will be compacted up to the existing ground level. To repair the concrete, the top

part of backfilling has to be removed, the cost for the haulage of this excess material to an approved dumping site has to be included in the tendered rates. No haulage will be paid.

No additional rate will be paid for travelling costs and these costs has to be included in tendered rate.

C3.4.8.1.3 Construction of Segmental Block Paving on Projects

The repairs will be done in accordance with the Standard Specification of Municipal Engineering Works Series 6. At all conventional construction sites, it will be the responsibility of the Principal Contractor to ensure that the compaction of existing structures is in accordance with specifications before any work can commence. Where compaction is acceptable, the paving can be repaired. Refer to drawing STD008 1 of 1.

- A pre-cast or in-situ cast concrete edge restraint will be required at the edge of all driveways and sidewalks as specified on drawing STD008 1 of 1.
- The specified compressive strength of concrete must be 25 MPa.
- The texture and finishing of the concrete must be at least of the same standard as the existing concrete and must comply with the minimum acceptable standard or as specified by the Engineer.
- The bedding sand and sand for jointing must be according to section 609 of the Standard Specification of Municipal Engineering Works.
- The repaired paving must be at least of the same standard as the original paving and must comply with the minimum acceptable standard or as specified by the Engineer.
- The original blocks must be used for the repairs s, if in good condition. If these original blocks are not available or are damaged new blocks of an approved similar design and finish must be supplied by the contractor.
- On sidewalks a minimum length of 1m will be repaired.

At all conventional construction sites, the trench will be compacted up to the existing ground level. To repair the paving, the top part of backfilling must be removed, the rates for the haulage of this excess material to an approved dumping site have to be included in the tendered rates. No haulage will be paid.

No additional rate will be paid for travelling costs and these costs must be included in tendered rate.

C3.4.8.1.4 Kerbing

The repairs of all kerbing will be done in accordance with the Standard Specification of Municipal Engineering Works Series 5. Refer to drawing STD007 1 of 2.

1. Semi vertical kerbing

- Pre-cast kerbs fig 7 in SANS 927:1969 will be used.
- Pre-cast kerbing of at least the same standard as the existing kerbing must be used.

2. Slope kerbing

- Kerbing to be done in accordance with Drawing STD007 1 of 2.
- The texture and finishing of the concrete will be at least of the same standard as the existing concrete.

- The minimum length of kerbing to be repaired will be 1m.

Backfilling and compaction behind kerbing must be carried out accordance with the specification (series 6).

If the road surface has been repaired before the paving is done, the Principal Contractor will be responsible to fix the gap between the kerbing and the tar with premix bitumen. No additional rate will be paid for this; it has to be included in the tendered rate.

C3.4.8.2 Inspection at Intermediate Stages of Construction

The Principal Contractor shall call for an inspection of the works at the following intermediate stages of construction:

- i) After completion of the trench excavation and preparation of the trench bottom; and before any pipe is laid.
- ii) After the selected backfill, material has been placed around the pipe; and before the remainder of the trench is backfilled.

Work shall not progress through the specified stages without the approval of the Engineer or his representative on site.

Failure to comply with the provision of this clause shall result in the suspension of work for a period as determined by the Engineer.

C3.4.8.3 Extension of Time due to Unpredictable Weather Circumstances

The Contractor shall erect an effective rainfall gauge on the site of the works and record the daily rainfall figures in the site diary. The site diary shall be handed to the Employer's representative for his signature no later than 10 days after rain that is considered to justify an extension of time occurs.

Extension of time due to abnormal rainfall shall be determined by means of Method 1, where rainfall records and/or values derived from rainfall records are supplied in the Scope of Work, otherwise Method 2 shall apply. Method 1 and 2 are defined and described in the Contract Data.

In the case where Method 2 applies the following is applicable:

Extension of time resulting from abnormal rainfall or other forms of inclement weather for items on the critical path of the programme shall be calculated according to the requirements of Method 2 (Critical-path method). The value of "n" working days per calendar month as specified in this clause shall be two (2) working days. If no abnormal rainfall or other inclement weather periods occur during a specific calendar month (or months), the n-values as specified shall not be taken as accumulating over the contract period. If the n-days allowed for in the programme of work are not taken up by standing time due to abnormal rainfall or inclement weather conditions, they will fall away and will not be considered in extension of time claims which may arise later during the contract period.

A working day, or portion thereof, shall be considered as lost when the engineer agrees that no work could have been undertaken on any item falling within the critical path. The contract extension of time arising from inclement weather shall be agreed upon between the engineer's and the contractor's representatives. The days upon shall be recorded in the minutes of the

monthly site meetings.

Extension of time due to abnormal rainfall for the purposes of this contract shall be determined by means of Method 1. The rainfall records at Rainfall Station, Pretoria University Proefplaas 05134651 for the period 1991 to 2024 reproduced in the accompanying table and the monthly averages, Rn and Nn, for this period, shall for the purpose of this Contract be taken as normal rainfall.

MONTH	Rn	Nn	MONTH	Rn	Nn
January	123.8	4.0	July	0.8	0.0
February	108.5	3.0	August	3.2	0.0
March	105.4	3.0	September	12.2	0.0
April	39.1	1.0	October	56.2	2.0
May	14.3	0.0	November	90.9	5.0
June	4.5	0.0	December	120.2	6.0
			TOTAL	679.2	24.0

Records of rain days will be recorded in the minutes of the monthly site meeting.

C3.4.8.4 CCTV Pipe Test

Completed pipelines shall be CCTV inspected according to the specification. The fully completed CCTV footage and data must be submitted to the Engineer for evaluation. Only after the Engineer has approved that the pipe has been replaced according to the specification will those related items be paid. The CCTV inspections must be claimed under items 810. Only one CCTV inspection will be paid per line. In the instance where the initial CCTV shows the pipe is not replaced according to specification the Contractor will have to correct the line according to specification and re-CCTV the line at his own cost. All pipe cleaning that might be necessary to execute the CCTV inspection will be for the account of the Contractor and must be included in the payment items.

C3.4.9 CONTRACTORS' EMPLOYEES

C3.4.9.1 Minimum employment Conditions for Conventional Construction Works

Contractors shall comply with the Basic Conditions of Employment Act (Act No 75 of 1997).

As a determination has not been made in terms of the aforesaid act for the building sector, the minimum employment conditions which will apply to this Contract shall be guided by the Amendment of Sectoral Determination 2: Civil Engineering Sector published in the Government Gazette dated 4th September 2012, as and when amended from time to time.

Contractors shall also take in consideration the clauses of the Government Gazette 39293 of 16 October 2015 regarding Bargaining Council for Civil Engineering Industry: Extension of Conditions of Employment amending collective agreements to non-parties.

The following minimum conditions shall apply to this Contract and Contractors shall include such conditions in employment contracts.

C3.4.9.1.1 Appointment of Community Liaison Officer (CLO)

1. After selection of the PSC, at the same meeting indicated under item C3.3.6.1.3, residents and stakeholders in attendance are to vote for poll of three (3) potential CLO's coming from the community concerned.
2. In the event that a PSC is not constituted by public meeting, or cannot proceed with its work, as contemplated by section 6.1.3.5 of the Framework, the appointed PSC will nominate potential CLOs.
3. It is from this pool that the contractor, after interviewing the three (3) nominees and consultation with the PSC appoints the CLO.
4. Administrative processes for appointment of Community Liaison Officers.
 - Minutes and an attendance register must be kept as evidence of the proceedings of the election meeting.
 - The office of the speaker must submit the results (minutes) and attendance registrar of the community liaison officer election meeting to the chairperson of the PSC, the contractor and the Expanded Public Works Programme (EPWP) Division.
 - The elected CLO will be appointed by the contractor for the duration of the project and also be remunerated by the contractor. Where the CLO is no longer available and another is appointed, the existing CLO shall cease to receive remuneration.
 - An employment agreement containing the general terms and conditions of the contract, will be issued to the CLO and must be signed by the CLO before commencement of duties.
 - A CLO will be appointed from the ward in which the project is executed.
 - The CLO's will be remunerated according to the entry level basic salary of an Administrator Officer position of the City of Tshwane (Task Level 5 notch 1) No benefits will be applicable.
5. The CLO must have the following attributes: -
 - have credibility and standing in the community.
 - have a strong personality.
 - be able to be firm and decisive.
 - be able to facilitate in disputes.
 - be able to handle conflict.
 - be able to keep minutes and records in a proper and orderly way.
 - have a knowledge of labour laws and industrial relations (training will be provided where necessary).
 - be objective and impartial.
 - be fair.

C3.4.9.1.2 Employment contracts

The Contractor shall enter into an employment contract with every one of his/her employees, including short-term contracts i.e. contracts in which employment commencement and employment termination dates are specified. Short-term employment contracts will also apply an employee employed for only one day.

C3.4.9.1.3 Normal working hours

Normal working hours are from 07:00 to 17:00 from Monday to Friday. A tea break is taken from 09:00 to 09:15 and lunch from 12:30 to 13:00.

Actual hours to work and be paid for is 9 hours per day. If a lunch break of one (1) hour is taken, then the normal working day will be as follow:

Morning work sessions from 07:00 to 12:00, lunch break from 12:00 to 13:00, and afternoon sessions from 13:00 to 17:00.

C3.4.9.1.4 Minimum wages

Minimum wages shall be according to the **Sectional determination for Civil Engineering works and annual increase shall be affected as and when new rates are gazetted**. For a full day's work, the hourly rate shall be multiplied by 9. Normal 5-day week hours of work shall be 45 hours, and the wage calculated according to the applicable hourly rate.

Overtime pay shall be 1.5 times the ordinary wage.

Wages should be increased by CPI excluding owners' equivalent rent (eoe) plus two percentage points for the second and third years of the determination. The CPI to be used is the one that was published by Stats SA six weeks prior to the scheduled increment date.

Below are the recommendations of the Department regarding new minimum wages levels:

Table 1: Minimum wages per hour for all employees in the Civil Engineering Sector.

Task Grade	Hourly Rate as per promulgation date up to 31 August 2025	Hourly Rate from 1 September 2025 to 31 August 2026 (increase at 6.5%)	Hourly Rate from 1 September 2026 to August 2027
1	R51,00	R54,32	R57,85
2	R52,20	R55,59	R59,21
3	R53,65	R57,14	R60,85
4	R55,66	R59,28	R63,13
5	R63,02	R67,12	R71,48
6	R71,58	R76,23	R81,19
7	R81,97	R87,30	R92,97
8	R91,91	R97,88	R104,25
9	R103,38	R110,10	R117,26

C3.4.9.1.5 Short time (excluding short time due to inclement weather)

If for reasons, which may be ascribed to the employee, e.g. arriving late for work or taking an afternoon off, the hours not worked shall be deducted from the daily wage calculation.

C3.4.9.1.6 Short time resulting from inclement weather.

- i. If the Contractor informs his/her employees that no work will be done the following day due to inclement weather, no payment will be due to the employee for such a day.
- ii. If the Contractor has not informed his/her employees that no work will be done due to inclement weather and no work or less than four (4) hours of work is possible during a day, the Contractor must pay the employee for four (4) hours of work. If more than four (4) hours of work is done, the Contractor shall pay the employee for the number of hours worked.

C3.4.9.1.7 Vacation leave

If an employee has been in full time employment for more than four (4) months, he/she shall be entitled to 1 day's paid leave for every seventeen (17) days the employee worked or was entitled to payment.

C3.4.9.1.8 Family responsibility leave

If an employee has been in full time employment for more than four (4) months, he/she shall be entitled to three days paid leave in a leave cycle of thirty-six (36) months of employment:

- i. When the employee's child is born
- ii. When the employee's child is sick
- iii. In the event of death of the employee's spouse or life partner, parent, grandparent, child or grandchild.

The employee shall provide the required proof to the Contractor of the event, failing which the leave shall be unpaid leave.

C3.4.9.1.9 Maternity leave

At least four (4) months unpaid leave.

C3.4.9.1.10 Sick leave

The employee shall be entitled to one (1) day's paid sick leave of normal wages for every twenty-six (26) days worked.

If an employee is absent for three (3) or more consecutive days, the employee shall provide a sick certificate from a registered medical practitioner to qualify for sick leave payment. If such certificate is not provided, no sick leave payment will be due to the employee.

C3.4.9.1.11 Piece work

Irrespective of the quantity of work done under a piece work system during a working week, the employee shall be entitled to a minimum of a week's wages determined as if no piece work applied.

The Contractor or employee may terminate an employment contract by giving notice of termination of not less than:

- i. On short period contracts i.e. a contract which states from which date work employment commences and on which day employment terminates, the terms of the employment contract shall apply.
- ii. One week if employee has been employed for four (4) weeks or less, unless it is a short-term project.
- iii. Two (2) weeks if employee has been employed for more than four (4) weeks but not more than one (1) year.
- iv. Four (4) weeks if employee has been employed for more than one year.

C3.4.9.2 Employment Conditions for Labour Intensive Works and Construction

The Ministerial Determination, Expanded Public Works Programmes, issued in terms of the Basic Conditions of Employment Act of 1997 by the Minister of Labour in Government Notice N° R63 of 25 January 2002, as reproduced below, shall apply to works described in scope of work as being labour intensive and which are undertaken by unskilled or semi-skilled workers.

This clause contains the standard terms and conditions for workers employed in elementary occupations on a Expanded Public Works Programme (EPWP). These terms and conditions do NOT apply to persons employed in the supervision and management of a EPWP.

C3.4.9.2.1 Terminology

- (a) “department” means any department of the State, implementing agent or contractor.
- (b) “employer” means any department, implementing agency or contractor that hires workers to work in elementary occupations on an EPWP.
- (c) “workers” means any person working in an elementary occupation on an EPWP.
- (d) “elementary occupation” means any occupation involving unskilled or semi-skilled work;
- (e) “management” means any person employed by a department or implementing agency to administer or execute an EPWP’
- (f) “task” means a fixed quantity of work.
- (g) “task-based work” means work in which a worker is paid a fixed rate for performing a task.
- (h) “task-rated worker” means a worker paid on the basis of the number of tasks completed.
- (i) “time-rated worker” means a worker paid on the basis of the length of time worked.

C3.4.9.2.2 Terms of Work

- 2.2.1 Workers on a EPWP are employed on a temporary basis.

2.2.2 A worker may NOT be employed for longer than 24 months in any five-year cycle on an EPWP.

2.2.3 Employment on a EPWP does not qualify as employment as a contributor for the purposes of the Unemployment Insurance ACT 30 of 1966.

C3.4.9.2.3 Normal Hours of Work

2.3.2 An employer may not set tasks or hours of work that require a worker to work:

- (a) more than forty-five hours in any week
- (b) on more than five days in any week; and
- (c) for more than nine hours on any day.

2.3.3 An employer and worker may agree that a worker will work four days per week. The worker may then work up to ten hours per day.

2.3.4 A task-rated worker may not work more than a total of 55 hours in any week to complete the tasks allocated (based on a 45-hour week) to that worker.

C3.4.9.2.4 Meal Breaks

- i. A worker may not work for more than five hours without taking a meal break of at least thirty minutes duration.
- ii. An employer and worker may agree on longer meal breaks.
- iii. A worker may not work during a meal break. However, an employer may require a worker to perform duties during a meal break if those duties cannot be left unattended and cannot be performed by another worker. An employer must take reasonable steps to ensure that a worker is relieved of his or her duties during the meal break.
- iv. A worker is not entitled to payment for the period of a meal break. However, a worker who is paid based on time worked must be paid if the worker is required to work or to be available for work during the meal break.

C3.4.9.2.5 Special Conditions for Security Guards

- i. A security guard may work up to 55 hours per week and up to eleven hours per day.
- ii. A security guard who works more than ten hours per day must have a meal break of at least one hour or two breaks of at least 30 minutes each.

C3.4.9.2.6 Daily Rest Period

Every worker is entitled to a daily rest period of at least twelve consecutive hours. The daily rest period is measured from the time the worker ends work on one day until the time the worker starts work on the next day.

C3.4.9.2.7 Weekly Rest Period

Every worker must have two days off every week. A worker may only work on their day off to perform work which must be done without delay and cannot be performed by workers during their ordinary hours of work ("emergency work").

C3.4.9.2.8 Work on Sundays and Public Holidays

- i. A worker may only work on a Sunday or public holiday to perform emergency or security work.
- ii. Work on Sundays is paid at the ordinary rate of pay.
- iii. A task-rated worker who works on a public holiday must be paid –
 - (a) the worker's daily task rate, if the worker works for less than four hours
 - (b) double the worker's daily task rate, if the worker works for more than four hours.
- iv. A time-rated worker who works on public holiday must be paid –
 - (a) the worker's daily rate of pay, if the worker works for less than four hours on the public holiday
 - (b) double the worker's daily rate of pay, if the worker works for more than four hours on the public holiday.

C3.4.9.2.9 Sick Leave

- i. Only workers who work more than 24 hours per month have the right to claim sick pay in terms of this clause.
- ii. A worker who is unable to work on account of illness or injury is entitled to claim one day's sick leave for every full month that the worker has worked in terms of a contract.
- iii. A worker may accumulate a maximum of twelve days' sick leave in a year.
- iv. Accumulated sick leave may not be transferred from one contract to another contract.
- v. An employer must pay a task-rated worker the worker's daily task rate for a day's sick leave.
- vi. An employer must pay a time-rated worker the worker's daily rate for a day's sick leave.
- vii. An employer must pay a worker sick pay on the worker's usual payday.
- viii. Before paying sick-pay, an employer may require a worker to produce a certificate stating that the worker was unable to work on account of sickness or injury if the worker is –
 - a. absent from work for more than two consecutive days /or
 - b. absent from work on more than two occasions in any eight-week

period.

- ix. A medical certificate must be issued and signed by a medical practitioner, a qualified nurse or a clinic staff member authorised to issue medical certificates indicating the duration and reason for incapacity.
- x. A worker is not entitled to paid sick leave for a work-related injury or occupational disease for which the worker can claim compensation under the Compensation for Occupational Injuries and Disease Act.

C3.4.9.2.10 Maternity Leave

- i. A worker may take up to four consecutive month's unpaid maternity leave.
- ii. A worker is not entitled to any payment or employment-related benefits during maternity leave.
- iii. A worker must give her employer reasonable notice of when she will start maternity leave and when she will return to work.
- iv. A worker is not required to take the full period of maternity leave. However, a worker may not work for four weeks before the expected date of birth of her child or for six weeks after the birth of her child, unless a medical practitioner, midwife or qualified nurse certifies that she is fit to do so.
- v. A worker may begin maternity leave –
 - (a) four weeks before the expected date of birth; or
 - (b) on an earlier date –
 - if a medical practitioner, midwife, or certified nurse certifies that it is necessary for the health of the worker or that of her unborn child; or
 - if agreed to between employer and worker; or
 - (c) on a later date, if a medical practitioner, midwife, or certified nurse has certified that the worker is able to continue to work without endangering her health.
- vi. A worker who has a miscarriage during the third trimester of pregnancy or bears a stillborn child may take maternity leave for up to six weeks after the miscarriage or stillbirth.
- vii. A worker who returns to work after maternity leave, has the right to start a new cycle of twenty-four months employment, unless the EPWP on which she was employed has ended.

C3.4.9.2.11 Family Responsibility Leave

- i. Workers, who work for at least four days per week, are entitled to three days paid family responsibility leave each year in the following circumstances –
 - a. when the employee's child is born
 - b. when the employee's child is sick
 - c. in the event of a death of –
 - the employee's spouse or life partner

- the employee's parent, adoptive parent, grandparent, child, adopted child, grandchild, or sibling.

C3.4.9.2.12 Statement of Conditions

- i. An employer must give a worker a statement containing the following details at the start of employment –
 - a. the employer's name and address and the name of the worker
 - b. the tasks or job that the worker is to perform; and
 - c. the period for which the worker is hired or, if this is not certain, the expected duration of the contract.
 - d. the worker's rate of pay and how this is to be calculated.
 - e. the training that the worker will receive.
- ii. An employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.
- iii. An employer must supply each worker with a copy of these conditions of employment.

C3.4.9.2.13 Keeping Records

- i. Every employer must keep a written record of at least the following –
 - a. the worker's name and position
 - b. copy of an acceptable worker identification
 - c. in the case of a task-rated worker, the number of tasks completed by the worker.
 - d. in the case of a time-rated worker, the time worked by the worker.
 - e. payments made to each worker.

C3.4.9.2.14 Monthly reporting

Contractors must report monthly on labour beneficiaries on the project and submit this with the monthly payment certificates. The beneficiary information records require:

- i. the name, surname, date of birth and a unique identity number,
- ii. gender, disability status,
- iii. education and literacy level,
- iv. daily wage to be received, and
- v. training attended.

On a monthly basis, contractors must confirm the number of people at work daily by maintaining daily site attendance registers that will be summarised into a monthly attendance register by the construction.

C3.4.9.2.15 Payment for the Labour-Intensive Component of the Works

- C3.4.9.2.15.1 Payment for works identified in the Scope of Work as being labour-intensive shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the Contractor in any way from his obligations either in contract or in delict.

- C3.4.9.2.15.2 An employer must pay all wages at least monthly in cash or by cheque or into a bank account.
- C3.4.9.2.15.3 A task-rated worker will only be paid for tasks that have been completed.
- C3.4.9.2.15.4 An employer must pay a task-rated worker within five weeks of the work being completed and the work having been approved by the manager or the contractor having submitted an invoice to the employer.
- C3.4.9.2.15.5 A time-rated worker will be paid at the end of each month.
- C3.4.9.2.15.6 Payment must be made in cash, by cheque or by direct deposit into a bank account designated by the worker.
- C3.4.9.2.15.7 Payment in cash or by cheque must take place –
- (a) at the workplace or at a place agreed to by the worker.
 - (b) during the worker's working hours or within fifteen minutes of the start or finish of work.
 - (c) in a sealed envelope which becomes the property of the worker.
- C3.4.9.2.15.8 An employer must give a worker the following information in writing –
- (a) the period for which payment is made.
 - (b) the numbers of tasks completed, or hours worked.
 - (c) the worker's earnings.
 - (d) any money deducted from the payment.
 - (e) the actual amount paid to the worker.
- C3.4.9.2.15.9 If the worker is paid in cash or by cheque, this information must be recorded on the envelope and the worker must acknowledge receipt of payment by signing for it.
- C3.4.9.2.15.10 If a worker's employment is terminated, the employer must pay all monies owing to that worker within one month of the termination of employment.

C3.4.9.2.16 Deductions

- i. An employer may not deduct money from a worker's payment unless the deduction is required in terms of a law.
- ii. An employer must deduct and pay to the SA Revenue Services any income tax that the worker is required to pay.
- iii. An employer who deducts money from a worker's pay for payment to another person must pay the money to that person within the period and other requirements specified in the agreement law, court order or arbitration award concerned.
- iv. An employer may not require or allow a worker to –
 - a. repay any payment except an overpayment previously made by the employer by mistake.
 - b. state that the worker received a greater amount of money than the employer actually paid to the worker; or

- c. pay the employer or any other person for having been employed.

C3.4.9.2.17 Health and Safety

- Employers must take all reasonable steps to ensure that the working environment is healthy and safe.
- A worker must –
 - a. work in a way that does not endanger his/her health and safety or that of any other person.
 - b. obey any health and safety instruction.
 - c. obey all health and safety rules.
 - d. use any personal protective equipment or clothing issued by the employer.
 - e. report any accident, near-miss incident or dangerous behaviour by another person to their employer or manager.

C3.4.9.2.18 Compensation for Injuries and Diseases

- It is the responsibility of the employers (other than a contractor) to arrange for all persons employed on a EPWP to be covered in terms of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- A worker must report any work-related injury or occupational disease to their employer or manager.
- The employer must report the accident or disease to the Compensation Commissioner.
- An employer must pay a worker who is unable to work because of an injury caused by an accident at work 75% of their earnings for up to three months. The employer will be refunded this amount by the Compensation Commissioner. This does NOT apply to injuries caused by accidents outside the workplace such as road accidents or accidents at home.

C3.4.9.2.19 Termination

- The employer may terminate the employment of a worker for good cause after following a fair procedure.
- A worker will not receive severance pay on termination.
- A worker is not required to give notice to terminate employment. However, a worker who wishes to resign should advise the manager the employer in advance to allow the employer to find a replacement.
- A worker who is absent for more than three consecutive days without informing the employer of an intention to return to work will have terminated the contract. However, the worker may be re-engaged if a position becomes available of the balance for the 24-month period.

- A worker who does not attend required training events, without good reason will have terminated the contract. However, the worker may be re-engaged if a position becomes available for the balance of the 24-month period.

C3.4.9.2.20 Certificate of Service

On the termination of employment, a worker is entitled to a certificate stating –

- the worker's full name;
- the name and address of the employer;
- the worker on which the worker worked;
- the work performed by the worker;
- any training received by the worker as part of the SPWP;
- the period for which the worker worked on the SPWP; and
- any other information agreed on by the employer and worker.

C3.4.9.3 Employment Conditions for Sub-Contractors

The City of Tshwane aims that each project issued by the Municipality focus on uplifting the community and ensuring that skills are transferred to the sub-contractors through the projects in and around Tshwane. In trying to implement this policy the appointed Contractor is required to subcontract 30% of this project to sub-contractors in accordance with the Preferential Procurement Policy Framework Act 2000, Preferential Procurement Regulation 2022 will be applicable to this appointment.

The contractor will be held responsible for appointing, managing and payment of the sub-contractors. The contractor will need to finance these payments to the sub-contractors.

C3.4.9.3.1 Terminology

"Employer" means the contract that hires Sub-contractor to work in elementary occupations on the project;

"Sub-contractor" means

- An EME or QSE
- An EME or QSE which is at least 51% owned by black people who are youth
- An EME or QSE which is at least 51% owned by black people who are women

Definitions:

- "EME" means an exempted micro enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act.
- "QSE" means a qualifying small business enterprise in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act.

"SC task" means a fixed quantity of work identified in the Schedule of Quantities as being earmarked for Sub-contracting.

“SC task-based work” means work in which a Subcontractor is paid a fixed rate for performing a SC task.

C3.4.9.3.2 Terms of Work

The Contractor will be required to handle all communications and negotiations with the sub-contractors.

Sub-contractors are employed for a specific SC task as identified in the Schedule of Quantities and as per the rate by Sub-contractor.

A subcontractor will be employed for the duration of the SC task as per the Schedule of Quantities or as per the written agreement between the employer and the Sub-contractors.

Employment of a Sub-contractors does not qualify as employment as a contributor for the purposes of the Unemployment Insurance Act 30 of 1966.

The Sub-contractors will need to adhere to the normal hours of work and conditions of employment as specified in the tender document.

The contractor will need to manage the sub-contractors and ensure that tasks are completed in accordance with the contract requirements.

C3.4.9.3.3 Statement of Conditions

An employer must give the Sub-contractors a statement containing the following details at the start of employment:

- (a) The employer's name and address and the name of the project.
- (b) The tasks or job that the Sub-contractors is to perform.
- (c) The period for which the Sub-contractors is hired or, if this is not certain, the expected duration of the contract.
- (d) Supply of materials.
- (e) The training that the Subcontractors will receive during the project.

A copy of this written agreement between the employer and the Sub-contractors must be always kept at the site office. This agreement will be available to the Engineer should disputes or queries arise.

Each Sub-contractor should be given a fair chance to price the work area marked in the Schedule of Quantities for Sub-contracting. The employer must ensure that these terms are explained in a suitable language to any employee who is unable to read the statement.

The contractor will need to use his own discretion when appointing a Sub-contractor and will need to ensure that the codes of “Best Practice” is always adhere to.

An employer must supply each Sub-contractor with a copy of these conditions of employment.

The employer will NOT be required to supply tools or any equipment to the sub-contractors.

C3.4.9.3.4 Keeping Records

Every employer must keep written record of at least the following:

- (a) The Sub-contractor's name and employment requirements.
- (b) In the case of a task-rated Subcontractors, the number of tasks completed by the Sub-contractors.
- (c) In the case of a time-rated Sub-contractor, the time worked by the Sub-contractors.
- (d) Payments made to each Sub-contractor.

The employer must keep this record for a period of at least three years after the completion of the project.

C3.4.9.3.5 Payment for the Subcontracting component of the works

Payment for works identified in the Schedule of Quantities as being "SC" shall only be made in accordance with the provisions of the Contract if the works are constructed strictly in accordance with the provisions of the scope of work. Any non-payment for such works shall not relieve the contractor in any way from his obligations either in contract or in delict.

An employer must pay the sub-contractors on a fortnightly (2 week) cycle in cash or by cheque or into a bank account.

A Sub-contractor's worker will only be paid for the portion of the tasks or the task that have been completed as per the agreement.

An employer must give the Sub-contractors the following information in writing:

- (a) The period for which payment is made.
- (b) The LIC tasks completed.
- (c) The Subcontractor's earnings.
- (d) Any money deducted from the payment.
- (e) The actual amount paid to the sub-contractor.

If the sub-contractor is paid in cash or by cheque, this information must be recorded on the envelope and the subcontractor must acknowledge receipt of payment by signing for it.

If a sub-contractor's employment is terminated, the employer must pay all monies owing to that sub-contractor within two weeks of termination of employment.

C3.4.9.3.6 Deductions

An employer may not deduct money from a sub-contractor's payment unless the deduction is required in terms of a law.

An employer must deduct and pay to the SA Revenue Services any income tax that the sub-contractor is required to pay.

An employer who deducts money from a sub-contractor's pay for payment to another party must pay the money to that person within the time period and other requirements specified in the agreement, law, court order or arbitration award concerned.

An employer may not require or allow a sub-contractor to –

- (a) Repay any payment except an overpayment previously made by the employer by

- mistake;
- (b) State that the sub-contractor received a greater amount of money than the employer actually paid to the sub-contractor; or
- (c) Pay the employer or any other party for having been employed.

C3.4.9.3.7 Health and Safety

Employers must take all reasonable steps to ensure that the subcontractor environment is healthy and safe. The sub-contractor needs to adhere to all EMP requirements of the employer.

C3.4.9.3.8 Termination

The employer may terminate the employment of a sub-contractor for good cause after following a fair procedure.

A sub-contractor will not receive severance pay on termination.

A sub-contractor will be required to give notice to terminate employment. Notice to terminate employment should be made at least two weeks in advance to allow the employer to find a replacement.

C3.4.9.3.9 Certificate of Service

On the termination of employment, a sub-contractor is entitled to a certificate stating –

- (a) The sub-contractor's full name;
- (b) The name and address of the employer;
- (c) The tasks on which the sub-contractor worked or completed;
- (d) The work performed by the sub-contractor under the project;
- (e) Any training received by the sub-contractor was employed;
- (f) The period for which the sub-contractor was employed; and
- (g) Any other information agreed on by the employer and local sub-contractor.

C3.4.9.4 Employment of Unskilled and Semi-Skilled Workers in Labour-Intensive Works

C3.4.9.4.1 Requirements for the Sourcing and Engagement of Labour

C3.4.9.4.1.1 Unskilled and semi-skilled labour require for the execution of all labour-intensive works shall be engaged strictly in accordance with prevailing legislation and SANS 1914-5, Participation of Targeted Labour.

C3.4.9.4.1.2 The rate pay set for the EPWP should be aligned to the civil engineering sector that is gazetted annually. The published rate will receive an ATB increase of CPI plus 0.75% of the current rate.

C3.4.9.4.1.3 Tasks established by the contractor must such that:

- (a) the average worker completes 5 tasks per week in 45 hours or less; and
- (b) the weakest worker completes 5 tasks per week in 55 hours or less.

C3.4.9.4.1.4 The contractor must revise the time taken to complete a task whenever it is established that the time taken to complete a weekly task is not within the requirements of 5.1.3.

C3.4.9.4.1.5 The Contractor shall, through all available community structures, inform the local community of the labour-intensive works and the employment opportunities presented thereby. Preference must be given to people with previous practical experience in construction and / or who come from households:

- (a) where the head of the household has less than a primary school education;
- (b) that have less than one full time person earning an income;
- (c) where subsistence agriculture is the source of income;
- (d) those who are not in receipt of any social security pension income.

C3.4.9.4.1.6 The Contractor shall endeavour to ensure that the expenditure on the employment of temporary workers is in the following proportions:

- (a) 40% women.
- (b) 20% youth who are between the ages of 18 and 35; and
- (c) 2% on persons with disabilities.

C3.4.9.4.2 Specific Provisions Pertaining to SANS 1914-5

C3.4.9.4.2.1 Definitions

Targeted labour: Unemployment persons who are employed as local labour on the project.

C3.4.9.4.2.2 Contract participation goals

5.2.2.1 there is no specified contract participation goal for the contract. The contract participation goal shall be measured in the performance of the contract to enable the employment provided to targeted labour to be quantified.

5.2.2.2 The wages and allowances used to calculate the contract participation goal shall, with respect to both time-related and task rated workers, comprise all wages paid, and any training allowance paid in respect of agreed training programmes.

C3.4.9.4.2.3 Terms and conditions for the engagement of targeted labour

Further to the provisions of clause 3.3.2 of SANS 1914-5, written contracts shall be entered into with targeted labour.

C3.4.9.4.2.4 Variations to SANS 1914-5

4.2.4.1 The definition for net amount shall be amended as follows:

Financial value of the contract upon completion, exclusive of any value added tax or sales tax which the law requires the employer to pay the contractor.

4.2.4.2 The schedule referred to in 5.2 shall in addition reflect the status of targeted labour as women, youth and persons with disabilities.

CITY OF TSHWANE
WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.5 MANAGEMENT

C3.5 MANAGEMENT

C3.5.1 Construction Programme

The Contractor shall submit within the period stated in the Contract Data a suitable and realistic construction programme for the consideration of the Engineer.

The programme shall be in the form of a Gantt chart and shall include the following details:

- A work breakdown structure, identifying the major activity groups.
- For each activity group further details shall be provided with regard to the scheduled start and end dates of individual activities.
- The linkages between activities shall be clearly indicated and the logical network upon which the programme is based shall be separately submitted to the engineer if requested. Any constraints shall be classified as being time-related or resource-related.
- The critical path(s) shall be clearly indicated and floats on non-critical activities shall be shown.
- The Contractor shall indicate the working hours per day, night, week, and month allowed for in the programme.
- Where relevant the Contractor shall state the production rates for key activities, e.g. earthworks, etc.

Together with the programme as detailed above the contractor shall submit to the engineer a cash flow projection, indicating projected monthly invoice amounts. The cash flow projection shall be updated at monthly intervals to reflect actual payments to date and anticipated further payments.

The programme will be reviewed at the monthly site meetings at which the Contractor shall provide sufficient detail that will allow the comparison of completed work per activity that has fallen behind. The updated programme shall be submitted to the Engineer at least two days prior to the monthly meetings.

If the programme must be revised by reason of the Contractor falling behind his programme, he shall produce a revised programme showing how he intends to regain lost time in order to ensure completion of the Works within the time for completion as defined in Clause 42 of the General Conditions of Contract or any granted extension of time. Any proposal to increase the tempo of work must be accompanied by positive steps to increase production by providing more labour and plant on site, or by using the available labour and plant on site, or by using the available labour and plant in a more efficient manner.

Failure on the part of the Contractor to submit the programme or to work according to the programme or revised programmes shall be sufficient reason for the Engineer to take steps as provided in Clause 55 of the General Conditions of Contract.

The approval by the Engineer of any programme shall have no contractual significance other than that the Engineer will be satisfied that the work is carried out according to such programme and that the Contractor undertakes to carry out the work in accordance with the programme. It shall not limit the right of the Engineer to instruct the Contractor to vary the programme if required by circumstances. The Contractor is also referred to Clause 12 of the General Conditions of Contract when drawing up his programme.

C3.5.2 Sequence of the works

The sequence of the works shall be such that the Contractor adhere to a three-block construction system (with a block not longer than 150m). This system concentrates construction in a specific area to ensure quick and effective completion of all construction activities. Before moving to a fourth block, the first block must be completed and a certificate for practical completion issued by the Engineer.

C3.5.3 Accommodation of traffic

The following contain the Employer's general requirements for accommodating the traffic during construction:

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

Failure to maintain road signs, warning signs, etc, in a good condition shall constitute ample reason for the engineer to bring the works to a stop until the road signs, etc, have been repaired to his satisfaction.

The contractor may not commence constructional activities before adequate provision has been made to accommodate traffic in accordance with the requirements of this document and the South African Road Traffic Signs Manual Volume 2 Chapter 13.

The contractor shall submit proposals in connection with directional signs to the engineer for approval prior to construction.

Sufficient signage shall be provided, erected and relocated as necessary by the contractor to reroute traffic onto the deviations. It is proposed that traffic is deviated as follows:

See Volume 2: Drawings.

Each team working on this contract will need to have a competent person who will be responsible for the setting out of the road signs daily. Proof accredited of training will need to be provided to the CoT before any team will be allowed to start work.

C3.5.4 Extension of time on account of abnormal rainfall

The Contractor shall erect an effective rainfall gauge on the site of the works and record the daily rainfall figures in the site diary. The site diary shall be handed to the Employer's representative for his signature no later than 10 days after rain that is considered to justify an extension of time occurs.

Extension of time due to abnormal rainfall shall be determined by means of Method 1, where rainfall records and/or values derived from rainfall records are supplied in the Scope of Work,

otherwise Method 2 shall apply. Method 1 and 2 are defined and described in the Contract Data.

In the case where Method 2 applies the following is applicable:

- Extension of time resulting from abnormal rainfall or other forms of inclement weather for items on the critical path of the programme shall be two (2) working days. If no abnormal rainfall or other inclement weather periods occur during a specific calendar month (or months), the n-values as specified shall not be taken as accumulating over the contract period. If the n-days allowed for in the programme of work are not taken up by standing time due to abnormal rainfall or inclement weather conditions, they will fall away and will not be considered in extension of time claims which may arise later during the contract period.
- A working day, or portion thereof, shall be considered as lost when the engineer agrees that no work could have been undertaken on any item falling within the critical path. The contract extension of time arising from inclement weather shall be agreed upon between the engineer's and the contractor's representatives. The days upon shall be recorded in the minutes of the monthly site meetings.

Extension of time due to abnormal rainfall for the purposes of this contract shall be determined by means of Method 1. The rainfall records at Rainfall Station, Pretoria University Proefplaas 0513435A4 for the period 2014 to 2020 reproduced in the accompanying table and the monthly averages, Rn and Nn, for this period, shall for the purpose of this Contract be taken as normal rainfall.

STATISTICAL INFORMATION: [0513465 1] PRETORIA UNIV PROEFPLAAS		
RAINFALL		
Month	Nn = Actual number of days during the calendar months in which a rainfall of more than Y-mm has been received	Rn = Average monthly rainfall
January	3.65	110.75
February	3.01	81.53
March	2.90	123.05
April	2.07	62.20
May	0.42	12.38
June	0.17	1.88
July	0.13	1.45
August	0.06	0.10
September	0.70	11.48
October	1.35	38.25
November	2.57	76.58
December	3.23	122.70
TOTAL	20.25	642.33

3.5.4 Community participation

Community participation consists of engagement of Project Steering Committees (PSC). A PSC will be established for the town by the Ward Councillor. The functions of the PSC will be to:

- Assist in monitoring the project.
- Ensure that the community aid the contractor to ensure that he can execute the contract in accordance with the specifications and within time.
- Encourage the community to participate in the Labour-Intensive construction.

- Identify skills, skilled personnel and suppliers in the towns.

The PSC will not have the power to:

- Give any instructions to the contractor, except through the engineer.
- Become involved in the daily operations of the contractor or interfere with the contract works.

A monthly meeting will be held with the PSC to discuss relevant matters. The site agent and resident engineer will attend the meetings. The contractor will have to report on progress, deviations from the programme, financial matters community related aspects, general problems, and co-operation at the meeting. The PSC members will not receive any remuneration for attending, and they must provide their own transport.

The committee, which may be chaired by the Ward Councillor, shall consist of representatives of:

- (a) The Ward Councillor(s)
 - (b) The Client
 - (c) The Engineer
 - (d) The Contractor
 - (e) The CLO(s)
 - (f) Members of Ward Committees nominated by Ward Councillor(s)
 - (g) Local Security Company
- The Community Liaison Officer shall manage the labour desk and will have regular meetings with the Contractor where all construction and labour matters will be addressed. Some of the role players will only attend these meetings on an ad hoc basis as needed.
 - The Local Security Company shall be responsible for the safekeeping of all plant, materials, construction equipment and all personnel employed on the project, 24 hour a day, seven days a week from site handover to project completion.
 - The following aspects will have to be clarified by the labour desk before any person is engaged in construction work:
 - Contract of Employment
 - Type of Work
 - Duration of appointment
 - Workman's Compensation
 - Tax deduction
 - Insurance (UIF)
 - Wages and bonus and overtime regulations
 - Production pay-rate per unit of production
 - Working hours
 - Start and end times of a daily shift
 - Lunch breaks
 - Company policy regarding:
 - Rain time
 - No work no pay
 - Disciplinary policy

- Grievance policy
 - Method of payment and intervals
 - Safety equipment where applicable
- The appointment of any local labour under this project will be the responsibility of the main contractor. All employee/employer issues will be ruled by the statutory labour relations' regulations as well as per the relevant contractual clauses.

C3.5.5 Construction management service requirements

The Contractor shall appoint a Construction Manager whose duties will be to provide construction management and materials management services to the project.

C3.5.5.1 General

The construction manager shall, in order to achieve the employer's objectives stated in Clause 3.1.1, Description of Work,

- a) comply with agreements made with the employer and the local community, if any, monitor and report on project expenditure and costs and construction progress, and co-ordinate site activities,
- b) advise, assist and train the supported contractor on the job in terms of the contract between the employer and the supported contractor and, if so, required in the specification data, arrange for the supply of certain items of equipment and the supply and delivery to site of materials,
- c) remain impartial in his dealings with the employer and the supported contractor,
- d) engage, on behalf of and with the approval of the employer, specialist contractors to execute parts of the works and coordinate the work of supported contractors and the specialist contractors,
- e) cooperate with other professional service providers appointed by the employer,
- f) visit the site at appropriate intervals during the various stages of construction in order to confirm that the supported contractor is making satisfactory progress, that he shows technical competence in the execution of all aspects of the works and generally fulfils all contractual obligations,
- g) provide continuous support to the supported contractor in order to ensure that the employer's objectives are achieved,
- h) operate within any structured framework developed by the employer to enable interim payments to be made to supported contractors within relatively short time frames,
- i) provide site facilities for the employer and his agents, as provided for in the specification data,
- j) ensure the economic and efficient use of all plant and, to this end, maintain adequate records of plant usage,
- k) maintain detailed records of all costs relating to the construction of the works including those relating to the provision of construction management services, and report to the employer at intervals not exceeding one month on the financial status of the contract, and
- l) assist supported contractors in registering with a public body, if required, in terms of the specification data.

C3.5.5.2 Construction stage requirements

C3.5.5.2.1 General

Following the award of the contract to the supported contractor, the construction manager shall, as a minimum,

- a) attend site and coordination meetings conducted by the employer and his agents,
- b) arrange weekly or fortnightly site progress meetings with the supported contractor and record and distribute the minutes thereof,
- c) liaise with the employer at coordination meetings at regular, agreed intervals and keep him fully informed regarding all aspects of the supported contractors' contracts,
- d) confirm insurance arrangements, notify insurers of all claims and ensure that all insurance policies are maintained,
- e) bring to the attention of the employer without delay any deficiencies in materials or in work performed by the supported contractor and follow up corrective actions which might be prescribed,
- f) inspect all exposed services, report in writing any damage to the employer and, subject to the approval of the employer, take the necessary action to have the damage repaired,
- g) implement and monitor approved security arrangements and recommend and implement changes which might be necessary, where required by the employer in terms of the specification data, arrange for the supply and erection of suitable name boards,
- h) maintain and update the assets register,
- i) monitor the progress of the supported contractor and submit monthly progress reports to the employer which provide information relating to,
 - I. progress in relation to the programme,
 - II. costs incurred in respect of materials, labour, plant, transport, specialist contractors and construction management services,
 - III. the actual cash flow compared with the predicted cash flow,
 - IV. expected savings or excess expenditure,
 - V. site meetings,
 - VI. details of plant hired, including standing-time charges, breakdowns and reasons for the use thereof, and
 - VII. details regarding the theft of materials issued to site,
- j) coordinate and monitor the activities of the supported contractor and others involved in the works,
- k) maintain all necessary site records and documentation including those pertaining to personnel on site, equipment, progress, deliveries of materials to supported contractors, variations to their respective contracts, quantities of work executed, etc.,
- l) ensure that the supported contractor implements a systematic testing programme,
- m) review and monitor the supported contractor's quality control systems,
- n) establish and maintain a list of defects and ensure that these are remedied,
- o) brief supported contractors on health and safety requirements, and
- p) verify claims for payment to supported contractors and other parties in accordance with the provisions of the contract.
- q) Provide a full-time **Site Agent**.

C3.5.5.2.2 Advice and assistance to the supported contractor

The construction manager shall, as a minimum,

- a) process and resolve supported contractors' queries regarding the interpretation of

- drawings, specifications and contractual matters pertaining to their respective contracts,
- b) motivate and guide supported contractors and, where necessary, recommend measures to expedite their progress,
 - c) assist supported contractors with
 - I. the preparation and updating of a realistic and achievable programme,
 - II. the setting out of the works,
 - III. the management, administration and employment of their work forces,
 - IV. the performance of their contracts,
 - V. all registrations required in terms of legislation and all applicable taxes and levies,
 - VI. the preparation of payment certificates,
 - VII. the handing over of the works to the employer upon completion, and
 - VIII. liaison with external organizations and the local community regarding the works, and
 - d) advise the supported contractor on safety measures which shall be implemented in order to comply with safety legislation.

C3.5.5.2.3 Training

The construction manager shall, as a minimum,

- a) teach the supported contractors how to assess and order materials required for incorporation into the works;
- b) train, advise and guide supported contractors both in-house and on the job with regards to the following aspects of the contract:
 - I. the basic work techniques required to perform the contract.
 - II. the need to develop communication skills.
 - III. what is expected of a supported contractor.
 - IV. health and safety requirements.
 - V. the need to execute appropriate tasks correctly the first time.
 - VI. how to submit claims for payments.
 - VII. how to control and motivate their workforces.
 - VIII. the necessity for planning.
 - IX. how to prepare and use construction programmes.
 - X. the relationship between tender pricing, productivity and profit; and
 - XI. payment procedures for payments required in terms of the law, including all applicable taxes and levies; and
- c) act generally as a mentor to the supported contractor and facilitate, when appropriate, training of the supported contractor by other organizations.

C3.5.5.2.4 Tools and equipment

The construction manager shall, as a minimum,

- a) advise supported contractors regarding their hand-tool requirements and assist them with the procurement thereof;
- b) arrange for the timeous supply and cost-effective use of items of equipment and plant required for the execution of the works which supported contractors are not, in terms of their contracts, required to provide;
- c) arrange for the supply of calibrated testing equipment to supported contractors, as required, and ensure that tests are properly carried out and the results forwarded to the relevant parties that require such information; and
- d) arrange for the supply of all fuel and power required for the operation of power-driven

equipment and tools.

C3.5.5.2.5 Materials (where materials management services are provided to supported contractors)

The construction manager shall, where a materials manager has been appointed, as a minimum,

- a) provide the materials manager with a programme of materials requirements, based on the programmes of supported contractors, at the commencement of their respective contracts and update such programmes as necessary;
- b) review supported contractors' requests for materials, adjust quantities, if necessary, and forward orders timeously to the materials manager;
- c) arrange with the materials manager for the delivery of materials direct to the site, where necessary;
- d) where required, collect materials from the materials manager's store and deliver to the site;
- e) monitor and approve the overnight storage of unused materials on the site by supported contractors or, should such materials not be suitable for overnight storage on site, arrange for their return to the store;
- g) determine appropriate allowances for tolerances and wastage on items where such allowances are not laid down in the supported contractor's scope of work; and
- h) reconcile quantities of materials issued to supported contractors with quantities used in the works and issue a materials reconciliation certificate to supported contractors upon completion of the works.

3.5.5.2.6 Post-construction stage requirements

After the completion of the works associated with supported contractors' contracts, the construction manager shall, as a minimum,

- a) compile a completion report that includes -
 - the final cost of the works in respect of materials, labour, plant, transport, supervision and construction management services;
 - the time of completion relative to the programme;
 - the nature and extent of training received by the supported contractor;
 - details of damage to services and insurance claims;
 - details of the construction manager's staff and organizational structure, equipment purchased for the contract and establishment costs; and
 - details of actual expenditure compared with projected expenditure;
- b) monitor remedial work undertaken during the defects liability period and advise and assist the supported contractor as necessary; and
- c) return, if required, to the employer or dispose of in accordance with the employer's instructions, all items of equipment on the register of assets.

C3.5.6 Materials management service requirements

C3.5.6.1 General

The materials manager shall do the following, to achieve the employer's objectives,

- a) procure, store and issue materials for incorporation into the works either to the construction manager, who will deliver such materials to the place of work or directly to the supported contractor;

- b) establish a stores facility which is capable, at short notice, of supplying all the materials required for the project in a reliable, efficient and cost-effective manner;
- c) establish and implement management procedures and systems for procuring, storing, issuing and accounting for materials that:
 - I. take cognizance of specific storage requirements for individual materials;
 - II. comply with the employer's procurement policies and procedures;
 - III. provide for quality checks upon delivery;
 - IV. provide for the processing and timeous payment of statements for materials supplied and the delivery of materials to site;
 - V. account for the quantities of materials that are procured, stored and issued to or on behalf of each individual supported contractor;
 - VI. ensure that records are readily auditable and protect the employer against corruption and theft; and
 - VII. allow the employer to be informed monthly as to the status of all aspects of the materials management;
- d) ensure that all possible trade and settlement discounts are obtained and that the most favourable prices are paid for materials; and
- e) ensure that all materials purchased and issued comply fully with the employer's specifications embodied in the scope of work of the supported contractors' contract or in the contract with the employer.

Contract: WSBU 02 2025/26 Tender for the appointment of Contractors for the replacement of deficient sewers with combination of trenchless and conventional methods in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required

Part C3: Scope of work

Section: C3.6: Particular specifications and variations and additions to the standard specifications

CITY OF TSHWANE

WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.6 PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS

C3.6 PARTICULAR SPECIFICATIONS AND VARIATIONS AND ADDITIONS TO THE STANDARD SPECIFICATIONS

The following references from, and variations and additions to the Standard Specifications will be valid for this Contract.

The clauses and pay items in this portion of the Particular Specifications are numbered "B" followed by a number corresponding to the number of the relevant clause or pay item in the Standard Specifications. New clauses and pay items not covered by clauses or pay items in the Standard Specifications, if included here, are also designated "B" followed by a number. These numbers follow on the last clause or pay item number used in the relevant section of the Standard Specifications.

SERIES 0: GENERAL

SECTION 001: GENERAL REQUIREMENTS AND CHARGES

Standard Specifications:

B08: Contractor's activities on private property

B08.02: Execution of the works

Add the following:

"The contractor shall be liable to repair all damage to private property at his own cost unless such damage is a necessary, unavoidable consequence of the work, in which case the repair will be measured and paid for under applicable rates or day works on submission of receipts for material and labour costs. The Contractor should remove all surplus materials and debris from site daily."

B09: Workmen to be kept within bounds

Add the following:

"Workmen shall always remain within the servitude of the sewer line and **SHALL** not be permitted to venture onto the property of private owners without the consent of such owners. If the owner is unavailable the Contractor shall first obtain approval from the Engineer's representative."

B12: Services required by Contractor

Add the following:

"The Contractor is responsible for obtaining and distributing water and electricity that is necessary for household and construction purposes at his own cost."

B13: Protection of Existing Services

B13.01: General

Add the following:

"The Contractor must ascertain himself of the requirements laid down by the different service providers when work is done near the particular services."

B13.05: Alterations and repairs to existing services

Add the following:

The following telephone numbers will be applicable in the event of damage to existing services:

Water:	(012) 358 2111
Sewerage:	(012) 358 5865/37
Roads and stormwater:	(012) 358 8000
Electricity:	(012) 358 4388

B14: Notices, signs and advertisements

Add the following:

"The standard nameboard of the City of Tshwane is specified for civil work and detailed on the drawings and the Contractor shall have all relevant information written on the nameboard. The Contractor shall appoint a qualified sign writer to execute the work, and all information shall be displayed according to the Engineer's requirements.

The signboards should contain the following information:

Project description:

Contract number:

Contractor's name:

Blasting date:

Blasting time:

Contractor's cell/emergency number:

Engineer's Representative cell number:

B17: Safe Working Conditions

Add the following:

"The Contractor shall display on a prominent place the following emergency numbers:

- | | | | |
|----|-------------------------------------|---|------------------|
| a. | Local Police | - | Telephone number |
| b. | Local Ambulance | - | Telephone number |
| c. | Local Fire Brigade | - | Telephone number |
| d. | Nearest Doctor | | |
| | i) Name | | |
| | ii) Telephone number (office hours) | | |
| | iii) Telephone number (after hours) | | |
| | iv) Consulting room street address" | | |

B30: Community Liaison Officer

Add the following:

For the Community Liaison Officer/Labour Desk Officer: A Community Liaison Officer is a Task 5 post. The CLO will receive any general increase as for Tshwane employees.

Where applicable, suit able candidates will be nominated by the Steering Committee for consideration. The final decision will rest with the Engineer.

B001.01 Preliminary and General Charge

Add the following:

Over and above the normal requirements as specified, provision need to be made for a permanent EPWP sign boards, in addition to the Contract Name Board. EPWP branding must be part of the sign boards. These boards will remain on site after completion of the contract to indicate that the service provided was done according to the EPWP guidelines. See **Part 7: Additional Documents** for particulars about the EPWP sign board. All labourers will be required to wear EPWP branded orange overalls.

Measurement and Payment:

B001.01 Preliminary and General Charge

Change the following:

"Item	Description	Unit
B001.01.01	Fixed Charges	Month/per project

The unit of measurements shall be in months per project over the three-year period.

The tendered rates under sub item 001.01.01 shall represent that part of the contractor's fixed charges for the completion of each project within the three-year period. The number of months payable shall only be the number of months the contractor shall be employed on a project. No fixed charges shall be paid to the contractor if his services are not required within the three-year period. The monthly rate will be for each project done per month.

Remove the following:

- (c) The Contractor's establishment on site

Change the following:

"Item	Description	Unit
B001.01.02	Time Related Charge	Month/per project

The unit of measurements shall be in months per project over the three-year period.

The tendered rates under sub item 001.01.02 shall represent that part of the contractor's preliminary and general charges which is related to the time required for the completion of each project within the three-year period. The number of months payable shall only be the number of months the contractor shall be employed on a project. No time related charges shall be paid to the contractor if his services are not required within the three-year period. The monthly rate will be for each project done per month.

B001.01.03 The Contractor's establishment on site

Add the following:

"Item	Description	Unit
B001.01.03	The Contractor's establishment on site	Number

The unit of measurement shall be the number of projects on which the Contractor is obligated to establish a site camp.

The Tendered rates shall include full compensation for the establishment of a site camp and the charges incurred as per clause 29 of section 001 in the standard specifications for municipal civil engineering

B001.02: Locating existing services

Add the following:

"Item	Description	Unit
B001.02	Location of existing services by locaters (detecting machine) (Depth and position)	m

The unit of measurement shall be the length of pipe to be located and service to be located on both side of the road. This pay item shall be used if and when other Departments, Divisions and Sections or Water Depots require pipe or cable locating.

The tender rate for locating existing service shall include full compensation for using an electronic locator, supplied by the Contractor, transporting to the point of use, locating existing services, locating and marking the position of the services, and the cleaning and tidying of the workplace after completion of the work. The rate will be for the length of the pipe to be installed irrespective of the length of services scanned."

B001.03: Excavate by hand to expose existing services, and backfill

Add the following:

"Item	Description	Unit
B001.03	Excavate by hand to expose existing services, and backfill	Per inspection hole

The unit of measurement shall be per inspection hole."

B001.04.01: Provision of a Health and Safety plan

Change the following:

"Item	Description	Unit
B001.04.01	Provision of a Health and Safety plan	Lump sum/per project

The lump sum tendered per project shall include full compensation for the provision and maintenance of a health and safety plan, risk assessment, permit applications and notifications as called for in the act and regulations for both the main contractor and subcontractors.

Eighty per cent (80%) of the amount will be paid when an approved health and safety plan has been received by the client. A further 10% will be paid when the value of all work done, excluding escalation, exceeds one-half of the Tender Price, and the remaining 10% will be payable when the completion certificate has been issued.

The payment for provision of a Health and Safety plan will be made per project."

B001.04.02: Provision of a Health and Safety file

Change the following:

"Item	Description	Unit
B001.04.02	Provision of a Health and Safety file	Lump sum/per project

The lump sum tendered per project shall include full compensation for the provision and maintenance of a health and safety file on site containing all the documentation required in terms of the act and applicable regulations for both the main contractor and subcontractors.

The payment will be made in four equal instalments when the value of all permanent work done,

excluding escalation, reaches 25%, 50% and 75% of the Tender Price. The final payment will be made when a consolidated health and safety file is handed to the client on completion of the works.

The payment for provision of a Health and Safety file will be made per project.”

B001.04.03: Provision of a construction supervisor

Change the following:

“Item	Description	Unit
B001.04.03	Provision of a construction supervisor	per month/per project

The lump sum tendered shall include full compensation for the provision of one or more competent and experienced construction supervisors per project as may be necessary for the duration of the construction work.

The payment for a construction supervisor will be made per month per project.”

B001.04.04: Provision of a safety officer (full-time)

Change the following:

“Item	Description	Unit
B001.04.04	Provision of a safety officer (full-time)	per month/per project

The lump sum tendered shall include full compensation for the provision of a competent and experienced safety officer, full-time per project, for the duration of the construction work.

The payment for a full-time safety officer will be made per month per project.”

B001.04.08 Implementation of Health and Safety Plan

Add the following:

“Item	Description	Unit
B001.04.08	Implementation of Health and Safety Plan	Lump Sum/per project

The tendered lump sum shall include **health and safety training, provision of personal protective clothing and equipment, provision of safety fences, signs and barricades** and other obligations not specifically covered here for the main contract and subcontractors appointed on this contract.

Price the item to allow for all labourers on site to wear the necessary protective clothing including an orange overall. All labourers must also wear a bright reflected jacket over their overall. On the front of the jacket (coat) the “City of Tshwane” name must appear with the CoT logo. On the back the letters “EPWP” must appear. The contractor needs to provide personnel with an identification card in order to ensure that everybody on site can be identified at all times. All vehicles and plant will have stickers on, that indicates that the contractor is appointed by CoT to execute the work.

The payment will be made pro-rata related to the time.”

B001.05 Community Liaison Officer

Change the following:

"Item	Description	Unit
B001.05	Community Liaison Officer	per month/per project

The tendered rate shall include full compensation for the appointment of a community liaison officer for the duration of the construction works per project allocated to the contractor.

Payments shall be made in monthly instalments for the number of months each community liaison officer is employed. Rate will be the City of Tshwane's minimum T5 monthly notch include a 10% mark-up fee for the contractor. Annual rate increase depends on annually approved City of Tshwane salary increase.

B001.09 Appointment of Local Security Company

Add the following:

"Item	Description	Unit
B001.09	Appointment of Local Security Company	per month / per site

The rate tendered shall include full compensation for the appointment of a Local Security Company for the duration of each project.

Payments shall be made per month per site, upon proof of payment to the Local Security Company. In the event of the construction period exceeding the tendered completion period and no extension of time been granted, the Contractor shall still pay the Local Security Company the specified remuneration but shall not be reimbursed. Therefore, the rate will make provision for security at each project site. A minimum of one security guard at daytime and a minimum of two security guards at nighttime are required.

The rate tendered shall include full compensation for sufficient security services as specified, as well as for 24-hour armed response security service in addition to the normal security arrangements provided by the Contractor, to patrol the whole area of construction work as described in the payment items. This security service shall be in place prior to the demolition/taking down of any existing fencing and shall remain in place until completion of all work on the premises as indicated.

This security service shall also include if applicable, for the guarded protection of all Contractors' gates in temporary fences to control vehicle and personnel movement.

The security services to be provided will include record keeping of all entrance and exit vehicles and people at each point of entrance or exit to the site for the full duration of the Contract.

The rate tendered shall also include full compensation for the following requirements:

No labourers will be allowed to wander in the work area after hours.

No labourers will be allowed to sleep alongside the work area, only in a designated and fenced camp with security guards with the written approval of the Engineer.

All labourers working in these areas must be clearly identifiable by a unique overall colour as well as an employment tag.

Should it be required that the Contractor must work after hours or weekends, the relevant community security representative must be contacted and informed thereof prior to any work being done.

Communication and collaboration between the Contractor and the community will be carried out on a constant basis to help improve the security.

A security plan must be compiled for the Engineer's approval and recommendations before any Construction commences.

The sums will be paid to the Contractor in equal monthly amounts based on the programmed duration for the works on the different premises.

The Contractor shall note that payment for any normal security arrangements required in terms of the Contract shall not be included in this item but will be deemed to be included in all other rates and prices.

B001.07 Provision of construction and materials manager

Add the following:

Item	Description	Unit
B001.07	Provision of construction and materials manager	per month/project

The unit of measurement shall be per month per project for the provision of competent and experienced construction and materials manager as may be necessary for the duration of construction work.

The Contractor will be required to make use of subcontractors execute dedicated portions of the work. The Contractor will be responsible for all work executed on his behalf or under his supervision and/or management by all subcontractors. Only approved tendered rates will apply for the work executed, it is the responsibility of the Contractor to agree these rates with the local subcontractor.

The contractor is responsible for all work executed on his behalf or under his supervision and/or management by all subcontractors.

The appointment of subcontractors must be approved by the Engineer for each project.

NOTE: The Engineer shall not negotiate directly with subcontractors and all problems relating to payment, programming, workmanship, etc., are matters between the Contractor and his subcontractors.

“

Item	Description	Unit
B001.09	Training	
B001.09.01	Training of targeted labourers	Prov sum
B001.09.02	Charges required by the Contractor on sub-item B001.09.01 above	Percentage (%)
	The provisional sum allowed for in item B001.09.01 will be used for reimbursing the Contractor for the actual invoiced charges paid by him to approved training organisations appointed by the Contractor.	
	Where the unit of measurement for sub item B001.09.02 is specified as a percentage, the Contractor shall be paid the respective percentage (as stated by the Contractor in his tender) of the amount certified by the Engineer for payment under the related sub item B001.09.01.	

Item	Description	Unit
	- The contractor shall provide all the necessary on-the-job training to targeted labour to enable such labour to master the basic work techniques required to undertake the work in accordance with the requirements of the contract in a manner that does not compromise worker health and safety. - The contractor shall be responsible for scheduling the training of workers and shall take all reasonable steps to ensure that each beneficiary is provided with a minimum of six (6) days of formal training if he/she is employed for 3 months or less and a minimum of ten (10) days if he / she is employed for 4 months or more. - The contractors shall do nothing to dissuade targeted labour from participating in the abovementioned training programmes. An allowance equal to 100% of the task rate or daily rate shall be paid by the contractor to workers who attend formal training, in terms of 1.3.4 above. - Proof of compliance with the requirements of 1.3.2 to 1.3.6 must be provided by the Contractor to the Employer prior to submission of the final payment certificate. - A minimum of 10 workers must be trained during the contract project period. All labourers on site must wear the necessary protective clothing including an orange overall. All labourers must also wear a bright reflected jacket over their overall. On the front of the jacket (coat) the "City of Tshwane" name must appear with the CoT logo. On the back the letters "EPWP" must appear with the CoT logo.	

B001.12 Penalties to apply

Add the following:

A penalty of R5,000 per day must apply for the late completion of work. That is the work that was not completed within the specified appointment date.

The penalties per non-conforming in terms of the Construction Regulations, 2014 of the Occupational Health and Safety Act will apply. The purpose of this clause, every failure to conform to the Occupational Health and Safety Act must be regarded as a separate breach.

Listed non-conformance are:

Serious violations:

- Hazardous chemical/oil spill and/or dumping in non-approved sites.
- Damage to cultural and historical sites.
- Unauthorised blasting activities.
- Transportation of workers in an unsecure vehicle (transporting tools, equipment and material) Traffic accommodation. (For the purpose of this clause, every failure to conform to the South African Road Traffic Act 93 Of 1996 and Road Traffic Regulations of 2000 must be regarded

as a separate breach.)

- Insufficient Road signs.
- Unavailability of flag personnel.
- Improper road signs layout.
- No OHS Officer appointed by the contractor.
- Failure to correct OHS file notices within 7 days.

The engineer's decision regarding what is considered as a violation, its seriousness and the penalty imposed shall be final.

Less serious violations:

- Littering on site.
- Lighting of illegal fires on site.
- Persistent or un-repaired fuel and oil leaks.
- Dumping of material inside drains.
- Possession or use of intoxicating substances on site.
- Any vehicles being driven in excess of designated speed limits.
- Urination and defecation anywhere except in designated areas.

PPE (Personal Protective Equipment):

- Failure to issue PPE to Employees.
- Non usage of PPE issued.

Unsafe Acts:

All unsafe/ practices on site e.g:-

- Boarding on/off moving vehicle or plant.
- Talking with a cell phone while operating a plant.
- Smoking near hazardous chemicals

Add the following:

"Item	Description	Penalty Rate	Unit
001.12	PENALTIES TO APPLY		
	.01 The late completion of the Works.	R5 000	Per day
	.02 Non-conforming in terms of the Construction Regulations.		
	.01 Hazardous chemical/oil spill and/or dumping in non-approved sites.	R10 000	per incident
	.02 Damage to cultural and historical sites.	R5 000	per incident
	.03 Unauthorised blasting activities.	R5 000	per incident
	.04 Transportation of workers in an unsecure vehicle (transporting tools, equipment and material).	R5 000	per incident
	.05 Insufficient road signs or unavailability of flag personnel or improper road signs layout.	R5 000	per incident
	.06 No OHS Officer appointed by the contractor.	R10 000 + work stoppage	per incident
	.07 Failure to correct OHS file notices within 7 days.	R5 000	per incident

.08	Littering on site.	R1 000	per incident
.09	Lighting of illegal fires on site.	R1 000	per incident
.10	Persistent or un-repaired fuel and oil leaks.	R1 000	per incident
.11	Dumping of material inside drains.	R1 000	per incident
.12	Possession or use of intoxicating substances on site.	R1 000	per incident
.13	Any vehicles being driven in excess of designated speed limits.	R1 000	per incident
.14	Urination and defecation anywhere except in designated areas.	R1 000	per incident
.15	Failure to issue PPE to Employees.	R5 000	per incident
.16	Non usage of PPE issued.	R500	per incident
.17	All unsafe/ practices on site e.g.: • Boarding on/off moving vehicle or plant. • Talking with a cell phone while operating a plant. • Smoking near hazardous chemicals.	R500	per incident
.03	Unnecessary damage or unauthorised removal of trees.	R5 000	per tree
.04	Late submission of monthly progress reports.	R3 000	per month
.05	Late submission of monthly Payment Certificate and all supporting documents, outside the agreed window period for submission.	R5 000	per month

"A penalty will be applied in accordance with the Specifications and Project Specifications. Penalties will be deducted from the payment certificate monthly."

B 02.04: Carports

Add the following:

"Three carports need be constructed for the exclusive use of the Engineer. The carports shall be of a size big enough to fully enclose a double cab bakkie – current shape with 1.0m to spare all round. The carports shall be closed in on three sides with 90% shade netting in order to protect vehicles from the weather."

"

B 02.07: Ablution units

Add the following:

"The Contractor shall erect two ablution units for use by the Engineer, his personnel and visitors in accordance with the details shown on the drawings or as approved by the Engineer. One unit shall be clearly marked as being available for males and one as being available for females."

B03: Housing

Housing is not required.

B 04: SERVICES

B 04.02: Water and electricity

Add the following:

Potable water at normal household pressure and electric power supply is required for the duration of the contract 24 hours per day.

SECTION 101: SITE CLEARING AND GRUBBING

Standard Specifications:

B06: The cutting of trees

B06.03: Preservation of trees

Add the following:

"The fine for unnecessary damage or unauthorised removal of trees is R5 000.00 (five thousand rand) per tree."

Measurement and Payment:

B101.01.02: Strips 3m wide

Add the following:

If any paving is to be removed to place the new sewer pipeline in position the rate for the breaking out and removal of the paving shall be claimed under item B101.01.02 in the Schedule of Quantities. No clearing and grubbing will be paid where the new pipelines are to be laid in the erf or on the sidewalk (area between the road and the erf boundary fence).

It must be noted that the area where the work has been executed in the erf or between the erf boundary and the road must be clean, with no stones or rocks, which can damage any machine used to cut the lawn.

SECTION 102: ACCOMMODATION OF TRAFFIC

Add the following:

"A penalty of R1,000.00 per no conforming of temporary traffic control will be charged."

Measurement and Payment:

Add the following:

"Item	Description	Unit
B102.14.01:	Flagmen	per month / per project

The tendered rate for this item shall include full compensation for all trained flagmen (accredited flagmen with certificates as proof of training) who may be required to control traffic by way of flags or portable STOP and GO-RY signs and include the provision of flags. Payment will be made per month irrespective of the number of projects in process at one time."

B102.14 Temporary traffic-control facilities

Measurement and Payment:

B102.14: Temporary traffic-control facilities

Add the following:

"The tendered rate shall include full compensation for the dismantling, storing if necessary, transporting and re-erecting for the entire contract period in a fresh position of the various items specified in item 102.14."

SECTION 103: OVERHAUL

Standard Specifications:

B02.04: Overhaul distance

Add the following:

"Payment for overhaul is not applicable to this contract."

SECTION 104: LANDSCAPING AND GRASSING

Measurement and Payment:

B104.01.02: Hand Trimming

Add the following:

"All hand trimming will be done to such an extent that no stone or any material that can damage a lawn mower be left on the area cleared.

No grass will be planted on this contract. No payment will be made for the area where paving will be replaced.

Payment for trimming will only be done for one of the following: either hand trimming or machine trimming and only for a maximum of 3m wide."

"SECTION 107: GENERIC LABOUR-INTENSIVE SPECIFICATION

Add the following:

Scope

This specification establishes general requirements for activities which are to be executed by hand involving the following:

- a) trenches having a depth of less than 1.5 metres

Precedence

Where this specification conflicts with any other standard or specification referred to in the Scope of Works to this Contract, the requirements of this Contract, the requirements of this specification shall prevail.

Hand excavate-able material is material:

- a) granular materials -

- i) whose consistency when profiled may in terms of table 1 be classified as very loose, loose, medium dens, or dense; or
 - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 15 blows of a dynamic cone penetrometer is required to penetrate 100mm;
- b) cohesive materials -
 - i) whose consistency when profiled may in terms of table 1 be classified as very soft, soft, firm, stiff and stiff / very stiff; or
 - ii) where the material is a gravel having a maximum particle size of 10mm and contains no cobbles or isolated boulders, no more than 8 blows of a dynamic cone penetrometer is required to penetrate 100mm;

- Note
- 1) A boulder, a cobble and gravel are materials with a particle size greater than 200mm, between 60 and 200mm.
 - 2) A dynamic cone penetrometer is an instrument used to measure the insitu shear resistance of a soil comprising a drop weight of approximately 10 kg which falls through a height of 400mm and drives a cone having a maximum diameter of 20mm (cone angle of 60° with respect to the horizontal) into the material being used.

Table 107. 1 : Consistency of materials when profiled

GRANULAR MATERIALS		COHESIVE MATERIALS	
CONSISTENCY	DESCRIPTION	CONSISTENCY	DESCRIPTION
Very loose	Crumbles very easily when scraped with a geological pick	Very soft	Geological pick head can easily be pushed in as far as the shaft of the handle
Loose	Small resistance to penetration by sharp end of a geological pick	Soft	Easily dented by thumb; sharp end of a geological pick can be pushed in 30-40mm; can be moulded by fingers with some pressure
Medium dense	Considerable resistance to penetration by sharp end of a geological pick	Firm	Indented by thumb with effort; sharp end of geological pick can be pushed in up to 10mm; very difficult to mould with fingers; can just be penetrated with an ordinary hand spade
Dense	Very high resistance to penetration by the sharp end of geological pick; requires many blows for excavation	Stiff	Can be indented by thumb-nail; slight indentation produced by pushing geological pick point into soil; cannot be moulded by fingers
Very dense	High resistance to repeated blows of a geological pick	Very stiff	Indented by thumb-nail with difficulty; slight indentation produced by blow of a geological pick point

Clearing and grubbing

Grass and small bushes shall be cleared by hand.

Shaping

All shaping shall be undertaken by hand.

Offloading

All material, however transported, is to be off-loaded by hand, unless tipper-trucks are utilized for haulage.

Spreading

All material shall be spread by hand.

Compaction

Small areas may be compacted by hand provided that the specified compaction is achieved.

SERIES 2: EARTHWORKS

SECTION 201: GENERAL

B 02 DEFINITIONS

B 02(c)(i) Hand excavations

Add the following:

"The classification of excavations as hand excavations will be done by the Engineer on site."

B 06 SURPLUS MATERIAL

Spoil sites will not be provided by the Employer.

B 07 STOCKPILING OF MATERIALS

ADD THE FOLLOWING AT THE END OF THE FIRST PARAGRAPH:

"All stockpile sites for temporary stockpiling of material will be indicated by the Engineer on site when necessary. The temporary stockpiling of materials will only be paid for when carried out on the written instruction of the Engineer."

SECTION 202: TRENCHING

B16: Measurements for certificates

Add the following new clause:

"No item under **Section 202** will be measured until the CCTV test of that section has been completed and passed and the block completed finished including cleaning and removal of rubble."

Standard Specifications:

B202.03: Classification of Materials Excavated

Add the following:

"All excavations in soft and intermediate material will be measured and paid for under item 202.01 as soft material." Hard excavation shall be defined as the excavation of all hard, compacted or rock materials that require blasting or the use of ripping and excavation equipment larger than defined for common excavation.

Add the following new clauses:

"B16: Cutting and Removal of premix

"The cutting and removal of premix shall be measured and paid for under item B202.16 in the Schedule of Quantities. Every trench will be cut two times on each side. The measurement for payment will however only be the length of the trench excavated."

"B17: Hand excavation for trenches inside erven

Trenches are to be 500mm wide and 600mm deep and will be paid under item B202.17. This rate will not be extra over item 202.01"

Measurement and Payment:

B202.07: Extra over items 202.06 and 202.13 for using backfill obtained -

Add the following:

"Item	Description	Unit
B202.07.03	G5 provided by Contractor	m ³

B202.11: Timbering and shoring left in excavation

Replace the payment clause with the following:

"Item	Description	Unit
B202.11	Timbering and shoring left in excavation	m

The unit of measurement shall be the metre length of tunnel wall or roof or trench wall against which timbering and shoring is required to be left in position permanently on the Engineer's instructions. Each side of the trench or tunnel shall be measured.

The tendered rate shall include full compensation for leaving the timbering and shoring permanently in position, for ensuring that the timbering and shoring will not be disturbed during backfilling, and that the backfilling is compacted fully around the shoring."

Add the following new payment clauses:

"Item	Description	Unit
B202.16	Cutting and removal of premix	
	.01 Premix thickness up to 100mm	m ²
	.02 Premix thickness 101mm up to 200mm	m ²
	.03 Premix thickness 201mm up to 300mm	m ²
	.04 Premix thicker than 300mm	m ²

The unit of measure shall be the square meter of premix removed for the specified thickness, measured along the length and width of the final cut on the outside. The tendered rate shall include full compensation for the cutting of the premix twice on both sides of the trench and removing and discarding the removed premix."

Add the following new payment clauses:

"Item	Description	Unit
B202.17	Hand excavations for trenches inside erven	
	Trenches 500mm wide and 600mm deep	m ³

The unit of measurement shall be the cubic meter of material excavated and measured in accordance with the dimensions specified.

The tendered rate shall include full compensation for the additional expenses of excavating by means of hand labour instead of traditional trenching equipment.

SERIES 3: SEWERS

SECTION 301: MATERIALS

B04 ACCESSORIES

ADD THE FOLLOWING NEW CLAUSE:

"B04.07 Supply and install only the cover portion of lamp hole cover and frame

Where pipes have to be replaced after open excavation or where reticulation pipes have to be laid according to the Engineer's instruction, new sewer pipelines shall be constructed using high density polyethylene (HDPE) pipes as specified in the relevant schedules in Series B815."

SECTION 302: CONSTRUCTION

B14 MEASUREMENT AND PAYMENT

ADD THE FOLLOWING ITEM:

ITEM	DESCRIPTION	UNIT
B302.23	Supply and install lamp hole covers and frames for rodding eyes The unit of measurement shall be the number of each cover and frame installed. The tendered rates shall include full compensation for supplying and installing the covers and frames and for the cost of all labour, equipment and appurtenant materials required to carry out the work."	number

B17: Horizontal drilling

Add the following new clause:

"If a crossing cannot be completed by means of horizontal drilling, payment for the drilling will only be made if more than half of the crossing was completed. The rest of the crossing must then be completed by conventional methods. Payment for drilling will be made under item B402.13."

The unit of measurement shall be the length of hole drilled, and pipe installed. The diameter of each hole to be formed will be a size larger than the pipe diameter to be installed. This pay item shall be used when horizontal drilling is required underneath streets and paved areas by other Departments, Divisions and Sections within the CoT.

The tender rate for forming horizontal drilling holes and installing pipes shall include full compensation for locating existing services, drilling and for disposing of surplus material resulting from the formed hole, the installation of all material supplied by the Engineer to complete the work, transporting and delivering to the point of use, and the cleaning and tidying of the workplace after completion of the work. The tendered rate is for drilling in any soil condition, inclusive of rock.

Add the following new clause:

B19: Trenchless Technology: Materials and Equipment

B19.1: Materials - HDPE Pipes and fittings for Trenchless Technology (Pipes SABS ISO 4427 SABS 1315)

Add the following new clause:

"Polyethylene pipes shall have been manufactured with high quality materials that conform to the standards of ISO 9000 and the finish product shall conform to the technical specifications as shown below. The values below shall be applicable to both PE100 Black polyolefin grades.

TECHNICAL SPECIFICATIONS FOR PE 100 BLACK

PHYSICAL PROPERTIES	TEST METHOD	VALUE	UNIT
Density	ISO 1183	0.958	g/cm ³
Melt Flow Index (190°/5kg)	ISO 1133	9.0	g/10min
Melt Flow Index (190°/5kg)	ISO 1133	0.23	g/10min
Vicat Softening Point (190°/5kg)	ISO 306	67	°C
Crystalline Melting Range	ISO 3146-85	130-133	°C
Viscosity Number	ISO 1628-3	390	cm ³ /gm
MECHANICAL PROPERTIES	TEST METHOD	VALUE	UNIT
Shore D, Hardness	ISO 868	61	-
Tensile @ Yield	ISO 527	24	MPa
Ultimate Tensile	ISO 527	35	MPa
Ultimate Elongation	ISO 527	>600	%
Elastic Modulus	ISO 527	900	MPa
Flexural Strength (3.5% deflection)	ISO 178	19	MPa
Notched Impact (Charpy) can 23°	ISO 179	20	KJ/m ²
Notched Impact (Charpy) can -30°	ISO 179	6	KJ/m ²
Thermal Stability (OIT, 210°)	ISO 10837	>20	Min
Carbon Black Content	ASMD 1603	≥ 2	%

Pipes with nominal diameter of less than 100mm shall not be used in through lines but may be used in secondary short and terminal sections.

Any section of pipe with a gash, blister, abrasion, nick, scar or other deleterious fault greater in depth than ten percent of the wall thickness shall not be used and must be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated in Clause B21.4. In addition, any section of pipe having other defects such as concentrated ridges, discoloration, excessive spot roughness, pitting, variable wall thickness or any other defect of manufacturing or handling as determined by the engineer and/or his representative shall be discarded and not used.

Couplings and Fittings (HS Welding as per SANS 0268)

Pipes may be joined by means of thermofusion by butt welding or by socket welding. Pipes may also be joined by mechanical means, such as stub and end flanges, compression couplings or Victaulic/Tak couplings. Pipes shall under no circumstances be joined by means of solvents or adhesives.

All other fittings shall conform to the requirements of the applicable ISO specifications (5 through 8)."

B19.2: Equipment

B19.2.1: General

Add the following new clause:

“Various types of specialized equipment are utilized in pipe bursting projects and the types are generally unique to each of the generic methods static pull, pneumatic and hydraulic. The primary difference between methods is the manner in which the force is generated and transferred to the host pipe during bursting operations.”

B19.2.2: Static Pipe Bursting

Add the following new clause:

“In Static Pipe Bursting, the method to be used in this contract, a pulling force is applied to a tapered or blunt nosed bursting head through steel rods, chain or cable and new pipe is simply pulled behind the burst head through the old pipe. In this process the old pipe fails in tension created by the radial force applied to the pipe wall from the bursting head. As the bursting head advances, the old pipe is fragmented and compressed into the adjacent soil and the new pipeline is simultaneously installed in the void. The static pipe bursting winch equipment is modelled after high-powered hydraulic jacks, mounted horizontally, or a high-tension drum type of winch.

The pipe-bursting unit shall be designed and manufactured to force its way through existing lines by fragmenting the pipe and compressing the broken pieces into the surrounding soil as it progresses. The bursting unit shall generate sufficient force to burst and compact the existing pipeline. The hydraulic system should be fitted with a direct reading load gauge to measure the pullback force or winching load.

The minimum equipment/requirements for the hydraulic static pull pipe burst system shall be:

Power source, hydraulic system, pulling unit (multi directional and fitted with gauges to monitor working force), rods (50mm x 100mm x 16kg) and bursting head complete with pin-joined tool and blades.

The Tenderer shall clearly indicate the technical specifications of the equipment he offers for the execution of the Works in the space provided in the Schedule of Quantities and Prices. The system shall be designed for optimum performance under the given conditions. Tenders that offer equipment of substandard design and performance curves shall not be evaluated.”

B20: Preparatory Arrangements and Work

Add the following new clause:

“The Employer shall approve the location of entry/exit pits. Before any excavation is done for any purpose, the contractor shall contact the various service providers for determining field location of existing services. All buried services adjacent/parallel to the pipe bursting operation shall be reviewed and where necessary be excavated to relieve transient loading during insertion operation. If any services are approximately within 500mm of the pipe to be burst, the contractor shall excavate a pit at the location to check clearance. The amount of clearance will be affected by the soil type, the amount of up-sizing and the location of the existing service in relation to the line being burst. If adequate separation does not exist between the existing water line and the subject service, the contractor shall employ substitute means to rehabilitate the existing water line.

Any concrete encasements shall be excavated and broken out prior to the bursting operation to allow the steady and free passage of the pipe bursting head. All in-line valves and fittings shall be removed prior to the bursting operation.

Any damage to adjacent properties that are not part of this work shall be repaired and restored to its original condition at the contractor's expense."

B21: Installation

B21.1: General

Add the following new clause:

The contractor shall take all precautions required by statutory regulations or dictated by actual circumstances to ensure the safety of the public and workmen and to avoid interrupting or demanding public or private utilities that may be encountered during the work. When utilizing a winch, the winch, cable and cable drum must be provided enclosed so that it may be operated safely without injury to persons or property.

Add the following new clause:

B21.2: Excavations- Trenches/Working Space/Entry and Exit Pits

Trenches should be wide enough to provide safe working conditions and adequate working space for workmen to place and joint the pipe properly. The contractor shall provide a system of guide pulleys and bracing at the exit pit to minimise cable contact with the existing line between launch and exit pits. The winch cable, burst head and polyethylene pipe cannot meet the supports of the trench shoring in the insertion pit.

Add the following new clause:

B21.3: Laying of Pipes

The new polyethylene pipe shall be inserted immediately behind the bursting head in accordance with the manufacturer's recommended procedures. The bursting equipment shall be specifically designed and manufactured for the type of insertion process being used.

The maximum pulling force shall not exceed the estimated value given by the formula $F=SA$, where F = max pulling force in N; S = max permissible stress of the pipe material in MPa; A = cross-sectional area of the pipe wall in mm².

B21.4: Jointing

Add the following new clause:

If new pipe and fittings become damaged before or during installation it shall be repaired as recommended by the manufacturer or replaced as required by the engineer at the contractor's expense, before proceeding further.

The polyethylene pipe shall be assembled and joined at the site using the butt-fusion method to provide a leak proof joint. Threaded or solvent-cement joints and connections are not permitted. All equipment and procedures used shall be in strict compliance with the manufacturer's recommendations. Personnel

certified as fusion technicians by a manufacturer of polyethylene pipe and/or fusing equipment shall perform fusing.

The butt-fused joint shall be in true alignment and shall have uniform rollback beads resulting from the use of proper temperature and pressure. The joint shall be allowed adequate cooling time before removal and pressure. The fused joint shall be watertight and shall have tensile strength equal to that of the pipe. All joints shall be subject to acceptance by the Engineer and/or his representative prior to insertion. All defective joints shall be cut out and replaced at no cost to the Employer.

Terminal sections of pipe that are joined shall be connected with connectors with tensile strength equivalent to that of the pipe being joined.

Service connections with the polyethylene pipe shall be accomplished by the sidewall fusion method in accordance with the manufacturer's printed instructions.

The Engineer shall inspect all joints before insertion. The pipe shall be joined on site in appropriate working lengths near the launching pit.

SERIES 5 : DRAINAGE AND EROSION PROTECTION

SECTION 503 : KERBING AND CHANNELLING

Standard Specification

B503.01 Concrete kerbing

Replace the following new payment clauses:

"Item	Description	Unit
	<u>.01 Supply and installation of the following Kerbings: (Drawing STD007 1 of 2) KERBING</u>	
B503.01	.01 Supply and installation of the following Kerbings:	
	.01 Semi-vertical kerb with channel	m
	.02 Semi-vertical kerb on curved sections	m
	.03 Semi-vertical kerb along straight sections	m

"The unit of measurement must be the metre of concrete kerbing complete as constructed, measured along the front face of the kerb in accordance with the Specifications and Project Specifications. The tendered rates for each metre of concrete kerbing must include full compensation for the supply, transport, handling, installing the complete item, including the necessary excavation, bedding, additional concrete or sub-base material as specified, backfilling, and for the installation of the concrete backing."

"B503.02 Construction of Slope kerbings in position"

Add the following new payment clauses:

"Item	Description	Unit
B503.02	Construction of Slope kerbings in position	

.02 Construction of Slope Kerbings in position	
.01 300 sloping kerb	m
.02 400 sloping kerb	m
.03 500 sloping kerb	m

“The tendered rate for each metre of concrete kerbing and kerbing-channelling combination shall include full compensation for constructing the complete item, including the necessary excavation, bedding, additional concrete or sub-base material as specified in sub-clause 04.03, backfilling, formwork, concrete, curing and finishing, for recessing the specified letters into the concrete where necessary to indicate the positions of service ducts or house connections for water and for the installation of the concrete backing.”

SERIES 6: ROADS AND PARKING AREA

SECTION 609 : SEGMENTED PAVING

B609.01 CONSTRUCTION OF SEGMENTAL BLOCK PAVING

Add the following to payment clauses:

“Item	Description	Unit
B609.01	<u>CONSTRUCTION OF SEGMENTAL BLOCK PAVING (Refer to drawing STD008 1 of 1)</u>	
	.02 Repairs of segmented paving	m ²

“The unit measurement must be the square metre of completed paving in accordance with the Specifications and Project Specifications.

The tendered rates must include full compensation for breaking up the damaged pavement section, repairing the sub-base if necessary, laying of the blocks, the removal of the top layer of soil and removing all spoil material, the levelling of underlying layers, the removal and replacement of damaged blocks, cutting the blocks where required, the provision and placing of a layer of bedding sand, jointing sand, the infilling of small areas with cut blocks or concrete and the laying of a trial section, removal of any spoil material, all as specified. The existing blocks must be used, if any additional segmental block paving is required it will be paid separately. ”

“B609.01.03 SUPPLY OF SEGMENTAL BLOCK PAVING”

Add the following to payment clauses:

“Item	Description	Unit
B609.1.03	.03 Supply of segmental block paving	
	(Reimbursement must be for the actual purchase cost of the paving blocks plus 10%.)	Per 1000

“The unit measurement must be the square metre of paving supplied.

Payment for segmental block paving: The Contractor must present a Tax Invoice from an accredited brick supplier for the purchase of the approved segmental block paving. Reimbursement must be for the actual purchase cost plus 10%. (Excluding handling, delivery or any other fees)”

SECTION 610: CONCRETE PAVEMENTS

610. Concrete pavement

Add the following to payment clauses:

“Item	Description	Unit
B610.01	Concrete pavement	
	. 01 Repair of all concrete pavements for concrete from 100mm up to 125 mm thick.	m ²

“The unit measurement must be the square metre of pavement placed and finished in accordance with the Specifications and Project Specifications.

The minimum thickness 100mm will be allowed and where the existing concrete is thicker the new concrete must be the same thickness as existing or a maximum of 125mm. The tendered rates must include full compensation for cutting out and breaking up the cracked pavement section, removing the concrete, repairing the sub-base if necessary, procuring and furnishing all materials, the storage of materials, provision of all plant, determining mix proportions, for mixing, transporting, placing and finishing of the concrete, in such cases, including formwork, joints, repairs to defective surfaces, grinding and retexturing if required, repairs joints and cracks, protecting the pavement against damage, construction joints and for process control.”

Add the following new payment clauses:

“Item	Description	Unit
B610.08	Imprint Concrete pavement	
	. 01 Repair of all concrete pavements for concrete from 100mm up to 125 mm thick.	m ²

“The unit measurement must be the square metre of pavement placed and finished in accordance with the Specifications and Project Specifications.

The minimum thickness 100mm will be allowed and where the existing concrete is thicker the new concrete must be the same thickness as existing or a maximum of 125mm. The tendered rates must include full compensation for cutting out and breaking up the cracked pavement section, removing the concrete, repairing the sub-base if necessary, procuring and furnishing all materials, the storage of materials, provision of all plant, determining mix proportions, for mixing, transporting, placing and finishing of the concrete, in such cases, including formwork, joints, repairs to defective surfaces, grinding and retexturing if required, repairs joints and cracks, protecting the pavement against damage, construction joints and for process control.

The tendered rate must include full compensation for texturing, including compensation for providing the required equipment and for applying the texturing, painting or oxide the portion replaced.”

SERIES 8: SPECIFIC WORKS

Add the following:

SECTION B810: CLEANING OF SEWERS AND REMOVAL OF BLOCKAGES

B01 –DEFINITIONS

2.01 - Removal of Blockages

A blockage will have to be removed in a section between 2 manholes if it is difficult or impossible to carry out other operations such as cleaning, inspection or rehabilitation of sewers due to damming up in manholes. The blockage will typically be removed with sewer rods and augers. Removal of blockages entails restoring the sewer to a fair operational state and does not imply cleaning of the pipes.

2.02 - Cleaning of Sewers

Removal of all roots, flush to the inner pipe surface, sand, silt etc. (all causes) from partially blocked pipes to increase capacity using the specified cleaning equipment and in the process restoring the pipe to nearly the hydraulic capacity of a similar new pipe. (Provided the pipe is in good structural condition).

NB: The pipe may not be damaged in any way by the cleaning process.

B02 - CLEANING METHODS: GENERAL

THE CHOICE OF CLEANING METHOD FOR DIFFERENT CIRCUMSTANCES WILL HAVE TO BE APPROVED BY THE CLIENT/ENGINEER.

All cleaning operations can be carried out working upstream or downstream according to the Contractor's preference. Debris, roots etcetera which may cause a blockage further downstream must however be caught and removed at the first convenient manhole. The Contractor will be held responsible for the immediate removal of any blockage, failing which any costs incurred by the Council department teams in removing the blockage / repairing the damage will be recovered from the Contractor.

B03 - DISPOSAL OF MATERIAL / SEWERAGE

All materials from drain cleaning / unblocking must be dumped at a site as supplied by the Contractor and to the acceptance of the Engineer. This approved site as well as any transportation method shall comply with the relevant regulations. The Contractor shall indicate the sites he proposes to use in writing to the Engineer.

B04 - REMOVAL OF BLOCKAGES

Blockages can only be removed using conventional sewer cleaning equipment (sewer drain rods, ratchet and augers) or with methods approved by the Engineer.

B05 - SUGGESTED CLEANING METHODS

B05.01 – Dragging

All cleaning will be performed by using a pair of mechanically operated winches, with a lifting strength of at least 5 Tons each with at least 200m of 8mm wire cable plus a manhole roller with the strength to hold the cable near to the Central Axis of the sewer line, so as not to damage the pipework.

The full range of equipment to ensure the cleaning of sewer line ranging in diameter 100mm to 600mm, both inclusive and the cleaning procedure shall be as follows:

- a. The dragging of a steel bucket, with a rear section that has the ability to be opened and closed to allow excessive debris to be released. This procedure is continued until no debris is removed from pipe.
- b. The dragging of a porcupine consisting of stones made of at least 8mm wire cable through the pipeline. This procedure is continued until no debris is removed.
- c. The dragging of a double wire brush through the pipeline until no debris is removed.
- d. The dragging of a double squeegee / rubber plunger until finally clean.

B05.02 - Root Augers and Chain Flailing

Steel rods with a root auger, as close as possible in size to the diameter of the pipes being cleaned, is pushed into the pipe in a corkscrew motion breaking away the worst root congestion. After the root auger has reached the next manhole, it is removed and a root cutter of diameter as close as possible to the pipe diameter is attached as well as a power rodding machine. Roots are then removed in the backwards direction. Roots must be removed flush to the inner surface of the pipe. After satisfactory removal of roots, the rods are again inserted into the pipe up to the next manhole where a wire brush is attached for the next pass followed by a plunger.

Alternative methods such as using chain-flailing to remove roots may only be used with the Engineer's permission and provided pipes are not damaged by the cleaning method. If the Tenderer intends to use alternative methods, he should clearly indicate so on the form Alterations by Tenderers and provide specifications for the equipment he intends using.

B05.03 - Water Jetting

In general, high-pressure water jet machines will typically be used in the following instance:

As a post - CCTV inspection cleaning action. The jetting then may be done at relative low pressure, $\pm$ 80 - 100 bar, to remove fat or debris or at high pressure $\pm$ 450 bar in order to remove roots. The last-mentioned action will only be allowed if the Engineer is satisfied that the pipes are in sound structural condition and that no damage should result from the cleaning action. If, however, damage does occur during the operation, the Contractor must stop all cleaning action in that specific section of the pipe pending further instructions by the Engineer. When the Contractor is instructed to remove roots, they should be cut off flush against the side of the pipes.

The Contractor is responsible to supply water for use in the jetting machines whether this is done by hoses from fire hydrants or by water tankers. Water will not be supplied by the Council free of charge and the Contractor shall not be allowed to use household water from garden hoses etc. Road safety procedures must be always adhered to especially when crossing roads with water supply houses.

B06 - REPORTS AND QUALITY CONTROL

Unless the Engineer gives instructions to the contrary, all pipes must be inspected by CCTV camera within 1 week after cleaning. If this inspection shows the cleaning to have been ineffective, the pipe must be re-cleaned and re-inspected to the Engineer's satisfaction at the Contractor's cost. The Contractor will be responsible for all cost and organizing with regards to these inspections. For the sake of efficient cleaning operations, it is highly recommended that the (sub) Contractor have his own CCTV camera on site during the cleaning operation.

If the Engineer is satisfied that the cleaning process is generally successful on the first attempt, random inspections at places indicated by the Engineer will be allowed. All discretion in these instances will rest with the Engineer and he will be the sole arbiter. The sample size will be determined by the Engineer according to recognized statistical principles.

Statistical parameters: Normal distribution, probability must be 95% that any given inspection will determine that a specific pipe section has no severe cleaning faults).

GIS/CAD layout plan on which pipes cleaned / inspected are shown in buffered format and with the pipe number or a sequential follow number indicated shall be handed to the Engineer as part of the progress reporting at monthly site meetings. On these drawings, the amount of material removed in buckets should also be indicated. Alternatively, the cleaned pipes can be indicated in electronic format.

B09 - MEASUREMENT AND PAYMENT

Add the following pay items:

ITEM	DESCRIPTION	UNIT
B810.01 (.01 to .09)	Removal of sand, silt, roots, etc. (all causes) from sewer pipes using various rodding equipment for pipe diameter: The unit of measurement shall be the metre of each size of pipe cleaned and approved, measured centre to centre of adjacent manholes. The tendered rate shall include full compensation, inter alia for the use of equipment as specified, or any other related and approved equipment, to clean pipes of the specified internal diameter partially or completely blocked by an cause and the removal of such material, and transportation and dumping thereof at an approved site, for over pumping if necessary, for extra (over and above inspection as billed in item 811.02). CCTV inspections to provide proof of cleaning and any other related activity such as the filling in or reports, etc.	m
B810.02 (.01 to .09)	Removal of isolated point blockages from sewer pipes using various rodding equipment for pipe diameter: The unit of measurement shall be the number of blockages cleared. The tendered rate shall include full compensation, inter alia for the use of equipment as specified, or any other related and approved	No

ITEM	DESCRIPTION	UNIT
	equipment, to remove blockages in pipes of the specified internal diameter as specified.	
B810.04 (.01 to .10)	Removal of sand, silt, roots, etc. (all causes) using high pressure water jetting equipment at +450Bar pressure for pipe diameter: The unit of measurement shall be the metre of each size of pipe cleaned and approved, measured centre to centre of adjacent manholes. The tendered rate shall include full compensation, inter alia for the use of equipment as specified, or any other related and approved equipment, to remove sand, silt, roots etc. in pipes of the specified internal diameter as specified.	m
B810.05 (.01 to .10)	Removal of silt, fat, etc. (all causes) using combination of vacuum jetting methods apart from high pressure equipment for sewer pipes (Vactor or similar) for pipe diameter: The unit of measurement shall be the metre of each size of pipe cleaned and approved, measured centre to centre of adjacent manholes. The tendered rate shall include full compensation, inter alia for the use of equipment as specified, or any other related and approved equipment, to remove sand, silt, roots etc. in pipes of the specified internal diameter as specified.	m
B810.06	Combination truck with a storage size of 10 kl or better, complete with high pressure washing and vacuum suction facility The unit of measurement shall be the time taken to remove blockage. The tendered rate shall include full compensation for provision of a combination vacuum and jetting truck and operators. The tank shall have the following minimum specification: Tank capacity of 10Kl, jetting pump rate of 320-350l/min, vacuum pump suction rate of 1600-2—m3/hr, with control arm/boom mounted to truck.	Day
B810.06	Water tanker, 10 kl The unit of measurement shall be the time taken to utilise tanker for various operations. The tendered rate shall include full compensation, inter alia for the use of equipment as specified, or any other related and approved equipment, for various construction operations requiring supply or provision of water.	Day
B811.01 (.01 to .09)	Closed circuit pan and rotate CCTV inspection of sewers for pipe diameter: The unit of measurement shall be the metre of each size of pipe inspected, measured centre to centre of adjacent manholes.	m

ITEM	DESCRIPTION	UNIT
	The tendered rate shall include full compensation for a long-range crawler camera capable of high-resolution laser profiling and acoustic sensor technology, offering both tethered and untethered configuration, allowing full control via. steering, pan and tilt CCTV.	
B811.04	Extra over item B811.01 Blocking of sewers before inspection for pipe diameter: The unit of measurement shall be the number of sewers blocked to facilitate inspection or repair. The tendered rate shall include full compensation for the supply and installation of inflatable or mechanical plugs for the various diameter categories indicated capable of withstanding back/test pressures up to 5bar.	No.

ADD THE FOLLOWING:

SECTION B811: CLOSED-CIRCUIT TELEVISION CAMERA, INSPECTIONS OF SEWERS

B01: SCOPE OF WORK

Five different types of CCTV related operations are envisaged in these specifications:

“Normal” CCTV inspections on existing sewer pipes ranging in size from 100mm upwards, with pipe material being usually clay pipe for pipe sizes up to 300mm, and reinforced concrete for the rest. “Normal” inspections can also be done on recently cleaned sewers. Formal reports are required.

CCTV inspections done on “difficult” network sewers where normal cameras cannot pass even after one or two cleaning attempts. Such inspections would call for alternative smaller than “normal” cameras. These cameras can be still tractorized or can be push/pull type cameras with some sort of distancing device (sleigh, brushes, packing). Formal reports are required.

Where “special” inspections are not able to complete inspections from manhole to manhole and where a lack of sufficient data or lateral positions from as-built plans exist, specialist inspections with the aim of locating laterals will be called for. The contractor can make use of specialist radio detection equipment, ground-penetrating radar or any other suitable and effective means. Formal reports are required.

Where outfall sewers are inspected, inspections will be done using a combination CCTV, laser and sonar unit, typically mounted on a “surfboard”

Where existing sewers have already been CCTV inspected and sufficient material exist (videos, reports, plans) to positively identify the pipe and incidents, the Contractor can be asked to generate reports from existing material for inclusion into the Tshwane CCTV database, using CCTV software, available in the market. Formal reports are required.

Simplified CCTV inspections done directly by the rehabilitation contractor as part of the rehabilitation or pipe bursting process. Such inspections will also form part of quality control by the rehabilitation contractor. Typical application is after welding and bead removal, after pipe bursting, before and after liner installation etc. (but not constituting formal post rehabilitation inspection) The contractor is required

to have a camera available on site for his own use. Such inspections are to be spot-checked by the Client's representatives. Formal reports are not called for, but the Client's representatives are to be informed in certain instances, as specified elsewhere.

Post rehabilitation inspections: Formal reports are required for post rehabilitation inspections. In certain instances, CCTV inspections plus radar will be required.

B02 – DEFINITIONS

B02.01 : Normal inspections

CCTV inspections done, as also specified elsewhere, using a tractorized camera fit for the purpose and having external dimensions, including the tractor, not exceeding 10.5cm wide, 57cm long and 10cm high with wheels for inspecting a 150mm diameter pipe fitted (10cm for 100mm pipe).

B03: SPECIFICATIONS FOR MAINLINE CCTV INSPECTIONS

B03.01: INSPECTION EQUIPMENT

The contractor must give full details on his available CCTV related equipment, and his compliance or otherwise with all relevant specifications.

B03.01.01 - Camera on tractor

- .01 Generally, the camera must be transported through the pipe on a tractor system, to allow for smooth transportation of the camera through the pipe. The tractor must be controllable at various speeds in forward and reverse and must be able to operate in pipes from 150mm upwards. The tractor speed must be displayed on the video at all times and should never exceed speeds as specified in B05.04.
- .02 The camera mounted on the tractor must be mounted in such a manner as to transport the camera within 10% of the centre of the pipe in the case of network inspections.
- .03 All inspections must be done with a pan-and-rotate camera. The pan-and-rotate camera must have the ability to execute "pre-programmed" commands for effective and efficient scanning of joints. The system must have the capability to download to the database, the cameras relevant viewing angles. This camera must be fully remote control including remote focus, iris and light control. The camera must pan and rotate to view all critical incidents and laterals.

B03.01.02 - Camera Vehicles

- .01 All CCTV inspection equipment shall be neatly compartmentalized and transported in suitable vehicles.
- .02 All vehicles must have the ability to determine their current location (x, y GPS position of the vehicle on site) to be able to verify the correct inspection manhole in conjunction with the GIS co-ordinates (preferably the measured co-ordination or, if not available, the approximate co-ordinates as captured on the GIS from as-built information).

B03.01.03 - Inspection Range

The Contractor shall ensure that the equipment used has a minimum range of inspection of 180m allowing for 2 manhole lengths.

B03.01.04 - Flow control equipment

The Contractor shall have at least a range of flow control equipment to be able to block pipe diameter from 100mm – 600mm diameter.

B03.01.05 – Recordings

- .01 As a minimum requirement, recordings on electronic storage devices such as portable USB Hard drive medium or memory stick shall be accepted for storage of data and provided to the client after each certificate as a deliverable.
- .02 Video recordings shall be encoded to MPEG or AV1 format. Video file format must be approved by the Engineer.
- .03 Correct adjustments of the recording apparatus and its associated electronic equipment shall be demonstrated by a recording, when required by the Client's agents, of a colour test pattern showing colour definition and picture resolution for a minimum period of 30 seconds.

Ownership of and copyright on the data will vest in the COT.

B03.01.06 - Road Safety Specification

- .01 The Inspection unit shall be provided with one amber-flashing beacon, which shall comply with and be operated in accordance with the Road Vehicle Lighting Regulations.
- .02 Road signs and cones shall be always carried and displayed in accordance with Safety Regulations.
- .03 Bright coloured overalls, fluorescent over jackets or belts always be available on each unit, sufficient in number and worn to provide safe working conditions in road reserves at all times of night and day for the maximum number of operatives at any given time.

B03.01.08 - Health and Sewer Safety Equipment

- .01 Oxygen deficiency and gas detector apparatus per unit, regularly serviced and operable.
- .02 Fresh air breathing apparatus – face mask and demand valve, 10-minute compressed air supply.

- .03 Approved vertical lift full safety harness.
- .04 Personal equipment per operative:
 - Safety helmet
 - Safety boots
 - Sewer wading boots
 - Disposable protective gloves
- .05 Correct size First Aid Kit suitable for the number of operatives per unit.
- .06 Facilities for washing to include:
 - Soft soap
 - Disinfectant
 - Clean water
- .07 Radio Equipment and cellular phone for onsite communication.
- .08 Fire extinguisher.

B03.02 - LINEAR MEASUREMENT

- .01 The CCTV monitor display shall incorporate an automatically updated record in metres and tenths of metres of the camera location within the pipelines accurate to $\pm 1\%$ or 0.3m whichever is the greater.
- .02 The metre reading entered onto the display at the start of the survey must represent the actual distance from the accepted start of the length of sewer or pipeline. This then requires that the meter reading can be zeroed from the control console as well as the ability to enter any distance that may be required. The metreage shall start to register immediately the camera starts to move.
- .03 The Contractor shall ensure that precise location of defects or missing manholes can be made from the surface to a depth of at least 6m. **The Contractor will be held liable for any inaccuracies in linear measurement beyond the allowed tolerances resulting in extra excavation, delays etc.** The accuracies of linear measurement shall be checked by plotting laterals (as inspected) and laterals (as built) on a thematic map as described in B04.04. In addition, the Contractor shall be required from time to time to double inspect at random, if the Client is not satisfied as to linear accuracy by comparison between inspections before cleaning with inspections after cleaning and inspections after rehabilitation.

In addition, if on any specific section of pipe to be rehabilitated, laterals marked out according to CCTV reports are not found within the tolerances specified, then the CCTV contractor will be asked to re-inspect at his cost, with radiosonde attached to the camera and to mark the position of laterals on the surface.

B03.03 - SLOPE MEASUREMENT

- .01 The camera system must be capable of measuring the slope of the pipe being inspected. The instantaneous angle must be filtered and is to be displayed on the screen and recorded on an electronic storage device such as a memory stick. Raw inclinometer data is also to be stored for downloading to the database for the purpose of pipe profiling. The camera system must be capable of downloading to the database, no less than three readings per meter of pipe inspected.

- .02 Where available, as-built slopes on all sewerage pipes to be inspected will be provided to the contractor. The as-built slopes must be inputted into the database by the contractor to enhance the accuracy of the resultant pipeline profile.
- .03 The as-built line on the display must be surrounded by buffer zones in different colours or shades representing at least where critical backfalls would start (where a critical backfall represents an invert level deviation of more than 50% of the internal diameter).

In addition, start and end backfall incidents must be displayed on the pipeline profile and the “depth” of backfall (fall in invert level) must be computed and displayed.

The start and end of a critical backfall as determined by inclinometer, must be fed to the database and logged as an incident.

B03.04 - DATA DISPLAY (VIEWED ON THE MONITOR SCREEN AND DVD)

- .01 A data generator shall electronically generate and clearly display on the viewing monitor and video recording a continuous record of data in an alpha numeric form containing the following minimum information:

Automatic update of the camera’s metreage position in the pipeline from adjusted zero to relevant point.

Pipe dimensions

Pipeline, location, road name and manhole reference numbers.

Instantaneous angle and upstream/downstream direction of inspections.

- .02 The size and position of all text including meterage must be such that it can be adjusted or moved anywhere on the screen, so as not to interfere with the main subject of the picture.
- .03 The text generator must have a function that will remove and replace all data on screen to allow an unobstructed view of the entire screen when required.
- .04 The text generator shall have a real time clock and calendar on screen to indicate the progress on the survey.

B03.05 - QUALITY CONTROL

B03.05.01 - Picture Quality (Minimum Standards)

- .01 The electronic systems, television camera and monitor, shall provide a live picture of not less than 400 lines definition in real full colour and with no interference. The pictures shall be sufficiently sharp so that any fault can be seen clearly.
- .02 Pan-and-rotate cameras must have adjustable focus. The adjustment of focus and iris shall provide a focal range from 3mm to infinity with at least 62° angle of view lens. The distance along the pipe in focus from the initial point of observation shall be a minimum of twice the vertical height of the pipe.
- .03 The combination of object illumination and light sensitivity of the camera shall be adequate to obtain an effective picture of the structure of the sewers or pipelines to be surveyed without loss of contrast or flare out of picture or shadowing.

- .04 The camera system must provide lighting to illuminate the pipe sufficiently to allow for the detection of cracks and other structural defects in the pipe. The lighting must be of such a nature that the natural colour of the pipe is recorded (No black & white CCTV will be acceptable).
- .05 Suitable test devices shall be provided and be available throughout the contract to enable practical demonstration of the systems abilities.

For colour tube type cameras, the test card shall be the Marconi Regulation Chart No 1 or equivalent with a colour bar, clearly defined with no tinting to show the following:

White
Yellow
Cyan
Green
Magenta
Red
Blue
Black

The camera shall be positioned centrally and parallel to the test card at a distance where the full test card just fills the monitor screen. The card shall be illuminated evenly and uniformly without any reflection.

The electronic systems, television camera and monitor shall be of such quality as to enable the following to be achieved:

Shades of Grey

The grey scale shall show equal changes in brightness ranging from black to white with a minimum of five stages.

Linearity

A background grid shall show squares of equal size, without convergence / divergence over the whole of the picture. The centre circle should appear round and have the correct height / width relationship.

Resolution

For colour tube type cameras, the live picture shall be capable of registering a minimum of 250 lines and can be clearly visible with no interference. The resolution shall be checked with the monitor colour turned down.

Colour

For colour CCTV, with the monitor control adjusted for correct saturation, the six colours plus black and white shall be clearly resolved with the primary and complementary colours in order of decreasing luminance. The grey scale shall appear in contrasting shades of grey with no tint.

Colour Contrasting

For colour CCTV, to ensure the camera shall provide similar results when used with its own illumination source, the lighting shall be fixed in intensity prior to commencing the survey and the white balance set to the colour temperature emitted. To ensure colour constancy, ideally no variation in illumination shall take place during the survey.

The contractor shall include with his tender's submission, a recording on an electronic device such as a memory stick of at least 100m of sewer filmed with equipment intended for use on this contract. If the tender is accepted, these shall define the required standard of picture quality for the contract. Where the engineer rejects any survey pictures, the Contractor shall take remedial action to provide that the survey file is of an acceptable standard.

B03.05.02 - Reporting

.01 Inspection Standards

.01 All reporting shall be done according to City of Tshwane Pipe Inspection and Sewer Classification Manual. An abridged version with photographs shall be within the operator's sight within all times.

.02 CCTV Operator Standards

All CCTV operators must be able to present certification on request that they have completed successfully a CCTV Operator Training / Revision Course.

.03 Reporting Accuracies

The Contractor shall maintain the following accuracies:

Header accuracy: 100%

Incident and grading accuracy: 90%

Operations are to be checked at random by a nominated person on the Contractors staff as to accuracy of reporting, graphs drawn up and presented to the Client at 3 monthly intervals.

.04 Maximum camera speeds

The maximum camera speeds wherefrom reporting is done shall be:

0,1 m/s for normal inspections on existing pipes 200mm in diameter and smaller.

0,15 m/s for the same but bigger than 200mm in diameter.

0,2 m/s for inspections on newly laid or newly replaced / rehabilitated pipe.

B03.05.03 - Quality Assurance Plan

.01 General

The Contractor must have a responsible person in his organisational setup in overall charge of the CCTV and cleaning operations. This person will have an overall quality control monitoring function as part of his duties.

The Contractor shall prepare a quality plan as a means of ensuring that product conforms to specified requirements. The Contractor shall define and document how the requirements for quality will be met.

The Contractor shall identify and plan for the processes, which directly affect quality and shall ensure that these processes are carried out under controlled conditions. Controlled conditions shall include the following:

Documented procedures, where the absence of such procedures could adversely affect quality.

Use of suitable equipment, and a suitable working environment.

Compliance with reference standards / codes, quality plans and / or documented procedures.

Monitoring and control of suitable process parameters and product characteristics as detailed in this standard.

Suitable maintenance of equipment to ensure continuing process capability.

Records shall be maintained for qualified processes, equipment and personnel, as appropriate.

.02 Verification of the Quality Process

The Contractor shall establish and maintain documented procedures to verify that the specified quality requirements are met. The required verification and the records to be established, shall be detailed in the quality plan or documented procedures.

.03 Control of Inspection, Measuring and Test Equipment

The Contractor shall establish and maintain documented procedures to control, calibrate and maintain inspection, measuring and test equipment (including test software) used by the supplier to demonstrate the conformance of product to the specified requirements, inspection, measuring and test equipment shall be used in a manner which ensures that the measurement uncertainty is known and is consistent with the required measurement capability.

The Contractor shall

Identify all inspection, measuring and test equipment that can affect product quality, and calibrate and adjust them at prescribed intervals, or prior to use, against certified equipment having a known valid relationship to internationally or nationally recognised standards. Where no such standards exist, the basis used for calibration shall be documented.

Maintain calibration records for inspection, measuring and test equipment.

B04 - DATABASE SOFTWARE AND REQUIREMENTS

B04.01 - Software Specifications

The database front-end and management software currently used by the Client is PIC Data 2000 and Wincan. The software is Windows compatible. The database software currently used is Microsoft Access. The database is capable of:

- Importing of CCTV camera reports.
- Critical data error detection and reporting
- Filtering of data by criteria or dates.
- Importation of pipe diameters, manhole numbers, pipe slopes and root theme.
- Automatic generation of CCTV inspection job cards as well as cleaning or rehabilitation job cards.
- Automatic video search from database.
- Automatic report generation in several combination choices.
- Job card history
- A decision support module for future replacement rehabilitation.
- Filtering and show the history of events on any pipeline in chronologic order.

The Employer will consider any other database proposal submitted by tenderers, provided that all the existing systems can be incorporated into the proposal at no extra cost to the Employer and that the new database is compatible with PIC Data 2000 or Wincan. Such proposals should be detailed on the provided "ALTERATIONS BY TENDERER" form and be supported by brochures and demonstrations in the form of electronic media at the time of tender. No later submissions will be entertained and the Contractor's experience in this field is of utmost importance.

B04.02 - Report Specifications

All inspections to be done according to City of Tshwane Pipe Inspection and Sewer Classification Manual.

Manhole report must be categorised between the different sections of the manhole, like rings, steps, benching, cover frame, lid.

Manhole report consisting of:

- Manhole number
- Suburb
- Street Name
- Street Number
- Stand Number
- Manhole Type
- Manhole cover GPS co-ordinates (x, y, z)
- Manhole depth to base of pipe.
- Manhole benching condition.
- Manhole general condition.

CCTV inspection report consisting of:

- Suburb
- Street Name
- Street Number
- Stand Number (s)
- Pipe Number
- Pipe diameter
- Inclinometer data

Defects reported and graded

Lateral identification (including orientation and erf number)

End inspection data

Digitized photographs representative of all major and critical faults in a section of pipeline.

Cleaning inspection report consisting of:

Suburbs

Street Name

Street Number

Stand Number (s)

Pipe Number

Pipe diameter

Method of cleaning

Cleaning distance

Pre or post CCTV cleaning

B04.03 - Decision Support Module

The decision support module must be accessible from the main database front-end directory. It must give rough guidance on:

If point repairs or replacement / rehabilitation is indicated.

Approximate cost of point repairs (if indicated and provided the pipe is afterwards in good serviceable condition – that point repairs are cost effective.

Approximate cost of replacement by pipe bursting (if replacement is indicated).

Approximate cost of replacement by soft liners (if replacement is indicated).

B04.04 - Thematic Maps

If required, the contractor must produce thematic maps per suburb (see annexure for sample) showing

Type A (to be e-mailed in electronic format (.pdf or similar) when inspection on suburb is complete) along with results obtained from B04.03 in spreadsheet format.

Grading (total)

Grading (divided by inspection length)

Incidents (severe and up) as symbols

Pipes to be replaced.

Type B (to be e-mailed in electronic format (.pdf format or similar) along with certificate)

Work completed shown chronologically on the same plan (CCTV, cleaning)

Work not accessible.

The Contractor shall keep a copy of these maps in his operating room.

B04.05 - Additional information needed by Contractor

In the above regard, external database information will be supplied to the contractor.

At the start of the contract, the Contractor will be supplied with the GIS (ARCVIEW, .shp files) including all relevant information required for the execution of the works. As-built manhole depths, pipe slopes and diameter, the root/network theme etc. will be supplied.

B04.06 - Job cards and History of inspections

All inspections are to be done from job cards to be issued by the Contractor for his operators. The database front-end must include the facility to compile “history” of inspections (upstream / downstream), cleaning, re-inspections (upstream / downstream), rehabilitation/replacement, post – rehabilitation inspections. The database front-end must have the facility to display the history when a job card is issued and to prevent duplication of inspections (with override option). All job cards are to be issued by the Contractor (only the Client and his representative will have the final say on whether pipes are to be inspected, cleaned, rehabilitated / replaced or point repaired and will instruct the Contractor in this regard without obstructing the flow of work. Job cards shall include (inter alia) Detail from GIS showing pipes plus pipe numbers to be inspected, Date, Operation, Operator, Pipe number, GIS length, Operation length and Upstream/Downstream (if applicable), Comments and Name of Person issuing job card. A summary of the History sorted per pipe number and including the above headings of the work certified shall accompany each certificate.

B04.07 - Inspections database backups

Once a month, along with a certificate, the Contractor must supply the complete merged CCTV database and video footage on an electronic device such as a portable USB Hard drive or memory stick.

B05 - LATERAL INSPECTIONS

B05.01 - Scope of Work

Inspections on laterals before replacement of main pipe.

When there is evidence of broken laterals, water infiltration from the lateral or root infiltration from the lateral while a mainline inspection is being done the first time, the Client should be advised who will then instruct the Contractor with regards to lateral inspections on a specific section.

Inspections on laterals to determine the connection position.

These inspections will be done with or without integrated radio detection equipment.

Inspections on laterals after replacement of the mainline.

This will be done for quality control.

B05.02 - Inspection Equipment used for previously impassable inspections

.01 Camera Equipment

The Contractor shall make use of a push-pull type camera (ELS) or similar with distancing device (sleigh, brushes, packing). The camera alone will have maximum dimensions of 70mm x 100mm long. The camera must be colour and can be fixed-focus forward looking. The flexible rod spool will have 100m capacity and the system should be able to negotiate 90-degree bends in 100mm private drains. On average, the system should be able to negotiate at least 50m in a 100mm house drain.

The camera control unit must be portable and equipped with an integrated video unit. Video recordings must be made.

.02 Flow control equipment

This will not normally be necessary provided the Contractor can make suitable arrangements with house owners, but the equipment should be at hand to ensure a dry inspection.

B05.03 - Linear Measurement

A calibrated flexible rod system will be acceptable.

B05.04 - Data Display

.01 The data generator shall display at least the pipe number, suburb, street, street number and erf number.

B05.05 - Quality Control

.01 Picture quality: As for B03.05.01

.02 Reporting As for B03.05.02

B05.06 - Database Software and requirements

.01 Reporting specifications

All reporting shall be done according to the City of Tshwane Pipe Inspection and Sewer Classification Manual. Reports should consist of:

Place identification as specified under B05.04

Defects reported and graded

Defect photographs digitally captured at least 1 per lateral.

End inspection data

Reports may be generated with Picview or similar.

B07 - GENERAL

B07.01 - Accuracy of data supplied

The existing GIS data was drawn in from available as-built plans approximately ten years ago. Deviations of sewers, construction of sewer extensions and other alterations etc. occurred in the intervening period and will not necessarily be included in the GIS project handed to the Contractor at the start of the contract. Council will not accept any liability for any additional costs incurred by the Contractor due to inaccuracy of information handed to the Contractor. Council maintenance teams will assist whenever possible in finding missing manholes, in clearing blockages, etc. The contractor will assign temporary pipe numbers / manhole numbers if GIS information proves incorrect in the field and provide sketches of the correct situations to the Client.

B07.02 - Sequence of Inspections

The sequence of inspections will be at the Contractor's discretion. The Contractor should not however spread his operations too thin, should endeavour to concentrate in one area at a time and to finish one suburb before commencing inspections in the next. The Engineer will from time to time instruct the Contractor in this regard.

B07.03 - Access to properties

The Contractor's attention is drawn to legal requirements regarding access to private properties and should make all reasonable arrangements in this regard. Council is not responsible for any failure on the Contractor's part to gain access to properties. The Contractor will be expected to respect privacy and to make prior arrangements if necessary. The Contractor will be expected to always show official approved identification / letters of introduction before gaining access to private properties.

B07.04 - Inspection Procedure

All meterage measured by the camera must be from manhole centre to manhole centre starting at zero from start manhole. Each inspection must be registered from a manhole, i.e. The contractor may not inspect from one manhole through an intermediate manhole to another manhole without entering the intermediate manholes data and report.

B10 - MEASUREMENT AND PAYMENT

Add the following items:

ITEM		UNIT
B811.01 (.01 to .10)	Closed-Circuit Pan-and-Rotate Television Inspection of sewer lines for pipe diameter: The unit of measurement shall be the metre of each size of pipe inspected, measured centre to centre of adjacent manholes or to the stopping point whichever is applicable. The tendered rate shall include full compensation for, inter alia, the Closed-Circuit television inspection lengths of sewer lines before cleaning, as specified, and for any other related activity such as manhole inspections, reporting etc.	m
B811.03 .01 to .10	CCTV Inspection of previously impassible sewer lines for pipe diameter: All diameters The unit of measurement shall be the metre of pipe inspected, measurement centre to centre of adjacent manholes or to the stopping point whichever is applicable. The tendered rate shall include full compensation for, inter alia, CCTV inspections of, sewer lines, as specified, and for any other related activity such as manhole inspections, processing inspection video tape, reporting etc.	m

B811.04 .01 to .03	Extra over item B811.03 for blocking sewer lines during CCTV survey Extra over item B811.03 Blocking of sewers before inspection for pipe diameter: .01 100-300mm .02 325-600mm .03 >600mm All diameters The unit of measurements shall be the number of times a pipe section is blocked off for purposes of CCTV inspections. The tendered rates shall include full compensation for all aspects involved in the insertion, operation, monitoring and removal processes.	No
B811.05	Extra over item B811.01 and B811.03 for managing to complete inspection. The unit of measurement shall be the number of inspections completed from manhole to manhole.	No
B811.06	Lateral inspection by CCTV camera The unit of measurement shall be the metre of pipe inspected measured from the entry point. The tendered rate shall include full compensation for the inspections, irrespective of distance irrespective of the number of inspections done per day.	m
B811.07	Extra-over item B811.06 for locating connection The unit of measurement shall be the number of connections successfully located, and which could not be located by conventional mainline inspections. Only one payment per connection located shall be made irrespective of different methods used.	No
B811.08	Locating connections by radio detection methods only: The unit of measurement shall be the number of connections successfully located, and which could not be located by conventional mainline inspections. Only one payment per connection located shall be made irrespective of different methods used.	No

B811.09	Production of Thematic maps, type A as specified: The unit of measurement shall be the number of maps produced. The rate shall include full compensation for production of 1 A0 size print as specified.	No
B811.10	Production of Thematic maps, type B as specified: The unit of measurement shall be the number of maps produced. The rate shall include full compensation for production of 1 A0 size print as specified.	No

SECTION B815: REHABILITATION / REPLACEMENT OF SEWERS BY TRENCHLESS METHODS

B815.01 - Scope of Specification

This specification shall cover the rehabilitation of sanitary sewers by Trenchless methods. The following will be covered:

Replacement of Sewers by pipe bursting

Rehabilitation of Sewers by installing cured-in-place pipe liners

Point repairs

B815.02 - Definitions

.01 Pipe Bursting

General

Pipe bursting is a process by which a bursting unit splits and/or fractures the existing pipe while simultaneously installing new high density polyethylene pipe (HDPE) of the same or larger size into the annulus created by the forward movement of the bursting tool. Pipe Bursting is an alternative to the replacing of underground infrastructure by open cutting. The commonly used pipe bursting methods are pneumatic or percussive, hydraulic and static. The main difference between methods is the manner which the force is generated and transferred to the host pipe during the bursting operation.

Pipes can be replaced by approximately the same size HDPE pipe or upsized – replaced by a bigger size. The success of the pipe bursting project is highly dependent on soil conditions, existing pipe material and condition. Burst length coupled with soil conditions, depth and new pipe diameter are critical factors in the planning of the pipe bursting process.

Dynamic (On-line) Pipe Bursting

Dynamic Pipe Bursting is done by creating an impact load in the pipe by applying a “hoop” stress into the pipe causing it to burst in tension. The Dynamic Bursting system consists of a 24,000 or 33,000 class Horizontal Directional Drill and a Pneumatic (Air Impactor TM) or Mechanical (Rotary Impactor) bursting tool. Both systems rely on percussive hammering action to break out the old pipe in which the tool travels. Simultaneously the new replacement pipe is installed into the space created by the bursting tool. The Horizontal Directional Drill is used to drill from the surface down to and through the section(s) of pipe to be replaced then back up to the surface where the appropriate bursting tool is attached to the drill rod. The Horizontal Directional Drill then pulls the bursting tool into the pipe providing a constant tension pulling force and maintaining correct line and grade while the tool bursts the pipe. The technique is aimed at the replacement of gravity pipes as well as pressure pipes and is suitable for diameters of from 150mm to 300mm.

Pneumatic Pipe Bursting

Pneumatic Pipe Bursting is done by creating an impact load in the pipe by applying a “hoop” stress into the pipe causing it to burst in tension. This technique uses a pneumatic bursting head with a properly sized expander and relies on percussive hammering action to break out the old pipe in which the tool travels. Simultaneously the new replacement pipe is installed into the space created by the pneumatic bursting head and expander. A winch cable is attached to the nose of the bursting head to maintain correct line and grade by providing constant pulling tension and enhancing the percussive force. Winching forces up to 20 tons are typical for this method. This technique is primarily aimed at the replacement of gravity pipes as well as pressure pipes and has been used in diameters ranging from 100mm to 1400mm or larger.

Hydraulic Pipe Bursting

Rather than the pipe being burst from the transfer of a pulling or hammering radial force into the place of the pipe diameter, the bursting head diameter expands, fragmenting the pipe from the inside.

The bursting head is equipped with “petals” which open and close under hydraulic pressure. Using hydraulic cylinders, the bursting head first expands to crack the host pipe, then contracts to allow the winch to pull the pipe string forward, while tension is applied to the nose of the head using a winch cable to maintain directional stability. Hydraulic bursting is primarily used for on-line replacement of sewers and gravity pipelines 150mm to 500mm in diameter or larger.

Static Pipe Bursting

In Static Pipe Bursting a pulling force is applied to a tapered or blunt nosed bursting head through steel rods, chain or cable and new pipe is simply pulled behind the burst head through the old pipe. In this process the old pipe fails in tension created by the radial force applied to the pipe wall from by the bursting head. As the bursting head advances, the old pipe is fragmented and compressed into the adjacent soil and the new pipeline is simultaneously installed in the void. The static pipe bursting winch equipment is modelled after high-powered hydraulic jacks, mounted horizontally, or a high-tension drum type of winch. Pulling forces of up to 225 tons are typical for this method. This method is used in pipes 100mm to 1 000mm in diameter or larger.

.02 Slip lining

Slip lining basically entails pushing or pulling a new pipeline into the old one. HDPE pipe is the most common material used for the new pipe. The annulus may or may not be necessary to provide restraint or to increase ring stiffness.

.03 Liners

.01 Cured-in-place lining

A fabric tube impregnated with polyester or epoxy resin is inserted into the existing pipeline and inflated against the pipe wall and cured by hot water, steam or ultra-violet light.

.04 Point Repairs

Where structural faults in an existing pipe are localized it may be more economical to do point repairs rather than to replace / rehabilitate between manholes. A rule of thumb says that if less than 25% of the pipe length is affected point repairs are indicated. Even though minor faults in the pipe remain after point repairs it will be cost effective if the effective life span of the pipe is thereby substantially increased.

Various types of point repairs:

Excavating an existing pipe and replacing a short section with the same material. Excavation could also be done to eliminate an existing fault such as a backfall prior to rehabilitation by cured-in-place liners or replacement by pipe bursting.

Sleeve or patch repairs – using felt impregnated with polyester or epoxy. This can be a short length of cured-in-place liner using the same methods as applicable for cured-in-place liners or epoxy impregnated liners pressed against the pipe side using an inflatable packer while the sewer is live.

Resin injection

Positioning a packer across a joint, pressure testing and, if needed, injecting a sealing gel into the joint between the packers.

Fill-and-Drain systems

Pipe sections between manholes are isolated and filled from a manhole with an environmentally safe chemical solution such as sodium silicate for a specified period. The first solution is then drained and a second solution applied from the manhole. The second solution reacts with the first forming an impermeable gel at leakage points.

Robotic Repairs

Proprietary robots are used to:

- a) Inspect and remove protrusions, expose cracks etc. and
- b) Apply epoxy mortar to points to be sealed.

Mechanical Joint Sealing

Installing across a joint a metal band or clip faced with an elastomeric material which forms a seal with the inner surface of the pipe.

Pipe re-rounding

Re-rounding is not a stand-alone technique but is used to re-shape a deformed pipe prior to patch repair or relining. An expander unit is used to re-round the pipe and to install plastic or metal clip which holds the pipe fragments in position until a patch or liner is installed.

B815.03: Replacement of sewers by pipe bursting

.01 Scope of Work

While analysing the CCTV inspection database, the Engineer will identify replacement or upgrading work to be done. Pipe bursting will be the replacement method from manhole to manhole, but the Engineer will identify:

Where pipe bursting would be the preferred replacement method, an assessment of the degree of improvement in grade after the replacement will be made and, if necessary, the Contractor will be instructed to do an open excavation point repair (including lifting, bedding and backfilling the HDPE pipe all according to pipe laying specifications).

Where CIPP (cured-in-place pipe) lining would be the preferred replacement method: Where critical back falls or unacceptable faults such as broken pipe incidents are present in the existing line the Contractor will be instructed to do an open excavation point repair **before** commencing with installing the CIPP liner (including lifting the existing pipe if applicable, or replacement thereof if necessary, reconstruction of bedding and backfilling. all according to pipe laying specifications).

Where point repairs without replacement of the rest of the pipe section have to be done. Rates will be called for point repair by open excavation and for point repair by installing a 1.5m section of CIPP liner without excavation. The Contractor will be instructed as to which method to use. In general, this will be determined by the nature of the fault to be repaired and other circumstances such as depth, cost and external structures present etc.

.02 Quality Assurance

The Contractor will be primarily responsible for quality assurance during the project. Likewise, the Contractor will be responsible for any costs associated with corrective measures required to replace or repair items not meeting the quality standards specified by the Contracting Authority where such measures are necessary due to the Contractors fault.

.03 Submittals by the Contractor

The Contractor shall submit the following items for review and approval by the Contracting Authority in accordance with the Contract Documents. Approval of the submittals by the Contracting Authority shall be obtained prior to ordering pipe materials and/or the start of the pipe replacement process.

.01 Certifications of training by the pipe bursting systems manufacturer stating that the operators have been fully trained in the use of the pipe bursting equipment by an authorized representative of the equipment manufacturer. Alternately the contractor may provide a letter of intent of training, to include course outline, from an authorized representative of the equipment manufacturer.

.02 Certifications from the pipe manufacturer of training in the proper method for handling and installing the new pipe.

- .03 Certifications of training by the pipe fusion equipment manufacturers or a recognized pipe manufacturer that the operators have been fully trained in the use of the fusion equipment by an authorized representative of the equipment manufacturer.
- .04 Detailed construction procedures, and layout plans to include sequence of construction. A project schedule on MS Project shall be provided according to the Engineer's requirements and updated on a daily basis. The updated project schedule, a financial report and adjusted cash flow shall be presented to the Engineer once a month before the last day of the month.
- .05 Locations, sizes and construction methods for the service reconnection pits.
- .06 Methods of construction, reconnection and restoration of existing service laterals.
- .07 Detailed descriptions of the methods of modifying existing manholes.
- .08 Detailed procedures for the installation and bedding of the new pipe in the launching and receiving pits.
- .09 Sewer bypass plans, methods and list of equipment to be utilized.
- .10 Manufacturer's technical data showing complete information on material composition, physical properties and dimensions of the new pipe and fittings. Manufacturer's recommendations for transport, handling, storage, and repair of pipe and fittings shall be included.
- .011 Traffic control plans.
- .012 Contingency plans for the following potential conditions:
 - a. Unforeseen obstruction(s) causing burst stoppage, such as unanticipated change(s) in host pipe material, repair section(s), concrete encasement(s) or cradle(s), buried or abandoned manhole(s) or changes in direction not depicted on maps provided by the Contracting Authority.
 - b. Substantial surface heave occurs due to the depth of the existing pipe vs. the amount of upsizing.
 - c. Damage to existing service connections and to the replacement pipeline's structural integrity, and methods of repair.
 - d. Damage to other existing utilities.
 - e. Loss of and return to line and grade.
- .04 Materials
 - .01 The conventional sewer pipe replacement shall consist of Class PE100, PN6, SDR26 High Density Polyethylene Pipe (HDPE), complying with SANS 4427. Where, in the opinion of the Engineer, thicker walled HDPE pipes are required, or if Class PE100, PN6, SDR26 should not be available, a new rate will be negotiated.

The HDPE piping shall be supplied in the maximum possible lengths that diameter and handling constraints will permit in order to reduce the number of site welded joints. The handling of HDPE piping shall be in accordance with the manufacturer's standards and to the approval of the Engineer.

The Contractor shall install a new pipe sufficient in diameter to renew the sewer to the required flow capacity as specified by the Contracting Authority.

The Contractor shall install pipe made of virgin materials.

The new pipe shall be homogenous throughout and shall be free of visible cracks, holes, foreign material, blisters, or other deleterious faults.

Dimension Ratios: The wall thickness (SDR) of the new HDPE pipe shall conform to the tolerances specified by the Pipe Manufacturer and/or as approved by the Contracting Authority.

The material colour of the new pipe shall be black unless the pipe supplier can supply a different colour at the same price, in which case it should be white.

.02 Delivery Storage and Handling of Pipe and Materials

The Contractor shall transport, handle, and store pipe and fittings as recommended by manufacturer and in areas to the Engineer's approval. New pipe and fittings that are damaged before or during installation it shall be repaired or replaced, as recommended by the manufacturer or required by the Contracting Authority. The costs of such repair or replacement shall be borne by the Contractor and be accomplished prior to proceeding with the project. The Contractor shall deliver, store and handle other materials as required to prevent damage. Materials that are damaged or lost shall be repaired or replaced by the Contractor at no additional expense to the Contracting Authority.

.05 Plant and Equipment

Plant, equipment and tools to be used by the Contractor in the execution of his work shall be of good quality, sound design and modern manufacture. Plant and equipment must be suitable for its required purpose, must be of the proper type to ensure that the work is carried out efficiently and to the required standards and must be maintained in a state of efficiency to the satisfaction of the Engineer.

The Contractor shall ensure that adequate equipment is available for the entire pipe bursting and sliplining process. This shall include equipment for the maintenance of sewer flows, pipe cleaning, CCTV inspection, point repairs, butt welding of HDPE pipes, pressure testing of long welded HDPE pipe, pipe bursting, sliplining of the existing sewer pipe and testing of the relined sewer. Where pipe bursting is required to accommodate an HDPE pipe of the same or bigger diameter as the original, the equipment shall be suitable for exerting the necessary forces without damage to the manholes. The bursting head shall create a big enough hole that an annulus of in the order of 20mm all-round the new pipe is created. In wet clayish collapsing soil, the bursting length shall be reduced to suit the equipment's capability and to prevent stoppage. In general, the equipment shall be able to operate in varying soil conditions.

.06 Locating Services

The Contracting Authority shall provide the Contractor with all available documents relating to the location of services adjacent to the pipe to be replaced. Prior to commencing work the Contractor shall verify the location of all adjacent services that might be damaged by the pipe

bursting process. The minimum clearance from other utilities shall be approximately 0,65m. The Contracting Authority may at its discretion reduce the minimum clearance.

The Contractor shall, when ordered to do so by the Engineer, expose all interfering and crossing services by spot excavating at the intersecting point. The cost of exposing these services shall be paid in accordance with Contract bid items as defined elsewhere in the Contract.

Where utilities have to be protected, this will be done in consultation with the Engineer and in accordance with the prescription of the relevant service provider.

The Contractor shall exercise due diligence in locating and avoiding known services. The Contractor will be held liable in the case of damage to known services.

.07 Sub-Surface Conditions

When Pipe Bursting is specified, the Contracting Authority will furnish the Contractor with all the necessary information listed in the Contract Documents.

The Contractor shall verify this information in the field. All additional subsurface investigations deemed necessary by the Contractor to complete the work shall be included in the Tender at no additional cost to the Contracting Authority. Copies of all reports and information obtained by the Contractor shall be provided to the Contracting Authority.

The minimum depth of cover over the installed pipe shall be ten times the amount of displacement from the diameter of the existing pipe or 0,93m from the top of the existing pipe, whichever is greater. The Contractor may, with the prior approval of the Contracting Authority reduce the minimum depth of cover.

Settlement or heaving of the ground surface during or after construction will not be allowed unless soil conditions are not favourable in which case the Engineer will give instruction to that effect. The Contractor is solely responsible for the costs for repairing any surface heaving where soil conditions were favourable.

.08 Locating Service Connections

Job cards will be issued to the Contractor containing all known information regarding the location of sewer connections. This information will come from the primary source of CCTV inspections. Where available, location of sewer connections from the secondary source of as-built records will also be given to the Contractor.

In order to expedite reconnection, the Contractor shall locate all and expose all sewer service connections prior to pipe insertion. The Contractor shall exercise due diligence in excavating the existing pipe sufficiently to allow for uniform circumferential expansion of the existing pipe through the service connection pit. Excavation for service connections shall be assumed to have a width, measured across the centreline of the main pipe of 1m, measured at the bottom of the trench. The trench width of launch and exit pits shall still be that prescribed by the Standard Specifications for Municipal Civil Engineering Works 2005. The trench width is equal to o.d. plus 2*200mm.

Under certain circumstances the Engineer will allow a wider trench width (to be determined). This extra width will be paid under the item 202.03 "Excavations outside the normal trench width" The max length and width of these excavations shall be as follows:

- For house connections:

Diameter	Number of connections	Trench width	Trench length
160mm	1	1m	1.5m
	2 to 3	1m	Up to 4.5m
200mm	1	1m	1.5m
	2 to 3	1m	Up to 4.5m
250mm	1	1.2m	1.5m
	2 to 3	1.2m	Up to 4.5m
280mm to 315mm	1	1.2m	1.5m
	2 to 3	1.2m	Up to 4.5m

- For retrieve pits:

Diameter	Trench width	Trench length
160mm	1m	2.4m
200mm	1m	2.4m
250mm	1m	2.4m
280mm	1m	2.4m
400mm	1m	2.8m
450mm	1m	3m
500mm	1m	3.2m

- For launch pits:

Depth increments	Diameter	Trench width	Trench length
Up to 1m	160-280mm	1m	3.75m
1 to 1.5m	160-280mm	1m	3.75m
1.5 to 2m	160-280mm	1m	4m
2 to 2.5m	160-280mm	1m	4.5m
2.5m to 3m	160-280mm	1m	5m
3 to 3.5m	160-280mm	1m	5.5m
Up to 1m	300-500mm	1m	3.75m
1 to 1.5m	300-500mm	1m	3.75m
1.5 to 2m	300-500mm	1m	4m
2 to 2.5m	300-500mm	1m	5m
2.5m to 3m	300-500mm	1m	6m
3 to 3.5m	300-500mm	1m	7m

The Contractor, in conjunction with the Engineer's Representative, must take all reasonable care in ensuring that the connections of all visible houses that obviously must connect to the relevant sewer have been found by using CCTV inspection data, as built information, finding cleaning eyes etc. Pipe bursting may not begin before all connections have been located and before the Engineer's Representative's approval. Upon commencement of the bursting process, pipe insertion shall be continuous and without interruption from one entry point to another, except as approved by the Engineer.

All excavations shall be done according to the relevant requirements of Section 804 and Section 202.

.09 Pipe Joining

- .01 The HDPE pipe shall be joined by means of heat fusion using approved butt-welding equipment to construct a leak proof joint and in accordance with the DVS 2207 and 2208 and the DIN 16963 Specification until SABS 1671 and 0268 becomes available. Threaded or solvent-cement joints and connections are not permitted. All equipment and procedures shall be used in strict compliance with the manufacturer's recommendations. The contractor shall provide certification, and the welder / operator has successfully completed an approved training course and is qualified to weld the size and class of HDPE pipe to be used on this contract. The Contractor shall agree with the Engineer on the welding parameters to be used and test welds shall be carried out, tested and approved before the welding on Site can commence.

The Contractor shall provide a digital thermometer or similar for the accurate measurement of the weld temperatures. A welding record is required for each section of the construction site and shall be handed over to the Engineer's representative daily.

The Contractor shall provide a certificate of calibration for the welding plant to be used. The certificate shall bear the model number of the welding machine to be used on site, the name and address of certifying agent, the date of the test and a statement as to the accuracy of the temperature and pressure gauges on the machine in question.

A certificate of calibration dated prior to the date on the letter of appointment is not acceptable.

No separate payment shall be made for the calibration of the welding plant as required in this Contract.

The butt-fused joint shall be true alignment and shall have uniform rollback beads resulting from the use of proper temperature and pressure. The joint shall be allowed adequate cooling time before removal of pressure. The fused joint shall be watertight and shall have tensile strength equal to or greater than that of the pipe.

Welding should preferably be done on a mandrill to avoid bead removal, but failing this the Contractor must use specialised bead removal equipment to remove 98% of the internal bead in 100 and 150mm pipes leaving only the bottom 1 or 2mm of bead and avoiding cutting into the welded pipe or leaving strings or half-removed bead. The Contractor is expected to pay special attention in his quality control system to welding and bead removal and to self-inspect with his own CCTV camera kept permanently available on site or at the site office. A video record of such inspections must be kept and handed over to the Engineer's representative. No separate payment shall be made for the use of the Contractor's CCTV inspection equipment in this instance. The Contractor shall hand over to the Engineer daily dated bundles of beads removed. All joints shall be subject to acceptance by the Contracting Authority prior to insertion.

The Contractor shall cut out and replace defective joints at no additional cost to the Contracting Authority. Any section of the pipe with a gash, blister, abrasion, nick, scar or other deleterious fault greater in depth than ten percent (10%) of the wall thickness (ASTM 585), shall not be used and must be removed from the site. However, a defective area of the pipe may be cut out and the joint fused in accordance with the procedures stated above. In addition, any section of the pipe having other defects such as

concentrated ridges, discoloration, excessive spot roughness, pitting, variable wall thickness or any other defect of manufacturing or handling as determined by the Contracting Authority shall be discarded and not used.

Special precaution must be taken when transporting the HDPE pipe from the site where it is welded to the point where it is to be launched into the existing main. Pipes shall not be dragged along the ground as this will cause unacceptable scratches. The actual method of transport must be to the Engineer's approval. When the pipe is launched it shall be supported on roller cages.

.02 Terminal sections of pipe that are joined within the insertion or exit pit shall be connected with a mechanical coupling (e.g. a Kimberley Coupling or a full circle stainless repair clamp), Electro Fusion Couplings or a non-shear restraint coupling. All connections shall be in conformance with the manufacturer's installation procedures.

.03 If the pipe burst has to be terminated at a concrete surrounded road crossing a suitable made-up adaptor consisting of a Kimberley coupling / uPVC straight / uPVC to clay adaptor or similar shall be used.

.10 Bypassing of Flows

During execution of the work the Contractor shall be responsible for continuity of sanitary sewer service. The maximum time permitted for consumers to be without a sewerage service is six hours. Written notice, to the Engineer's approval, must be given to affected residents 24 hours before shutdown. In this notice the residents must be informed of the time period the service will be out of action and of the Contractors intended schedule for restoring the full service as well as his contingency plans.

The Contractor, at the sole discretion of the Engineer, may plug the main line sewer at an existing upstream Manhole. In general, the Contractor will be allowed to burst low flowing network sewers without having special measures for diverting the flow in place provided the resulting sewage backup does not cause any overflows whatsoever.

However, to cater for the risk of stoppages occurring due to unforeseen circumstances, the Contractor must have a 24-hour standby service for maintaining the existing sewage flow **in any section of work covered by the Contract**. The Contractor shall be responsible for providing standby sewage tankers, sewage pumps or any other acceptable means to pump or remove sewage from the manholes where backup of the flow occurs as a result of the Contractor's operations and discharging it into manholes downstream from the work area without overloading the downstream flow at any stage. Emergency excavation in order to restart the pipe bursting operation and all repairs shall be carried out without delay. The Contractor shall be solely responsible for clean-up, repair, property damage costs and claims resulting from failure to ensure overflows do not occur.

If the bursting operation cannot feasibly be completed without the risk of overflows occurring, the Contractor shall bypass the main sewer flow around the pipe to be replaced and into adjacent sanitary sewers and shall submit a detailed plan in this regard to the Contracting Authority for approval.

No open channel flow on street level or the discharging of any sewage into the stormwater system will be allowed. Any pumping at night times, over weekends or on public holidays will have to be silenced by a suitable method.

Pumps and the bypass lines shall be of adequate capacity and size to handle all flows without sewage backup to private property. The Contractor shall be solely responsible for clean-up, repair, property damage costs and claims resulting from failure of the diversion system.

The Contractor shall submit specifications for all pumping equipment to the Contracting Authority for approval. A list of all backup equipment to be held in reserve on the job shall be provided. Barring unforeseen circumstances outside of the Contractor's control, the Contractor will not be allowed to pump overnight or over weekends.

All costs for plugging, temporary lines, sewerage tankers, by-pass pumping etc. required during installation of the pipe shall be subsidiary to the pipe reconstruction item and shall be paid under day works items but the Engineer reserves the right to disallow payment if in his opinion the use of such measures could have been avoided by the Contractor/ was necessary due to the Contractor's negligence.

.11 Cleaning of Sewers

For pipe bursting the Contractor should simply ensure that there are no foreign objects such as rocks, bricks or stones present in the line which could impact on the success of the pipe bursting operation by creating point loads on the newly installed HDPE pipe. Simple removal of these objects by wire brush or squeegee is all that is required and must be allowed for in the pipe bursting rate. Roots, Fat, sand etc. do not have to be removed.

This cleaning will be included in the pipe bursting rate.

.12 Pipe Bursting

.01 Equipment Details

The Tenderer shall include full details of the type of pipe cracking equipment he intends to use, the number of pipe bursting tools in his possession as well as of all related equipment, the serial numbers of the equipment and the age of the equipment. **Refer to Functional evaluation C3.3.7.**

.02 The Pipe Bursting Process

The HDPE pipe, made up of a series of shorter lengths welded together on Site, shall be attached to the pipe bursting tool and inserted into the existing pipe at a launch pit. The existing pipe is burst by a nose cone at least 20mm bigger in radius than the HDPE pipe to minimize friction forces on the HDPE pipe and strong enough to withstand the forces generated by the pipe bursting process. The pipe bursting process is terminated at a receiving pit.

The pipe bursting tool shall be designed and manufactured to force its way through existing pipe materials by fragmenting the pipe and compressing the old pipe sections into the surrounding soil as it progresses. The bursting unit shall generate sufficient force to burst and compact the existing pipeline. See manufacturer's specifications for tool sizes recommended for various pipe diameters as well as parameters associated with tool sizes for allowable upsize percentages. The bursting action of the tool shall increase the external dimensions sufficiently to break the existing pipe and

simultaneously expand the surrounding ground sufficiently to permit pulling the new pipe through the annular space with the minimum friction.

The bursting unit shall pull the polyethylene (PE) pipe with it as it moves forward from the insertion pit. The bursting head shall incorporate a shield / expander to prevent collapse of the hole ahead of the new pipe insertion. The pipe bursting unit shall be remotely controlled. Sectional replacement pipe shall be pushed as well as pulled behind the bursting head.

Should the nose cone get stuck, the equipment can be retrieved by using the point repair excavation procedures. If the obstruction proves to be localised, the point repair excavation can be altered to act as a launching pit to continue with the pipe bursting process. Payment for this additional work will be based on the tendered launching pit rate.

If the exposed obstruction proves to be extensive, the pipe bursting procedure will be terminated at the point repair excavation and open trench construction methods will have to be used.

The Engineer reserves the right to require a rescheduling of the construction programme to accommodate the unforeseen subsurface conditions. The Council also reserves the right to terminate the construction in the particular area.

The HDPE pipe must be continuous throughout the entire length of the sewer except for breaks at manholes where a change in grade, elevation or direction of the existing sewer pipe or the use of the manhole as a receiving station prevents the continuous insertion of the HDPE pipe.

The pipe shall also be continuous through the sections where portions of the existing sewer pipe have been removed, such as at launching or receiving trenches and at point repairs.

Where the pipe is not continuous through a manhole, the pipe ends shall only be built into the manhole walls once the pipe bursting has been completed, any stresses due to the pipe bursting operation have dissipated and the pipe has assumed its final position.

The finished pipe shall be as free as commercially practicable from visual defects such as foreign inclusions, pinholes and improper trimming of the inner welds. The pipe shall be totally watertight and free of any leakage into or from the pipe to the surrounding ground. Any defects attributable to the contractor which will affect, in the foreseeable future, the integrity or strength of the pipe or which could result in undue maintenance costs, or which point to a deviation from specifications on the Contractor's part, shall be repaired at the Contractor's expense, in a manner mutually agreed to by the Engineer and the Contractor.

The pipe bursting process should start early enough in the day to ensure that the process, including temporary sewerage reconnections after the prescribed relaxation period, barring unforeseen circumstances, can be completed during normal working hours on the same day.

The standard pipe burst shall be from manhole to manhole with a length generally not exceeding 100m (average 60m). If the Contractor does a pipe burst through a manhole (2 sections) he does so at his own recognizances.

.04 General Guidelines for the use of Lubricants

Lubrication shall be used if in the opinion of Contractor such lubrication is necessary to ensure the successful completion of the job. The Contractor shall use a lubricant approved by the Contracting Authority.

When the new pipe is equal to or greater than twice the diameter of the existing pipe.
Burst length exceeds 90m.
Diameter of new pipe exceeds 300mm.
Host pipe is under groundwater.
Free flowing soil conditions.
As recommended by the pipe bursting equipment manufacturer.
Rocky non-compactable soil.

Use of Lubricants is included in the pipe bursting rate.

Specific to Pneumatic Pipe Bursting

The nose cone shall be fitted with a swivel attachment to reduce the twist transmission between the winch cable and the nosecone.

The winch shall be fitted with a direct load gauge to measure the winching load. At the end of each day's winching, the Contractor will provide the Engineer with copies of the forces recorded at the start of the pull and during the pull at increments of 20m winching distance.

A combination of pneumatic and hydraulic systems must be used by the Contractor when circumstances warrant it.

Specific to Static Pipe Bursting

The jacking forces shall be recorded during installations at the start of the pull and at 20m intervals as well as at any high points in between.

Due regard shall be taken of the manufacturer's recommendation as to yield stress of the HDPE pipe, as well as to the equipment manufacturer's recommendations as to the use of lubricants. The jacking forces applied should not cause stresses in the new pipe greater than the maximum stress on the linear part of the stress/strain curve for the particular size pipe installed.

Increases in pipe class or type to make up for equipment shortcomings will not be allowed.

Control of Workflow

The following typical maximum times per job are allowed:

Setting out, excavations – 2 weeks maximum
Pipe bursting – 1 working day maximum
Re-instatement of connections only – 2 days maximum
Re-instatement of manholes – 2 days maximum
All compaction – 2 days maximum
Surface re-instatement – 1 month maximum

The above activities may or may not overlap, as applicable. Only the main activities are listed. Periods stated are from start to finish of an activity. No excavation will be allowed open for more than 1 month. (Replacement complete, backfilling complete) Surface reinstatement must be complete within one further month. (Total project time per section shall not exceed two months.

The Contractor shall keep a record in his daily diary of the daily activities. The state of completion of the different sections shall be recorded on a spreadsheet giving full and immediate (daily) detail of the state of different jobs. In addition, project management shall be done on a monthly basis on MS Project. The MS Project shall constitute the full Bill of Quantities also broken down into individual jobs with rand value as a total resource cost. The Contractor shall supply on a monthly basis a progress report giving reasons for cashflow variations and adjusted cashflow.

.13 Launch and Exit Pits

The Contractor shall provide openings in the existing pipelines for use as launching and receiving pits for the pipe cracking operations.

Launch and exit pits should usually be located outside of heavy traffic areas, e.g. intersections, etc., and generally near manholes. Excavations for launch and exit pits shall be assumed to have a width equal to the lesser of actual and that prescribed by the Standard Specifications For Municipal Civil Engineering Works 2005 using the outside diameter of the new pipe as the base value in the calculation and a length the lesser of actual or 2 times the depth of the existing pipe for the launch pit and the lesser of the machine length or actual for the exit pit.

The pipe shall be bedded and installed within the launching and exit pits to correct line and grade. Bedding and backfill shall be as for new pipe construction. Re-connection to the manhole (built in with concrete/ mortar) and to the length installed by pipe bursting (by Kimberly coupling) shall only be done once any residual pipe bursting forces have dissipated. Instead of Kimberley couplings, electro fusion couplings may be used.

No reconnected short piece of pipe installed in a launch or exit pit may be closed up without having been inspected by the Engineer's representative. Inspected reconnected laterals on a section of pipe will have to be signed off in a site Inspection Book before backfilling may take place.

All excavations shall be done according to the relevant requirements of and Section 202, but payment for shoring will be made as part of normal excavation tariffs.

.14 Service Re-Connections

The installed pipe shall be allowed the manufacturer's recommended amount of time for cooling and relaxation due to tensile stressing prior to any reconnection of service lines.

A uPVC heavy duty saddle made up of a injection moulded y piece (160x100 if applicable) with the minimum at the bottom cut off to be still able to comfortably fit over the HDPE pipe, with the rubber rings still fitted plus a 3mm neoprene rubber seal PE60 PSA sponge glued to the saddle, shall be strapped to the HDPE pipe in a suitable position.

Two 19 mm straps shall be positioned on the inside of the socket ends. The straps shall be of grade 304 stainless steel with a 2B finish.

Instead of the saddle as described above, an electro fusion coupling or an "Inserta tee coupling" may be used.

Reconnections shall be made after pipe bursting is finished, and after the prescribed relaxation period, if necessary. At the clay pipe side, a suitable uPVC / clay adaptor, shall be used. **If the existing drain is in very poor condition, the Contractor must inform the Engineer who will instruct him on whether to open up to a suitable place or to the latest cleaning eye.** The lateral shall be built to suit using heavy duty structured wall uPVC pipe from the clay pipe side towards the main pipe with the hole on the main pipe being the last item before installing the constructed lateral. The hole into the new main pipe shall be marked out using a saddle template. In shape the hole shall consist of an oval corresponding to the projection of the barrel onto the new HDPE pipe. The cut shall be made using an electric or pneumatically driven hole saw. The edges of the hole shall be smooth and free of burrs.

The installation shall be made to fit without unnecessary strain anywhere. Signs of strain will be treated as a fault. The reconnection must be watertight, especially at the saddle side. A pressure test on selected installations will be required by the Engineer. Alternative methods for re-connecting must be approved by the Engineer.

Where existing concrete surround has to be removed before a reconnection can be made in the same place, the Contractor may re-connect at the closest possible point next to the existing connection.

Concrete surround shall only be utilised if unavoidable and on instruction of the Engineer.

The slope of the existing laterals toward the newly installed sewer main shall be maintained at the existing percentage of grade. For reconstructed laterals, a minimum slope of two percent (2%) or as specified by the Contracting Authority is required.

No reconnected lateral may be closed up without having been inspected by the Engineer's representative. Inspected reconnected laterals on a section of pipe will have to be signed off in a site Inspection Book before backfilling may take place.

If the works has to be left overnight or over the weekend temporary reconnections shall be made or the Contractor shall accommodate the normal sewerage runoff in some

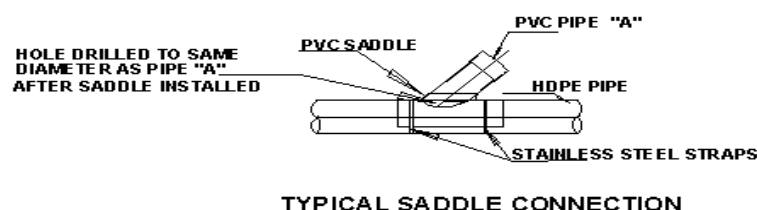
other manner approved by the Engineer. Sewerage build-up at the spot where the reconnection to the newly installed pipe is to be made will not be tolerated. The bedding will have to conform to normal pipe laying standards. The temporary reconnecting shall comprise installing the saddles as specified and making the holes in the HDPE pipe as specified and clamping flexible hoses to the saddle and to the clay pipe end. The installation shall follow the standard drawing connection types.

Some of the existing sewer connections are of the Type 2, and/or Type 3. (Refer to Figure 5 in Section 10). Redoing such connections to the newly laid sewers should be a fairly standard procedure. Some of the existing sewer connections are however of Type 1. (Refer to Figure 4 in Section 10). In most of these cases the whole connection is encased in concrete, resulting in a total collapse when it is exposed for reconnection. In these cases, redoing of the connection requires the following additional material and related work over and above the standard procedure:

110mm dia. pipe up to 1m length

110mm 90 deg. bend

110mm 45 deg. bend



PE60 PSA sponge must be glued inside the saddle over the full space between edges.

In cases where stand connections are connected IL to IL, the erf connection shall be elevated in liaison with the instructions of the Engineer.

Provision has been made in the Schedule of Quantities for each of the above Types of reconnections to be done by the Contractor, and the Contractor must satisfy himself that his tendered rate will cover everything necessary to execute the work.

.15 Breaking and Restoring at Manholes

The extent of the work required, will differ between jobs:

In general, on a manhole side where pipe bursting is to be done openings need to be broken out where the existing pipe joins the manhole to accommodate the new pipe.

Please note that manholes may or may not have existing steps or that existing steps may be rusted or inoperable.

If the pipe bursting is continuous through the manhole or if otherwise necessary, such as for an upsize the manhole benching needs to be broken out.

The Contractor shall restore all manholes and associated surface areas to their original condition or as required by the Contracting Authority and specified in the description of work.

Prior to restoring manholes, the installed pipe shall be allowed the manufacturer's recommended amount of time, but not less than four (4) hours, for cooling and relaxation due to tensile stressing prior to sealing the annulus or backfilling the insertion pit. Sufficient excess length of new pipe, but not less than 50 – 100mm, shall be allowed to protrude into the manhole to provide for occurrence.

Following the relaxation period, the newly installed pipe shall be sealed (not restrained) at the Manhole in accordance with the manufacturers recommended procedures and with a material approved by the Contracting Authority. Suggested procedure: The pipe ends are sealed with a single PVC socket slid over the HDPE pipe ends. The PVC socket must be grouted or otherwise built into the existing manhole walls. The PVC sockets must be treated with solvent cement and sand. They must have a tight enough fit over the HDPE pipe to affect a watertight seal but should not restrain the HDPE pipe completely, leaving it free to move inside the socket under residual stress relaxation or daily thermal expansion/ contraction etc.

Restoration of the bottom of the Manhole shall be done as follows:

For restorations, up to 75mm, mortar shall be used comprising OPC and dolomite aggregate. The mortar design mix shall meet or exceed 25MPa compressive strength at 28 days. The Contractor may, with the approval of the Contracting Authority, incorporate grout additives to improve flow properties, provided that the minimum compressive strength requirements are met.

For restorations greater than 75mm concrete shall be used. Concrete shall be at least grade 15/19

Channel(s) and benching must be scabbled and reformed to match the HDPE pipe dimensions where the existing channelling was in-situ formed.

Partial reparation of unnecessarily damaged channelling with concrete / cement mortar is not acceptable. Unnecessarily damaged benching must be repaired by the Contractor at his own expense. Smooth transitions between the liner and glazed earthenware channels or similar are acceptable for size for size replacement. If the pipe bursting is done through a manhole, without a break in the lining pipe, and no other sewers join the main in that manhole the top quarter of the pipe (0.5m in length) shall be cut off for access and inspection purposes and the benching chipped back and made good along the pipe.

.16 Point Repairs

The circumstances when point repairs could be requested under this contract are:

Where, after pipe bursting, critical backfalls exist in the existing pipe the Contractor will be requested to excavate down to the new pipe, lift the affected section of the pipe and reinstate or construct the bedding to the correct level, followed by construction of the blanket layer, backfilling etc An extra-over point repair rate will be paid for lifting the newly installed pipe. If, as a result of factors outside of the Contractor's control, the

Engineer deems it necessary to replace a section of the newly installed pipe, the Contractor will do the same but will replace the affected section with a short piece of HDPE pipe plus Kimberly couplings. The pipe laying rate will be paid for the short piece and a separate rate for the Kimberly couplings. Wherever possible the newly installed pipe will be retained and point loads etc. will simply be removed and replaced by proper bedding etc.

Payment will be made under the appropriate rates of section 815 where applicable. Excavation width will be equal to the lesser of actual and that prescribed by the Standard Specifications for Municipal Civil Engineering Works 2005 using the outside diameter of the existing pipe as the base value in the calculation, and a length the lesser of actual and the fault length as specified plus 0.5m on each side.

Point repairs necessitated by the Contractor's lack of quality control will have to be fixed at his own cost.

All excavations shall be done according to the relevant requirements of Section 202, but payment for shoring will be made as part of normal excavation tariffs.

.17 Quality Control

Tenderers are requested to prepare a quality control plan to ensure that the product conforms to specified requirements in all respects. A central aspect of the Contractor's quality control will revolve around CCTV inspections. The Contractor is expected to have CCTV inspection unit(s) suitable to inspect the results of welding and bead removal and of the fully installed pipe permanently on site. No CCTV inspection of laterals will be required. The CCTV unit suitable to inspect the finished product must be tractor mounted, must be able to record onto video or DVD and be equipped with an inclinometer and able to do pan- and- rotate inspections.

The inspections must be compatible with the existing City of Tshwane CCTV database and pdf files must be produced and handed over to the Engineer for inclusion in the database. The inspections must be done according to the City of Tshwane Pipe Inspection and Sewer Classification Manual. Operators must undergo CCTV inspection training. Failure to be able to meet these requirements will disqualify any tender. The first inspection on the installed pipe will be paid for, but subsequent inspections where faults caused by the Contractor are involved will not be paid for.

.18 Notification of Residents

All residents having sewerage connections to a section of pipe to be replaced shall be informed well in advance of the intended work on an approved notification letter to be delivered by the Contractor. Letters shall be hand delivered by the Contractor and shall contain among other things a request for an appointment with the resident. At this meeting the Engineer's representative shall be present as well. The intended work shall be explained to the resident and detail arrangements shall be made concerning access, temporary removal of structures, plants etc.

In addition, written notice, to the Engineer's approval, must be given to residents that will be directly affected by a shutdown in the sewerage service 24 hours before shutdown. In this notice the residents must be informed of the period of time the service will be out of action and of the Contractors intended schedule for restoring the full service as well as his contingency plans

The Contractor shall keep a record of letters delivered, and meetings held, and a summary of arrangements made. If no one is found at home the first time a second visit after hours must be made. If necessary, a registered letter must be sent to the resident. The resident should be requested to sign for the letter and to sign next to the summary of arrangements made.

After completion of all works the resident should be requested to sign as to his satisfaction with the completed works on his property.

The Contractor will be paid for paving re-laid and for removal of temporary structures, covering over manholes etc. under Dayworks, if according to the Engineer's representative such labour is not insubstantial. All other actions in this regard will not be separately paid for and must be allowed for under the rates.

The Contractor must keep a digital photographic record of the state of residents' properties before starting the works. The photographs must be kept on a suitable format, must be available for perusal by the Engineer's representative and must be named and related to stand and job numbers.

The Contractor will be held liable for wilful or negligent damage to residents' properties. Purely accidental damage to residential property will be considered by the Engineer for claim submittal. The Contractor will in any case be liable for an amount of damage at least equal to the excess amount payable. The Engineer will be the sole judge if an insurance claim is warranted.

.19 Slip lining and Grouting

.01 Scope of Work

In cases where HDPE pipes are installed as corrosion protection liners inside concrete sewer pipes the annulus between the HDPE lining and the existing concrete pipe shall be grouted to prevent buckling of the lining in the event of a collapse of the corroded concrete pipe.

.02 Annulus grouting General

The grouting is to be executed between manholes. The lining shall be filled with water to avoid floating and the grouting operation shall be carried out in steps.

If annulus grouting is required, the Contractor shall prepare a detailed method statement for his proposed grouting procedure and obtain the approval of the Engineer before proceeding. The method statement shall, inter alia, address the following:

- Venting provision to prevent air locks
- Maximum distance of grout travel
- Details of grout mix, drying shrinkage and 28-day strength
- Detail description of procedure
- Quality control tests to be done
- Disposal of unacceptable and surplus grout

.20 Breaking of concrete to expose house connections

(Type 1, 2 and 4 or Type A, B and C)

In instances where house connections are encased in concrete, the concrete is to be broken out by manual or mechanical means to expose the original earthenware pipe and the disposal of spoil material.

.21 Breaking of concrete surfaces and reinstating with 25 MPa concrete to the original state.

Concrete surfaces are to be cut prior to breaking out to ensure straight cut lines when re-instating with 25 MPa concrete. Surface finish is to match the existing surface whether it is smooth steel towelled, or wood floated. Joints are to be finished with a Joint Nosing tool. Spoil material must be disposed to legal dumping site.

.22 Reinstating brickwork paving

Paving brickwork shall be of the same quality as the existing. Fill material is to be compacted to 93% Mod AASHTO density. The brickwork is to be laid on a sand bedding at least 25mm thick, to the same pattern as the existing. Spoil material must be disposed to a legal dumping site.

.23 Testing

The Contractor shall, when required to by the Engineer, after replacing a section of sewer main, fill it with water to produce an appropriate pressure head within the pipe section. After a period of ten minutes, water is to be added to allow for absorption by pipes or joints and the escape of air.

He water shall then be allowed to stand for an additional period of thirty minutes and the water lost determined for the section. The loss shall not exceed three litres per hour per 100m length of pipe per 25mm nominal internal diameter.

The above test procedure will be measured per test carried out, and the unit rate tendered for each test shall include the supply of water, materials, plant, labour and equipment required to undertake the testing.

B815.04 – PARTICULAR PROJECT SPECIFICATION: CURED IN PLACE PIPE

B815.04.01 - GENERAL

B815.04.01.1 - Description

There are numerous techniques, products and proprietary systems that have been developed for the cured-in-place pipe (CIPP) trenchless renewal method (TRM). The intention of this specification is not to exclude any of the available CIPP products, but to rather ensure that:

- The CIPP product and materials meets standard specifications for handling of the effluent discharging through the pipe for the duration of the intended design life,
- The method of installation and curing meets standard requirements and specifications,

- The Contractor is suitably experienced and qualified to complete the installation and ancillary requirements,
- The Client is issued with sufficient information to adequately adjudicate the performance of a proposed system and the ability of the installation contractor.

The work involves the provision of all equipment, materials, labour and incidentals required to rehabilitate an existing pipe by means of the installation of a CIPP.

B815.04.01.1.1 - Scope

The lining of existing sewer mains through CIPP methods forms a portion of the greater inspection, rehabilitation and new works required to reinstate the integrity of the city's sewer system. The initial cleaning and CCTV inspection of the sewer pipe is dealt with under the particular specification attached. All point repairs, replacement of pipe sections and manhole repairs that are required on the existing sewer line prior to lining being affected, will be completed by the main civil contractor appointed by the Client. This specification therefore deals only with the CIPP lining procedure.

The liner must be designed to withstand internal exposure to normal municipal sewage flows, which would include flows emanating from residential, commercial and industrial sites, and may also include gases and liquids including hydrogen sulphide, carbon monoxide, carbon dioxide and diluted sulphuric acid.

The Contractor will be required to deal with all sewer flows entering the pipe section for the duration of the installation procedure and all other provisions required whilst working on a live and operational sewer system.

The Contractor will be required to manage the existing municipal staff that will assist in the manual operations of the pump stations during the rehabilitation work. The Contractor will be required to make provision for payment of overtime for this staff, should work extend outside normal working hours.

B815.04.01.1.2 - Requirements

The following items shall be deemed minimum requirements for the work:

The products shall be supplied by manufacturers regularly engaged in the manufacture of CIPP products to the satisfaction of the Client.

The installation Contractor shall be experienced in the preparation and installation of a CIPP, and/or be certified to complete the supply and installation of any proprietary systems and shall issue to the Client a certified copy of such license agreement prior to commencement of the work.

B815.04.01.2 - References and Standards

The following references form part of this Specification. In the event of any conflict between the requirements of this Specification and those of the listed documents, the requirements of this Specification shall prevail. The latest edition of the following documents shall be used.

B815.04.01.2.1 - Material and Corrosion Standards

The following resin standards are particular to UV cured CIPPs:

DIN 16946/2

DIN 18820/1

B815.04.01.2.2 - Structural Element Standards

The following standards may be prescribed for the liner felt and resins respectively.

ASTM D5199: Standard Method for Measuring Nominal Thickness of Geotextiles and Geomembranes

ASTM E1251: Standard Practice for General Techniques for Qualitative Infrared Analysis

B815.04.01.2.3 Installation Standards

The following ASTM standards are applicable.

ASTM F1216: Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of Resin-impregnated Tube.

ASTM F1743: Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP).

The standard method of installation will be through inversion of the liner. The Client may approve installation by winching-in methods provided the liner tube and resins conform to the materials and curing sections of the specifications listed above.

B815.04.01.2.4 Testing Standards

The following ASTM standards are applicable.

ASTM D543: Standard Test Methods for Resistance of Plastics to Chemical Reagents.

ASTM D638: Standard Test Methods for Tensile Properties of Plastic.

ASTM D790: Standard Test Methods for Unreinforced and Reinforced Insulating Materials Flexural Properties of Plastics and Electrical.

ASTM D2990: Standards Test Method for Tensile, Compressive and Flexural Creep and Creep-Rupture of Plastic.

B815.04.01.2.5 - General Sewer Construction Specifications

All work on pipelines will follow the general principles of sewer design and pipeline construction and rehabilitation. Should any defects in the CIPP liner require the contractor to excavate and reconstruction sections of the pipeline, the Contractor shall request from the Client the relevant standard technical and safety specifications for sewer construction and civil works to which the work must conform.

B815.04.01.2.6 - Safety Standards and Regulations

The Contractor is to ensure that the work is conducted within existing safety and construction regulations, and health standards. This pertains to all aspects of the work including amongst others, handling of the products, storage of products and installation of the liner, working with scaffolding and entering confined spaces.

B815.04.01.3 - Warranty

The Contractor shall provide the Client with a warrantee for the liner and associated works for a period of one (1) year from completion and final acceptance. The terms of the warrantee shall cause the Contractor to repair or replace failed or damaged pipe or liner as a result of faulty materials or installation during this defects liability period. At the end of the defects liability period, the Client may at his own expense perform a CCTV inspection of the sewer to confirm the condition of the liner.

B815.04.01.4 - CIPP Technical supervision

The Contractor shall provide suitably trained technical staff and supply a record of their prior experience in installing CIPPs to the Client 7 days prior to the installation commencing.

B815.04.02 - METHODS AND MATERIALS

B815.04.02.1 - Liner tube

The CIPP liner tube shall consist of one or more layers of needled felt or an equivalent non-woven and/or woven material compatible with, and capable of carrying resin and withstanding installation pressures and curing temperatures.

The CIPP liner tube shall be continuous over the entire length from manhole to manhole and free from defects such as foreign inclusions, dry spots, pinholes and de-laminations.

The Contractor is responsible to check and verify through on-site measurement, the required lengths prior to impregnation and installation of the liner. The Contractor must ensure that the liner is free from visible defects including amongst other tears, holes, cuts and foreign material prior to installation.

All wrinkles in the installed liner tube that are deemed to reduce the hydraulic capacity of the sewer by more than 5% shall be removed and repaired by the Contractor at his cost. The Contractor shall recommend the repair method and shall not commence until the method is reviewed and approved by the Client.

B815.04.02.2 - Resin

Unless otherwise specified, the resin shall be an unsaturated, thermosetting, polyester, vinyl-ester or epoxy resin able to cure in the presence or absence of water, and a catalyst compatible with the insertion process.

The temperature for cure shall be recommended by the resin manufacturer.

In the instance of UV cured liners, the resin should comprise an unsaturated polyester resin corresponding to resin type 1140 according to DIN 16946/2 and are classified as group 3 resins in line with DIN 18820/1.

B815.04.02.3 - Design and Physical Properties

The contractors design, approved by a Registered Civil Engineer, must be submitted to the Client for approval prior to the work commencing. The design shall not deviate from that offered by the Contractor at Tender stage.

B815.04.02.3.1 - Thickness design

The liner thickness design should be based on the following criteria:

Pipe condition	=	Partially deteriorated
Pipe ovality	=	3%
Allowable deflection	=	5%
Other criteria set out below		

B815.04.02.3.2 - Loading

The liner should be designed to withstand all internal and external loads, and in particular soil, paving, traffic and hydrostatic pressures.

Maximum depth of pipeline below GL	=	4.0m
Depth of water table below GL	=	0.5m

B815.04.02.3.3 - Standards

The CIPP system should comply with the following minimum standards:

Characteristic	Test Method	Polyester Resin	Vinyl-Ester & Epoxy Resins
Flexural Strength	ASTM D790	30 N/mm ²	35 N/mm ²
Flexural Modulus (Short term)	ASTM D790	1725 N/mm ²	2070 N/mm ²
Flexural Modulus (Long term)		865 N/mm ²	1035 N/mm ²
Tensile Strength	ASTM D638	865 N/mm ²	1035 N/mm ²

B815.04.02.3.4 - Calculations

All calculations shall be signed and endorsed by a Registered Civil Engineer and submitted to the Client if so requested.

B815.04.02.3.5 - Inside diameter

The fabricated dimension of the liner tube shall be such that it will fit the internal circumference of the existing pipe, whilst making allowance for stretching due to insertion and deterioration of the pipe walls.

B815.04.02.3.6 - Wet-out

The tube shall be vacuum impregnated with a resin and catalyst system and all materials and methods utilised shall be in accordance with the requirements of the particular system.

B815.04.02.3.7 - Minimum thickness

The minimum thickness of the liner is to be determined by the Contractor, in association with his material suppliers and design engineers.

B815.04.02.3.8 - Chemical resistance and corrosion requirements

Chemical resistance tests shall be completed at the Contractors expense and shall be in accordance with the requirements of Section 8 of ASTM F1216, Section X2, Chemical Resistance Tests for polyester

resins and completed in accordance with Test Method D543. Proof of meeting these requirements shall be furnished to the Client at least 7 days prior to commencement of the work.

B815.04.02.3.9 - Long term performance studies

The resin manufacturer shall supply accelerated long term testing results of the resin in terms of ASTM D543 to the Client's satisfaction.

B815.04.02.4 - Sealing at manholes

Should a tight fit not exist at the interface between the new liner and the manhole, a seal at the manholes consisting of a resin mixture compatible with the new CIPP liner may be applied in accordance with the manufacturer's specifications.

B815.04.02.5 - Laterals and service connections

B815.04.02.5.01 – Cutting

The Contractor will be responsible for locating the position of all service connections entering the host pipe during the preliminary CCTV inspection of the pipe. The recording of the chainages, orientation and size of the lateral shall be recorded in the format prescribed in the CCTV Inspection specification.

All service connections must be reinstated through trenchless means involving CCTV cameras and robotic cutters, or man entry. No excavations will be allowed to reinstate connections unless ordered by the Client. The cut in the liner for the service connection may not exceed 100% of the size of the service connection.

The service connection shall be restored to at least 90% of their original capacity and be free from sharp edges or protrusions which could result paper, debris and rags accumulating and resulting in a blockage.

B815.04.02.5.02 – Sealing after openings

Where required a "top hat" section must be installed.

B815.04.02.6 - Completion Requirements

The Contractor will be required to submit all pre- and post-installation CCTV inspection data as specified by the Client.

The Contractor shall also submit records and proof of the following:

Resin and liner compliance test results.

Testing results for samples taken during installation.

Contractor's log and quality assurance records required during the installation, curing and cool down processes.

B815.04.03 - INSTALLATION

The Contractor shall submit a method statement detailing amongst others:

- The method of dealing with existing sewer flows.

- Interface with cleaning and CCTV procedure.
- Interface with main contractor regarding spot and civil repairs.

Wetting out location and procedures

- Pre-liner insertion
- Liner insertion
- Curing
- Testing
- Reinstatement of service connections
- Post insertion CCTV inspection of sewer

Where water is used for liner insertion and curing, it must be sourced, purchased and transported by the contractor. The source of water may be in excess of 20km from the works and the contractor may have to programme his work around the limited hours of water supply experienced during the day.

B815.04.03.1 - Access points

Access to the host pipe will be through existing manholes. Excavation for liner insertion will not be permitted, however in certain instances the removal of manhole cover slabs may be allowed subject to approval from the Client.

The Contractor will be fully responsible for the maintenance of traffic on public roads, including all requirements (including signage) during the execution of the works. The Contractor will be required to adhere to the city's regulations in terms of applications for road closure and traffic diversion.

Where installation is required on private property, typically for mid-block sewers, the contractor may be required to work in limited space. Where possible, the Contractor must ensure that no damage to private property is incurred.

B815.04.03.2 - Cleaning and inspection

The cleaning and CCTV inspection will be two-fold. Firstly, to finalise the condition assessment, and secondly, to provide a clear unobstructed host pipe for the liner to be inserted into. It will be responsibility of the Contractor to programme these works to limit duplication of cleaning and CCTV operations. Any assumptions or allowances in this regard should be indicated by the Contractor at Tender stage.

The initial cleaning and CCTV will be paid for under the investigatory portion of the work and will only be paid for once per pipe reach. All subsequent cleaning and inspection work will be deemed to be included in the CIPP operation and will be paid for under the unit rates for CIPP installation, even if the CIPP procedure does not immediately follow the initial cleaning and inspection works.

B815.04.03.3 - Over pumping and bypass of sewage

The Contractor shall provide for adequate flow control measures and equipment including but not limited to required pumping and bypassing of all flows entering the pipe. This will include the provision and maintenance of all plant, equipment and labour for the duration of the installation procedure.

B815.04.03.4 - Line obstructions and point repairs

The line shall be cleared of obstructions such as solids, dropped joints, intruding service connections or collapsed pipe that may prevent installation of the liner through trenchless means. If the preliminary cleaning and CCTV inspection reveals an obstruction that cannot be removed by conventional remote

sewer equipment, then a point repair excavation shall be made to remove or repair the obstruction by the main civil contractor prior to the CIPP lining procedure taking place. This may require that the CIPP lining take place well after the initial cleaning and inspection operations. The Contractor will not be entitled to standing time in such instances.

Roots and fat shall be removed in the designated sections as part of the initial cleaning and CCTV operations.

Where required, the Contractor must install a 1,5m CIPP short section as a point repair to an isolated defect in an existing pipe.

B815.04.03.5 - Resin impregnation

The Contractor shall designate a location where the liner will be impregnated with resin prior to installation through vacuum or other approved means. The Contractor shall allow the Client to inspect the wetting out process.

The impregnated tube shall be transported from the designated location to the site in such a manner so as to not compromise the integrity of the system through damage or exposure to direct sunlight to the Clients satisfaction. This may include preparation of refrigerated transportation containers.

B815.04.03.6 - Liner insertion

The provision of a pre-liner may be required. The use of a pre liner will be specified by the manufacturers or the licensee.

The impregnated tube shall be inserted into the existing pipe through the existing manhole chambers by means of hydrostatic inversion, compressed air inversion, winching, or other means approved by the Client to fully extend the liner from launching to receiving manhole. Where the liner is inserted through winching, records of forces induced on the liner during insertion must be recorded.

The use of a non-toxic oil-based lubricant may be used to reduce friction during installation. The lubricant should have no detrimental effect on the tube, should not support bacteria growth or affect the general characteristics of domestic sewage.

B815.04.03.7 - Curing and cool down

All equipment, plant and testing equipment, installation and quality management staff must be provided by the Contractor during the curing procedure. The equipment and plant must be approved by the licensee for proprietary systems as being suitable for executing the curing procedure.

The success of the curing procedure is determined by the provision of suitable staff, equipment and adherence to strict curing procedures by maintaining specified durations of execution, temperature environments and control.

The curing measures must be specified by the manufacturer and approved by the Client at least 7 days prior to insertion of the liner. The curing process shall consider the host pipe material, ambient temperature, resin/catalyst system, moisture level and thermal conductivity of the soil.

Where the curing procedure involves the circulation of hot water, air or steam, the Contractor shall ensure that heat source piping is fitted with continuous monitoring thermocouples to gauge the temperature of the incoming and outgoing curing medium. Due to the nature of the thermal curing

process, the liner should be fully inflated to form a tight fit against the host pipe throughout the curing procedure.

In the instance of curing by UV light, the liner is normally winched into position. The Contractor must allow for the installation of temporary packers and transitions to allow the insertion of the UV lights whilst maintaining internal air pressure in the uncured liner. The number, wattage and speed of light distribution must be specified by the proprietary system licensee or the resin manufacturer.

The curing shall be deemed complete when all criteria stipulated by the manufacturer in terms of curing have been met, and the exposed section of the liner appears to be hard and sound.

In the instance of hot water and steam cured liners, the Contractor should ensure that a correct cool down procedure is followed, which would include cooling of the internal temperature to manufacturers specified limits (normally 38°C for water and 45°C for steam cured resins) and thereafter releasing the internal hydrostatic or air pressure from the liner, ensuring that a vacuum is not developed that may damage the liner.

In all instances the cool down procedure or release of the internal pressure in the liner shall not commence until such time as the Contractor has satisfied himself that all criteria for successful curing have been met.

B815.04.03.8 - Sealing and service connections

All service connections should be reinstated at the earliest opportunity, once the installation, curing, cooling and testing procedures of the liner have been completed, but no later than 24 hours after curing has been completed.

B815.04.03.9 - Finishing and Clean-up

After installation, the Contractor shall promptly restore the sites of operation to a condition similar to that prior to work commenced, to the satisfaction of the Client. All excess material and rubble shall be disposed of by the Contractor at his own cost. The work shall be deemed incomplete and final payment will not be affected until the clean-up procedure is complete.

The Contractor will be required to complete the visual conformance inspection of the sewer and provide all testing results and installation records to the Client.

B815.04.04 - QUALITY CONTROL AND ASSURANCE

B815.04.04.1 - Submission of manufactures certificates

The Contractor shall provide all certification for the manufacturer that the liner materials are in compliance with the listed specifications.

The Contractor shall also provide certification of the liner demonstrating that the liner tube is correctly sized to avoid the formation of wrinkles or folds.

All testing must be completed by a third-party registered laboratory.

B815.04.04.2 - Compliance testing

A minimum of two (2) samples will be collected for each insertion length between manholes, of sufficient size to provide five (5) specimens for flexural and tensile testing.

The samples shall preferably be prepared from waste sections of liner that has been wetted out and should be representative of the installed section of liner. The samples should be cured in the down tube where circulating hot water is used and, in the silencer, where steam is used for curing.

In the instance of UV curing, a single length (per the manufacturer's minimum requirements) shall be prepared for testing.

B815.04.04.3 - Allowable pulling forces

The Contractor shall inform the Client as to the maximum pulling force that can be used whilst inserting the liner without rupture or affecting the properties of the tube. The Contractor shall also provide measurement devices to accurately record the forces induced on the liner during installation.

B815.04.04.4 - Allowable elongation of flexible tube

The Contractor shall mark the precise length of the anticipated run prior to insertion on the liner. After installation the length of elongation shall be calculate and should not exceed 3% of the original length. The Client may reject any length of liner where the elongation exceeds the allowable.

B815.04.04.5 - Water tightness

The Contractor will not be required to complete a pressure test on the completed pipe.

B815.04.04.6 - Visual inspection

The visual inspection of the completed liner must be in accordance with ASTM F1216, Section 8.4 and meet the requirements of the particular project specification for CCTV Inspection attached.

The Contractor must provide a continuous log of curing criteria and measurements effected during the curing procedure. This information will be critical in evaluating criteria for the acceptance of the liner by the Client. Failure to provide such information or information to support the measurements during the curing procedure may result in the Contractor being required to replace the pipe section at his own cost.

B815.04.05.6.1 - Elongation

At the sole discretion of the Client, should elongation of the line exceed the allowable during installation, the replacement of the liner and all ancillary costs will be for the Contractors account. Should the Client accept a liner that has been installed outside the limits of the allowable elongation percentage, the unit rate per meter of the installation will be reduced by 5%, per percent elongation above the allowable.

B815.04.05.6.2 - Thickness

The following payment criteria will be followed for installed liners that are less than the specified thickness.

Less than 5% deviation	-	no price adjustment
5% to 10%	-	10% reduction in unit rate
Greater than 10%	-	liner rejected by Client (replacement at Contractors cost)

B815.05 – MEASUREMENT AND PAYMENT

Add the following pay items:

ITEM	DESCRIPTION	UNIT
B815.01	Dealing with sewage flow by gravity pipe / temporary ditch diversion. The unit of measurement shall be the number of m of temporary diverting pipe of whatever sort or diameter, or temporary ditch needed to divert flow. The tendered rate shall include whatever ancillary works is needed such as blocking of flow.	m
B815.02	Dealing with sewage flow by over-pumping with a water pump able to handle peak dry weather flow .01 Up to 15 l/s .02 Between 15l/s and 25l/s The unit of measurement shall be the number of hours used. The tendered rate shall include all related cost items for installing, maintaining and removing the pump installation.	hrs
B815.03	Breaking and repairing of access openings through manhole walls. The unit of measurement shall be the number of manholes broken into and repaired irrespective of the number of openings. The tendered rate shall include, inter alia, for breaking of openings, removal of rubble from site and re-instate of manhole walls and all related work, as more clearly described in the Specifications.	No
B815.04	Breaking and repairing of benching and channelling in existing manhole to accommodate new pipe, including caulking in new pipe ends. The unit of measurement shall be the number of manholes affected and repaired irrespective of the number of pipes. The tendered rates shall include for all materials and labour necessary to repair and adjust benching to accommodate the new pipe, as well as to ensure proper bonding with the benching, and to cut open the new pipe if necessary.	No
B815.05	Supply and Installation of Pipes: .01. 160mm ClassPE100 PN 6, SDR26 into existing 100mm Clay/uPVC/PF .02. 160mm ClassPE100 PN 6, SDR26 into existing 150-160mm Clay/uPVC/PF	m

	.03. 200mm Class PE100 PN 6, SDR26 into existing 160mm Clay/uPVC/PF - upsize .04. 225 mm Class PE100, PN 6, SDR26 into existing 180-210mm Clay/uPVC/PF .05. 250 mm Class PE100, PN 6, SDR26 into existing 220-230mm Clay/uPVC/PF .06. 250mm Class PE100 PN 6, SDR26 into existing 160mm Clay/uPVC/PF - upsize .07. 250mm Class PE100 PN 6, SDR26 into existing 200mm Clay/uPVC/PF - upsize .08. 280 mm Class PE100, PN 6, SDR26 into existing 240-260mm Clay/uPVC/PF .09. 280 mm Class PE100, PN 6, SDR26 into existing 200mm Clay/uPVC/PF - upsize .10. 315mm Class PE100, PN 6, SDR26 into existing 230mm Clay/uPVC/PF - upsize .11. 355 mm Class PE100, PN 6, SDR26 into existing 280-330mm Clay/uPVC/PF .12. 400mm Class PE100, PN 6, SDR26 into existing 340-370mm Clay/uPVC/PF .13. 450mm Class PE100, PN 6, SDR26 into existing 380-420mm Clay/uPVC/PF .14. 500mm Class PE100, PN 6, SDR26 into existing 430-460mm Clay/uPVC/PF .15. 560mm Class PE100, PN 6, SDR26 into existing 470-520mm Clay/uPVC/PF (List for different diameters and new pipe specifications) The unit of measurement shall be the metre of each size and type of pipe joined, installed, tested and approved, measured from centre to centre of adjacent manholes or to the point where the pipe bursting is terminated. The tendered rate shall include full compensation for welding the HDPE pipe into suitable lengths, for the use of equipment as specified to crack open the old pipe and to install the new pipe and for any related activity as specified and not covered elsewhere in pay items.	
B815.06	Service Re-connections .01 Size and type The unit of measurement shall be the number of house connections installed and approved for the different pipe diameters. The tendered rate shall include full compensation for supply of all materials and labour necessary to connect existing house connections to the newly installed sewer.	No
B815.07	Point repairs	No

	.01 Point repairs by replacing pipe Extra over items 302.01 if pipe is replaced during a point repair as specified. The unit of measurement shall be the number of point repairs. The unit rate shall include full compensation for breaking and removing the old pipe and for laying the new pipe including adaptors as specified. (Pipe length not to exceed 2m.) .02 Point repair of backfall in new pipe The unit of measurement shall be the metre of pipe lifted and shall include for making good the bedding and compaction of bedding but shall not include for backfill and compaction of backfill.	
B815.08	Breaking and removing concrete surrounded erf connections The unit rate shall be the number of cubic metres broken and removed. The unit rate shall include full compensation for breaking concrete by whatever method and carting away plus dump site rates.	m3
B815.09	Reinstate backdrop manholes to suit HDPE pipe The unit of measurement shall be the number of manholes where an existing backdrop into the manhole must be reinstated. The unit rate shall include full compensation for labour and materials used (uPVC Y piece, straights and bends) to reinstate an existing backdrop manhole.	No
B815.10	Re-rounding Re-rounding of existing pipe in cases where the Engineer deems this necessary i.e. where negative curvatures occur or where unremovable obstructions occur as per specifications / inspection charts. The unit rate shall be the metres of re-rounding. The tendered rate includes full compensation for the cost of all related activities such as CCTV inspections, etc.	m
B815.11	Material Testing .01 Control test for E-modulus obtained as specified. The unit of measurement shall be the number of tests executed, and reports produced.	No

	.02 Water test The unit of measurement shall be per test carried out and the rate shall include the supply of water, materials, plant. Labour, etc.	No
B815.12	Removal / clearing of obstructions over launch or exit pits or sewer lateral connections and replace	Hrs
B815.13	Connect existing sewer line to newly laid sewer. The unit of measurement is number of connections for each diameter specified. The tendered rate shall include for labour, plant and material to be used in installation of the connection but shall exclude backfilling.	No
B815.14	Breaking of concrete surfaces and reinstating with 25 MPa concrete to the original state according to specifications. The unit of measurement shall be the square meter. The tenderer shall include cutting of edges before breaking irrespective of thickness and means of breaking, replacing of concrete to the original thickness with a minimum thickness of 50mm and shall also include finishing and curing of the reinstated concrete, as well as breaking, disposal and clearing after construction.	m2
B815.15	Reinstating existing brickwork paving according to specifications. The unit of measurement is the square meter. The tendered rate shall include for breaking out existing paving and replacing with existing or, if needed, similar matching brickwork. The rate shall also include jointing and pattern to match the existing as well as disposal of spoil material.	m2
B815.16	Installation of CIPP Liner Separate rates should be tendered for the following type of liners: .01 Structural liners – reinforced (3,5mm up to 200 diameter and 5mm bigger than 200 diameter) .01 160mm diameter .02 > 160mm diameter and ≤ 200mm diameter .03 > 200mm diameter and ≤ 300mm diameter .04 > 300mm diameter and ≤ 400mm diameter .05 Greater than 400mm up to 500mm .02 Non-structural liners (5mm thick up to 200 diameter and 8mm thick bigger than 200 diameter) .01 160mm diameter	m m m m m m m

	.02 > 160mm diameter and ≤ 200mm diameter .03 > 200mm diameter and ≤ 300mm diameter .04 > 300mm diameter and ≤ 400mm diameter The unit of measure shall be per linear meter of pipe rehabilitated. Measurement for rehabilitation shall be the actual distance measured from manhole to manhole/cleanout, of each size pipe, excluding manhole diameter per diameter of liner installed. Payment shall be made at the tendered unit rate per linear meter of pipe rehabilitated, with individual rates per diameter of liner installed. The unit rate includes all design, labour, equipment, incidentals, materials, flow control, dewatering, traffic control, post-cleaning, sealing the liner in the manholes, resident notification, provision of water, necessary permits, compliance tests, and all other rehabilitation work not included under other items, necessary to complete the rehabilitation as specified.	m m m
B815.17	Reinstatement of service connections to newly lined sewers by CIPP Liners The unit of measure shall be per number of connections reinstated. Payment will be made at the tendered rate for the location and reinstatement of the connections and must include for all labour, equipment, incidentals, materials, flow control and all other requirements, not included under other items, necessary to complete the rehabilitation for all sizes of lateral connections.	No
B815.18	Installation of "Top Hat" sections at service connections The unit of measurement shall be the number of "Top Hat" sections installed. Payment will be made at the tendered rate for the installation of "Top Hat" sections into previously re-opened service connections. The rate must include for all labour, equipment, incidentals, materials, flow control and all other requirements, not included under other items, necessary to complete the installation of "Top Hat" sections.	No
B815.19	Installation of CIPP short section as Point repairs .01 CIPP short section, straight .02 CIPP short section, with service lateral protrusion The unit of measurement shall be the number of 1,5m short sections, straight installed or the number of short sections with lateral protrusion installed (suitable length). Payment will be made at the tendered rate for the installation of short sections, installed on a packer at predetermined positions.	No No

Contract: WSBU 02 2025/26 Tender for the appointment of Contractors for the replacement of deficient sewers with combination of trenchless and conventional methods in the City of Tshwane, (Area A, B, and C): Three (3) Year Period, as and when required

Part C3: Scope of work

Section: C3.7: Health and Safety Specification

CITY OF TSHWANE

WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.7 HEALTH AND SAFETY SPECIFICATION

TABLE OF CONTENTS

- 1. Introduction and Background**
- 2. Scope of works**
- 3. References**
- 4. Occupational Health & Safety Management System Elements**
 - 4.1. Interpretation
 - 4.2. Application
- 5. Duties of the Designer**
- 6. Principal Contractor**
 - 6.1. Principal Contractor and Contractor Supervision
 - 6.2. Management and Supervision
 - 6.3. Principal Contractor and Contractor HSE practitioner
 - 6.4. Principal Contractor and Contractor employees
- 7. Minimum Administrative Requirements**
 - 7.1. Notification of Intention to Commence Construction Work
 - 7.2 Assignment of Principal Contractor's and Contractors' Responsible Persons
 - 7.3. Competence of Principal Contractor's and Contractors' Responsible Persons
 - 7.4. Compensation of Occupational injuries and Diseases Act & (COIDA) Act 130 of 1993
 - 7.5 Health and Safety Organogram
 - 7.6. Preliminary Hazard Identification and Risk Assessment
 - 7.7. General Record Keeping
 - 7.8. Injury / Incident Reporting and Investigation
 - 7.9. Permits
 - 7.10. Preparation of Health & Safety Documentation
 - 7.11. Offences and Penalties
 - 7.12. Principal Contractor requirements
 - 7.13. Principal Contractor competency assessment
 - 7.14. Costs for OHS compliance
 - 7.15. Health and Safety plans
 - 7.16. Communication and management of work
- 8. Client identified Hazards and Potentially Hazardous Situations**
 - 8.1. Client identified Hazards
 - 8.2. Unforeseeable Hazards
- 9. Site Operational Requirements**
 - 9.1. Construction Health and Safety Officer
 - 9.2. Health and Safety Representative(s)
 - 9.3. Health and Safety Committee(s)
 - 9.4. Health and Safety Training
 - 9.5. Health & Safety Audits, Monitoring and Reporting
 - 9.6. Emergency Procedures
 - 9.7. First Aid Boxes and First Aid Equipment
 - 9.8. Personal Protective Equipment (PPE) and Clothing
 - 9.9. Occupational Health and Safety (OHS) Signage
 - 9.10. Public and Site Visitor Health & Safety
 - 9.11. Minimum Environmental Requirements
 - 9.12. Access to Site
 - 9.13. Hours of Work
 - 9.14. Lighting
- 10. Physical Requirements**
 - 10.1. Erection of Hoarding
 - 10.2. Earthworks (Including Trenching and Excavations)
 - 10.3. Traffic Diversions (Road works)
 - 10.4. Edge Protection and Penetrations

- 10.5. Housekeeping
- 10.6. Stacking & Storage
- 10.7. Fire Extinguishers and Fire Fighting Equipment
- 10.8. Fall Protection
- 10.9. Scaffolding
- 10.10. Roof Work
- 10.11. Severe Weather
- 10.12. Structures
- 10.13. Asbestos
- 10.14. Demolition

11. Plant, Machinery and Equipment

- 11.1. Construction Vehicles and Mobile Plant
- 11.2. Bulk Earthworks and the Haulage of ground
- 11.3. Pressure Equipment and Gas Bottles
- 11.4. Hired Plant and Machinery
- 11.5. Temporary Works
- 11.6 Traffic Control
- 11.7. Lifting Machines, Tackle and Lifting Operations
- 11.8. Ladders
- 11.9. Driven Machinery
- 11.10. Electrical Installations and Portable Electrical Tools
- 11.11. Electrical and Mechanical Lockout
- 11.12. Cantilever Loading Platforms
- 11.13. Materials Hoists
- 11.14. Waste Chutes
- 11.15. Explosive Powered Tools

12. Occupational Health

- 12.1. Industrial Hygiene (Exposure to Physical and Chemical Stresses)
- 12.2. Noise Induced Hearing Loss
- 12.3. Ergonomics
- 12.4. Hazardous Chemical Substances (HCS)
- 12.5. Welfare
- 12.6. Alcohol and Other Drugs
- 12.7. Reporting on Occupational Health Issues
- 12.8. Occupational Health Medicals

13. Annexure

- Annexure A - List of possible legal appointments and assignments
- Annexure B - Safe Work Method Statements, minimum requirement
- Annexure C - Compliance submissions in terms of the specification
- Annexure D - Sample Site Safety File Index

1. INTRODUCTION AND BACKGROUND

This specification has been prepared, in accordance with the requirements of the Occupational Health and Safety Act (Act 85 of 1993) along with the Construction Regulations 2014, to assist all Contractors in providing for a Health and Safety management system which is in line with The Client requirements, without derogating from the legal obligations of the responding parties. Contractors however will remain responsible for ensuring the health and safety of their employees and must comply with Construction Regulations 2014.

The project has as its driving force the creation of a construction environment in which the achievement of "Zero Harm" is not only possible, but very real. To this end this specification will be the benchmark against which all Contractors' Safety Management Plans will be measured. Safety Management Plans which are not in line with the requirements contained in this specification will be rejected and Contractors will not be allowed to commence with any works until such time as these have been modified.

Health and safety on the **CITY OF TSHWANE** construction site can only be assured if all stakeholders buy into a singular management approach, integrating the line accountability of all management staff and workers on site. The management systems provided for in this specification are designed to encourage open and unfettered participation, which will in turn provide for continuous improvement, resulting in the completion of a zero-harm project. Accidents and injuries are preventable, and all safety management plans must have as its basis the comprehensive identification, assessment and reduction of risk. This Project Health and Safety Specification is built on the following safety principles: All incidents are preventable

Visible leadership is implemented and imperative at all levels
Sound non-negotiable world class procedures and standards
Zero tolerance for unsafe conditions or behaviours

This document sets out the responsibilities, processes and methods that must be complied with to ensure the pro-active management of Contractor's occupational health and safety during the construction and commissioning phases of the Project.

In view of the above mentioned, you are herewith presented with the Client Safety Specification for the Project; upon the successful awarding of the tender to yourself, you will be required to present OHS agent with your written Health and Safety Plan indicating how you plan to conform to the Safety Specification on site. Once we have satisfied ourselves that your plan will ensure compliance with the requirements as set out in this specification, Acts and Regulations and Municipal by-laws, approval thereof will be granted, and work may commence. (Please note that generic Safety Plans or a Safety Plan that do not address the requirements as per the Client's Safety Specification will not be approved).

Thereafter the OH&S Agent, will conduct regular monthly audits to ensure on-going adherence to the presented Safety Plan. The Construction Regulations requires of the Client, or the Client's Agent, to halt construction if the Safety Plan is not adhered to.

Refer to Annexure "C" of this document for package specific requirements which may be required as part of the tender submission.

In terms of Construction Regulation 5(1)(b) of the Occupational Health and Safety Act, No.85 of 1993 the Client, is required to compile a Health & Safety Specification for any intended project and provide such specification to any prospective Contractor who, on appointment shall submit a Health and Safety Plan which shall address the requirements of this specification.

This specification's objective is to ensure that any Contractor entering a Contract with **THE CITY OF TSHWANE** construction achieves an acceptable level of OH&S performance. This document forms an integral part of the Contract. Principal and other Contractors should make it part of any Contract that they may have with their Contractors and/or Suppliers. The requirements, as contained in this specification, along with the inherent responsibilities associated with the Occupational Health and Safety Act and its associated Regulations should be considered when costing your portion of the works.

This document does not absolve the Client from complying with minimum legal requirements and the Client remains responsible for the Health & Safety of his employees and those of his Mandatories.

Client or his appointed Agent, reserves the right to audit, monitor and where necessary regulate the site work activities of any Principal Contractor or Principal-appointed Sub- contractor as per Construction Regulation 5(1)(k) and 7(1)(c)(v).

OMISSIONS FROM THIS SHE SPECIFICATION

By compiling this Safety, Health and Environmental Specification, the Client has endeavoured to address the most critical aspects relating to Safety, Health and Environmental issues in order to assist the Contractor in adequately providing for the health and safety of employees on site. Should the Client not have addressed all health and safety aspects pertaining to the work that is tendered for, the Contractor needs to include it in the Safety, Health and Environmental Plan and inform Client of such issues when submitting the tender.

2. Scope of work

The scope involves the replacement and rehabilitation of sewer lines identified as deficient across various areas within the City of Tshwane over a three-year period. Activities will include:

- Site establishment in urban and suburban settings.
- Excavation and trenching for sewer pipeline installation.
- Removal of existing pipes and installation of new sewer infrastructure.
- Use of heavy plant and mobile machinery in public spaces.
- Backfilling, compaction, and site reinstatement.
- Traffic management in public roadways and servitudes.
- Work in confined spaces and/or contaminated environments.

3. REFERENCES

The Contractor shall in respect of all matters arising in the fulfilment of this Safety and Health Specification comply at his own expense with all laws, regulations, by-laws and requirements of local and or other authorities that may be applicable to the Contract Works. In this regard, special reference is made to the following safety, health and Labour legislation, which does not constitute an exhaustive list:

- Occupational Health and Safety Act, Act No 85 of 1993
- Compensation for Occupational Injuries and Diseases Act, Act No 130 of 1993
- Hazardous Substances Act, Act No 85 of 1973
- Project and Construction Professions Act, Act 48 of 2000
- National Road Traffic Act, Act No 93 of 1996
- Prevention of Environmental Pollution Ordinance 21 of 1981 Water Services Act, Act No 108 of 1997

4. OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM ELEMENTS

4.1. Application

This specification document is a legal compliance document drawn up in terms of the OHS Act and is therefore binding. All Contractors entering a Contract with the Client shall, as a minimum, comply with the.

- Occupational Health & Safety Act and Regulations (Act 85 of 1993). A current, up-to- date copy of the OHS Act and Construction Regulations must always be available on site
- Compensation for Occupational Injuries & Diseases Act (Act 130 of 1993). The Principal Contractor will be required to submit a letter of Registration and "good standing" from the Compensation Insurer before being awarded the Contract.
- All Contractors shall comply with the "Integration Labour Law Act" and regulations All relevant Municipal bylaws and National Building Regulations
- The Immigrations Act 2002 as amended and shall further ensure that no illegal aliens are employed on the construction site.

4.2. New Construction Regulations 2014

New construction Regulations 2014 have been promulgated on the 7th of August 2014.

5. DUTIES OF THE DESIGNER

The designer of a structure must —

- Ensure that the applicable safety standards incorporated into these Regulations, under section 44 of the Act, are complied with in the design;
- Take into consideration the Health and Safety Specification submitted by the Client; Before the contract is put out to tender, make available in a report to the Client—
- All relevant Health and Safety information about the design of the relevant structure that may affect the pricing of the construction work;
- The geotechnical-science aspects, where
- appropriate; and The loading that the structure is designed to withstand;
- Inform the Client in writing of any known or anticipated dangers or hazards relating to the construction work, and make available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered;
- Refrain from including anything in the design of the structure necessitating the use of dangerous procedures or materials hazardous to the health and safety of persons, which can be avoided by modifying the design or by substituting materials;
- Take into account the hazards relating to any subsequent maintenance of the relevant structure and must make provision in the design for that work to be performed to minimize the risk.
- When mandated by the Client to do so, carry out the necessary inspections at appropriate stages to verify that the construction of the relevant structure is carried out in accordance with his design: Provided that if the designer is not so mandated, the Client's appointed Agent in this regard is responsible to carry out such inspections.
- When mandated as contemplated in paragraph (g), stop any Contractor from executing any construction work which is not in accordance with the relevant design's health and safety aspects: Provided that if the designer is not so mandated, the Client's appointed Agent in that regard must stop that Contractor from executing that construction work;
- When mandated as contemplated in paragraph (g), in his or her final inspection of the completed structure in accordance with the National Building Regulations, include the health and safety aspects of the structure as far as reasonably practicable, declare the structure safe for use, and issue a completion certificate to the Client and a copy thereof to the Contractor; and
- During the design stage, take cognizance of ergonomic design principles in order to minimize ergonomic related hazards in all phases of the life cycle of a structure.

The designer of temporary works must ensure that—

- All temporary works are adequately designed so that it will be capable of supporting all anticipated vertical and lateral loads that may be applied;
- The designs of temporary works are done with close reference to the structural design drawings issued by the Contractor, and in the event of any uncertainty consult the Contractor;
- All drawings and calculations pertaining to the design of temporary works are kept at the office of the temporary works designer and are made available on request by an inspector; and
- The loads caused by the temporary works and any imposed loads are clearly indicated in the design.
- A geo science technical report where appropriate.

- The load the structure is designed to withstand.
- The methods and sequence of construction the construction process.

6. PRINCIPAL CONTRACTOR

The Principal Contractor carries prime accountability & responsibility for the health and safety of his/her employees & his/her Sub-contractors within his/her working area, as contemplated by Section 37(2) of the OHS Act. None of the additional safety requirements specified by the Client/Agent reduces the Principal Contractor's accountability and responsibility for the health and safety of his employees and Sub-contractor employees within his working area. The Principal Contractor remains an employer and consequently responsible for the implementation and management of all requirements as per the applicable legislation.

6.1. Principal Contractor and Contractor Supervision

A Principal Contractor must—

- Provide and demonstrate to the Client a suitable, sufficiently documented and coherent site specific Health and Safety Plan, based on the Client's documented Health and Safety Specifications contemplated in regulation 5(1)(b), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the Principal Contractor as work progresses;
- Open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the Client, the Client's Agent or a Contractor;
- On appointing any other Contractor, in order to ensure compliance with the provisions of the Act—
- Provide Contractors who are tendering to perform construction work for the Principal Contractor, with the relevant sections of the Health and Safety Specifications contemplated in regulation 5(1)(b) pertaining to the construction work which has to be performed;
- Ensure that potential Contractors submitting tenders have made sufficient provision for health and safety measures during the construction process;
- Ensure that no Contractor is appointed to perform construction work unless the Principal Contractor is reasonably satisfied that the Contractor that he or she intends to appoint, has the necessary competencies and resources to perform the construction work safely;
- Ensure prior to work commencing on the site that every Contractor is registered and in good standing with the Compensation Fund or with a licensed compensation insurer as contemplated in the Compensation for Occupational Injuries and Diseases Act, 1993;
- Appoint each Contractor in writing for the part of the project on the construction site; Take reasonable steps to ensure that each Contractor's health and safety plan contemplated in sub-regulation (2)(a) is implemented and maintained on the construction site;
- Ensure that the periodic site audits and document verification are conducted at intervals mutually agreed upon between the Principal Contractor and any Contractor, but at least once every 30 days;
- Stop any Contractor from executing construction work which is not in accordance with the Client's Health and Safety Specification and the Principal Contractor's Health and Safety Plan for the site or which poses a threat to the health and safety of persons;
- Where changes are brought about to the design and construction, make available sufficient health and safety information and appropriate resources to the Contractor to execute the work safely; and
- Discuss and negotiate with the Contractor the contents of the Health and Safety Plan contemplated in sub-regulation (2)(a), and must thereafter finally approve that plan for implementation;

- Ensure that a copy of his or her health and safety plan contemplated in paragraph (a), as well as the Contractor's Health and Safety Plan contemplated in sub-regulation (2)(a), is available on request to an employee, an inspector, a Contractor, the Client or the Client's Agent;
- Hand over a consolidated health and safety file to the Client upon completion of the construction work and must, in addition to the documentation referred to in sub-regulation (2)(b), include a record of all drawings, designs, materials used and other similar information concerning the completed structure;
- In addition to the documentation required in the health and safety file in terms of paragraph (c)(v) and sub-regulation (2)(b), include and make available a comprehensive and updated list of all the Contractors on site accountable to the Principal Contractor, the agreements between the parties and the type of work being done; and
- Ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.

A Contractor must prior to performing any construction work —

- Provide and demonstrate to the Principal Contractor a suitable and sufficiently documented health and safety plan, based on the relevant sections of the Client's Health and Safety Specification contemplated in regulation 5(1)(b) and provided by the Principal Contractor in terms of sub-regulation (1)(a), which plan must be applied from the date of commencement of and for the duration of the construction work and which must be reviewed and updated by the Contractor as work progresses;
- Open and keep on site a health and safety file, which must include all documentation required in terms of the Act and these Regulations, and which must be made available on request to an inspector, the Client, the Client's Agent or the Principal Contractor;
- Before appointing another Contractor to perform construction work, be reasonably satisfied that the Contractor that he or she intends to appoint has the necessary competencies and resources to perform the construction work safely;
- Co-operate with the Principal Contractor as far as is necessary to enable each of them to comply with the provisions of the Act; and
- As far as is reasonably practicable, promptly provide the Principal Contractor with any information which might affect the health and safety of any person at work carrying out construction work on the site, any person who might be affected by the work of such a person at work, or which might justify a review of the Health and Safety Plan.
- Where a Contractor appoints another Contractor to perform construction work, the duties determined in sub-regulation (1)(b) to (g) that apply to the Principal Contractor apply to the Contractor as if he or she were the Principal Contractor.
- A Contractor must take reasonable steps to ensure co-operation between all Contractors appointed by the Principal Contractor to enable each of those Contractors to comply with these Regulations.
- No Contractor may allow or permit any employee or person to enter any site, unless that employee or person has undergone health and safety induction training pertaining to the hazards prevalent on the site at the time of entry.
- A Contractor must ensure that all visitors to a construction site undergo health and safety induction pertaining to the hazards prevalent on the site and must ensure that such visitors have the necessary personal protective equipment.
- A Contractor must at all times keep on his or her construction site records of the health and safety induction training contemplated in sub-regulation (6) and such records must be made available on request to an inspector, the Client, the Client's Agent or the Principal Contractor;

- A Contractor must ensure that all his or her employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner in the form of Annexure 3.
- Description of the objective / scope of work Sequence of work / method
- statements
- Hazard identification & risk assessment (prior to commencement of work) Precautionary / preventative measures that are to be taken.
- Identification of sensitive features that may be impacted upon by the project.

6.2. Management and Supervision

- A Principal Contractor must in writing appoint one full-time competent person as the construction manager with the duty of managing all the construction work on a single site, including the duty of ensuring occupational health and safety compliance, and in the absence of the construction manager an alternate must be appointed by the Principal Contractor.
- A Principal Contractor must upon having considered the size of the project, in writing appoint one or more assistant construction managers for different sections thereof: Provided that the designation of any such person does not relieve the construction manager of any personal accountability for failing in his or her management duties in terms of this regulation.
- Where the construction manager has not appointed assistant construction managers as contemplated in sub-regulation (2), or, in the opinion of an inspector, a sufficient number of such assistant construction managers have not been appointed, that inspector must direct the construction manager in writing to appoint the number of assistant construction managers indicated by the inspector, and those assistant construction managers must be regarded as having been appointed under sub- regulation (2).
- No construction manager appointed under sub-regulation (1) may manage any construction work on or in any construction site other than the site in respect of which he or she has been appointed.
- A Contractor must, after consultation with the Client and having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the site, appoint a full-time or part-time construction health and safety officer in writing to assist in the control of all health and safety related aspects on the site: Provided that, where the question arises as to whether a construction health and safety officer is necessary, the decision of an inspector is decisive.
- No Contractor may appoint a construction health and safety officer to assist in the control of health and safety related aspects on the site unless he or she is reasonably satisfied that the construction health and safety officer that he or she intends to appoint is registered with a statutory body approved by the Chief Inspector and has necessary competencies and resources to assist the Contractor
- A construction manager must in writing appoint construction supervisors responsible for construction activities and ensuring occupational health and safety compliance on the construction site.
- A Contractor must, upon having considered the size of the project, in writing appoint one or more competent employees for different sections thereof to assist the construction supervisor contemplated in sub-regulation (7), and every such employee has, to the extent clearly defined by the Contractor in the letter of appointment, the same duties as the construction supervisor: Provided that the designation of any such employee does not relieve the construction supervisor of any personal accountability for failing in his or her supervisory duties in terms of this regulation.
- Where the Contractor has not appointed an employee as contemplated in sub- regulation (8), or, in the opinion of an inspector, a sufficient number of such employees have not been appointed, that inspector must instruct the employer to appoint the number of employees

indicated by the inspector, and those employees must be regarded as having been appointed under sub-regulation (8).

- No construction supervisor appointed under sub-regulation (7) may supervise any construction work on or in any construction site other than the site in respect of which he or she has been appointed: Provided that if a sufficient number of competent employees have been appropriately designated under sub-regulation (7) on all the relevant construction sites, the appointed construction supervisor may supervise more than one site.

6.3. Principal Contractor and Contractor HSE Practitioner

The appointment of a full time / part-time Health and Safety Officer will be required for the duration of the contracted work. It is incumbent on the Principal Contractor during the tender process to evaluate the scope and nature of risk related to the work in order to objectively determine the need for such an appointment. (The Client reserves the right to insist on the appointment of a Health and Safety Officer where it deems the exposure to be of such a nature that a dedicated Health and Safety Officer is required). The Contractors Health and Safety Officer shall assist and support the Contractors Construction Manager to ensure that the Contractors Health and Safety responsibilities are fulfilled and compliance to the Health and Safety specifications and Health and Safety plan are met.

6.4 Principal and Contractor employees on the Project

The Principal Contractor is responsible for adequately informing his employees and Contractors of all relevant information about the Client issued Health and Safety specifications and the Principal Contractors Health and Safety plan.

Employees are responsible for their own health and safety and that of their co-workers in their area. They must be made aware of their responsibilities during induction and awareness sessions some of which are:

- Familiarizing themselves with their workplaces and health and safety procedures.
- Working in a manner that does not endanger them or cause harm to others.
- Keeping their work area tidy.
- Reporting all incidents / accidents and near misses.
- Protecting fellow workers from injury.
- Reporting unsafe acts and unsafe conditions.
- Reporting any situation that may become dangerous.
- Carrying out lawful orders and obeying health and safety rules.
- Ensuring as far as possible no interaction with the public
- Every employee must undergo site induction provided by the Principal Contractor before commencement of the contracted work. Only once this induction has been received, will each employee receive a site access permit.
- The Client will provide induction to all professional team members as well as Principal Contractor management pertaining to the management of safety on the site.
- It must be highlighted to all employees, that anyone who becomes aware of any person disregarding a safety notice, instruction or regulation shall immediately report this to the person concerned. If the person persists, stop the person from working and report the matter to the Project Manager and the Principal Contractor Supervisor immediately.
- No person shall damage, alter, remove, render ineffective, or interfere with anything that has been provided for the protection of the site, or for the health and safety of persons.
- No person under the influence of alcohol, drugs or medication (in state of intoxication) or any other condition that may render him incapable of controlling himself or of other persons under his charge shall be allowed to enter the site.
- All safety and warning signs must be always obeyed.

- Entering or leaving the Site may only be done via the official designated walkways, do not take short cuts. Follow designated walkways to and from your workplace. Walk, do not run, and be alert for motor vehicle traffic and mobile equipment.
- All employees must adhere to the HSE and other site-specific rules which may be issued by the Client or his designated Agent.

If any of the Principal Contractor's employees or his Sub-contractor's employees have transgressed any of the requirements of the HSE Specification; HSE plan or site rules, then the employee may be removed from site and his/her site access revoked. The Principal Contractor must follow a process of disciplinary action which shall include re-training / inducting the employee (at the cost of the Principal Contractor) and provide proof thereof to the Client's site / Project Manager and only upon the satisfaction of the Client's Site / Project Manager will the employee be allowed back on site.

7. MINIMUM ADMINISTRATIVE REQUIREMENTS

7.1. Notification to Commence Construction Work (CR4)

The Principal Contractor must notify the Provincial Director of the Department of Labour in writing before construction work commences. A copy of this notification must be held in the Principal Contractor's health & safety file on site. A copy is also to be provided to the Client.

7.2. Assignment of the Principal Contractor's / Contractors' Responsible Persons to Manage Supervise Health and Safety on Site (CR8 and Section 16)

The Principal Contractor and all Contractors must make supervisory appointments as well as other relevant appointments in writing (as stipulated by the OHSA and Construction Regulations 2014). See attached Annexure 'A' for more detail and relevant appointments.

7.3. Competence of the Principal Contractor's/Contractors' Appointed Competent Persons

The Principal Contractor's and all Contractors' competent persons for the various risk management portfolios must fulfil the criteria as stipulated under the definition of 'Competent' in accordance with the Construction Regulations (2014). It is required that Principal Contractors submit written declarations confirming the competency of all persons deployed on the project as well as the mechanical soundness of all construction related equipment and plant.

7.4. Compensation for Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

The Principal Contractor and Contractors must also hold proof of workman's compensation assurance registration in the form of a letter of good standing and forward a copy to the Principal Contractor before they begin work on site. A copy should also be available on site. No work will be permitted on the project unless these documents are in place.

7.5. Health and Safety Organogram

The Principal Contractor must prepare an organogram, outline the site health & safety management structure and appoint competent persons. In cases where appointments have not been made, the organogram shall reflect the intended positions. The organogram must be updated when there are changes in the Site Management Structure and dated accordingly. All HSE appointments are to be indicated on the organogram, clearly identifying the individual as well as providing contact details.

7.6. Preliminary Hazard Identification and Risk Assessments (CR 9)

Every Contractor performing construction work shall, before the commencement of any construction work or work associated with the aforesaid construction work and during such work, cause a Risk Assessment to be performed by a competent person, appointed in writing, and the Risk Assessment shall form part of the Health and Safety Plan and be implemented and maintained as contemplated in the Construction Regulation 9(1).

The following risk management process is to be adopted on the project:

1). A Contractor must, before the commencement of any construction work and during such construction work, have Risk Assessments performed by a competent person appointed in writing, which Risk Assessments form part of the health and safety plan to be applied on the site, and must include—

- The identification of the risks and hazards to which persons may be exposed to;
- An analysis and evaluation of the risks and hazards identified based on a documented method.
- A documented plan and applicable safe work procedures to mitigate, reduce or control the risks and hazards that have been identified.
- A monitoring plan; and
- A review plan.

2). A Contractor must ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in a Risk Assessment.

3). A Contractor must ensure that all employees under his or her control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures and or control measures before any work commences, and thereafter at the times determined in the Risk Assessment monitoring and review plan of the relevant site.

4). A Principal Contractor must ensure that all Contractors are informed regarding any hazard that is stipulated in the Risk Assessment before any work commences, and thereafter at the times that may be determined in the risk assessment monitoring and review plan of the relevant site.

5). A Contractor must consult with the health and safety committee or, if no health and safety committee exists, with a representative trade union or representative group of employees, on the monitoring and review of the risk assessments of the relevant site.

6). A Contractor must ensure that copies of the Risk Assessments of the relevant site are available on site for inspection by an inspector, the Client, the Client's Agent, any Contractor, any employee, a representative trade union, a health and safety representative or any member of the health and safety committee.

7). A Contractor must review the relevant Risk Assessment—

- Where changes are affected to the design and or construction that result in a change to the risk profile; or
- When an incident has occurred.

The Issue Based Risk Assessment shall include, at least:

- The identification of the 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 work procedures to mitigate, reduce or control the risks and hazards that have been identified
- A monitoring plan
- A documented review plan
- Based on the Risk Assessments, the Contractor must develop a set of site-specific OH&S rules and operating procedures that will be applied to regulate the OH&S aspects of the construction. (See annexure "B" for SWMS minimum requirements)
- A copy of the Risk Assessment must be provided to the Client for review.
- The Contractor has consulted with the Health & Safety Committee and in the absence thereof, a representative group of employees, in conducting the risk assessments, monitoring as well as during the review process.
- The Contractor will ensure that no person or employee may enter the site without undergoing comprehensive induction training (proof of which must be retained by the employee) in respect to the risks and hazards present at the time, and where required, will ensure the appropriate use of the correct PPE.

- The Principal Contractor or Contractor has ensured that all employees under his control have been informed, instructed and trained by a competent person in respect to the hazards and risks identified.
- The process as contemplated above is included in the Health & Safety Plan.
- No Generic Risk Assessments will be accepted and approved.

7.7. General Record Keeping

- The Principal Contractor and all Contractors must keep and maintain Health and Safety records to demonstrate compliance with these Specifications, with the OHS Act 85/1993, and with the Construction Regulations (2014).
- The Principal Contractor must also ensure that all records of incidents/injuries, emergency procedures, training, planned maintenance inspections, monthly Contractor audits, etc. are kept in the health & safety file(s) held in the site office.
- The Principal Contractor must ensure that every Contractor keeps its own health & safety file, maintains the file and makes it available on request (the file must include the Contractor's health & safety plan).
- Such Contractor safety files must be audited by the Principal Contractor.

7.8. Injury /Incident Reporting and Investigation

- Injuries are to be categorized into first aid; medical; lost time injury (LTI); and fatal injuries. When reporting injuries to the Client, these categories shall be used.
- The Principal Contractor must investigate all injuries, with an Annexure 1 report being completed and filed. All Contractors must report on the 4 categories of injuries to the Principal Contractor at least monthly.
- Contractors must investigate injuries and incidents involving their employees and forward a copy of the annexure 1 investigation report to the Principal Contractor forthwith.
- The Principal Contractor must report all injuries to the Client in the form of an injury report, at least monthly.
- The Contractor must submit his incident reporting and investigation protocols for review by the Client.
- All incidents reportable in terms of the provisions of Section 24 of the OHS Act, 1993 must be reported to the local Dept. of Labour in the prescribed manner within 14 days. (Note: No reports will be made to third parties without the Client being notified of such intentions)
- (Department of Labour contact number Office_____)

All Contractors must immediately 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

The Contractor is required to provide the Client with copies of all internal and external accident/incident investigation reports including the reports contemplated above within 7 days of the incident occurring.

7.9. Permits and way leaves

Permits may include the following:

- Closing of public roadways and walkways Demolition
- Way Leaves
- Permit to work night
- Shift Hot work Permits
- The Principal Contractor must manage and co-ordinate these permit procedures.

7.10. Preparation of Health & Safety Documentation (CR 7)

It is the duty of the Principal Contractor to ensure that all documentation that is required are kept or generated during the construction process and must be consolidated into one set of documents that must be handed over to the Client upon completion of the construction work. This should include instructions from the design team that will be required for the continued safe operation and maintenance of this new structure(s).

The following health and safety deliverables should be reviewed during the tender submission process:

REQUIREMENT	TIMING
H&S DELIVERABLES	
• The Contractor must submit all deliverables as per the attached list of deliverables. These must be submitted individually under separate cover sheets for review and approval by the Client's project manager or designate. • The submissions will be commented on and returned to the Contractor for updating and re-submission. Access to site will not be granted unless these submissions have been provisionally approved. • On approval of deliverables the Contractor may gain access to the works but has a period of 2 weeks in which to have the submissions finally approved for construction. • If this does not occur in the 2-week period, the Client reserves the right to suspend all work until such time as the Safety Agent is satisfied with all H&S submissions.	Prior to commencement with construction.

(See annexure "C" with regard to detailed compliance submissions)

7.11. Offences and Penalties

Penalties may be imposed for on-going non-compliance with the provisions of the Client's health & safety specifications and the Principal Contractor's Health & Safety Plan. Non-compliances noted during safety agent audits and visits will be categorized into three levels based on severity. These will be as follows:

- Life threatening situations – a prohibition notice will be issued. This activity must be seized immediately and corrective measures taken.
- Serious injury possible – a contravention notice will be issued with a time frame for compliance stipulated. Failure to comply within the time frame may result in a financial penalty per non-compliance item per day that the non-compliance persists.
- Minor or no injury may result – an improvement notice will be issued. The corrective measures stipulated in the report / notice must be taken.

The methodology used to decide the above levels will be directly linked to the Risk Assessments of the Principal Contractor and Contractors (i.e. high, medium and low). In the absence of a Risk Assessment the decision of the Safety Agent will be final.

7.12. Principal Contractor requirements

- Prepare, implement and maintain a site-specific Health & Safety (H&S) Plan aligned to the Client's H&S Specification; update it as the works and risks change.
- Establish, keep and control an H&S File on site; ensure it is accessible to the Client/Agent and inspectors; hand it over at completion.
- Provide tenderers/contractors the relevant parts of the Client's H&S Specification and ensure sufficient H&S allowances in tenders and appointments.
- Appoint only competent contractors in writing and verify adequate resources, including a valid COIDA Letter of Good Standing, before work starts.
- Review, negotiate and approve each contractor's H&S Plan prior to work; monitor implementation and close out non-conformances.
- Conduct regular H&S audits/inspections (at least monthly) and maintain records and a corrective-action tracker.
- Suspend/stop any work that is non-compliant or presents an immediate threat to health and safety.
- Coordinate activities and interfaces between contractors; hold H&S meetings and toolbox talks and keep minutes/attendance records.
- Notify the Department of Employment & Labour of construction work (where applicable) before work starts and keep the notice on file.
- Ensure all legal appointments are made in writing and that appointees are competent and resourced to discharge their duties.
- Provide necessary H&S information, instruction, training and supervision; keep proof of training and competence.
- Report and investigate incidents in terms of OHSA; submit statutory notifications where required and keep investigation records.

7.13. Principal Contractor / Contractor - Competency Assessment

To ensure this, the Principal Contractor must demonstrate to the Client that it has a suitable and sufficiently documented OHS Plan and that its Contractors have the necessary competencies and resources to perform the construction work safely.

The Principal Contractor and Contractors must therefore submit the following documentation for perusal and verification by the Client and Principal Contractor respectively:

- Management Structure as envisaged at tender (organogram);
- Registration certificate with the Compensation Commissioner or FEM.

- Proof of management training on the Occupational Health & Safety Act and other
- related
- training.
- Example copy of previous Safety Committee Meeting Minutes and Incident Investigation report (from a previous project);
- Any previous convictions under the OHS-Act;
- Your Company's previous two years injury claims as reported to your workman's
- compensation insurer.
- Your company's approach to co-ordination of health & safety – do you employ safety officers, etc.? If not, what alternative arrangements are used?

The Principal Contractor and all Trade Contractors' competent persons for the various risk management portfolios will fulfill the criteria as stipulated under the definition of 'Competent' in accordance with the Construction Regulations 2014. This will be specific to the following appointments. (Refer to annexure "D" for an outline of legal assignments)

The Principal Contractor shall ensure that all their appointees are made aware of their accountabilities & responsibilities in terms of their appointment, and to advise and assist these appointees in the execution of their duties.

Appointment letters and competency certificates which is signed by the 16.2 appointee, which refers to the relevant training certificates and proof of experience of appointees must be submitted with the Health and Safety Plan.

All minimum required training is to be provided by accredited training service providers. Where legislation requires formal certification in lieu of experience then such proof of competency is to be provided by the Contractor.

7.14. Costs for OHS - Compliance (CR 7)

All parties bidding to work on this construction project must ensure that they have made adequate provision for the cost of complying with these specifications as well as with the OHS-Act 1993 and incorporated Regulations as a minimum requirement in their tender documentation. It must also be taken into consideration that time is money.

That implies that sufficient time must be allowed for the implementation of the minimum OHS standards. No additional claims will be entertained at a later stage if a compliance requirement was prescribed in the OHS-Act, 1993 and incorporated regulations or this specifications document. Refer to annexure "E" of this document for a breakdown of possible safety costs.

7.15. Contractors' Health & Safety Plans [Construction Regulations 7(1)]

Introduction:

Under the Construction Regulations (2014), the Principal Contractor is required to develop the Health and Safety Plan before work commences on site and to keep it up to date throughout the Construction Phase. The degree of detail required in the Health and Safety Plan for the Construction Phase and the time and effort in preparing it should be in proportion to the nature, size and level of Health and Safety risks involved in the project. Projects involving minimal risks will call for simple, straightforward plans. Large projects or those involving significant risks will need more detail.

All registers and Agreements with Mandatary documents must be signed before commencement on site. Should any Contractor or Sub-Contractor not be able to comply with all the necessary site safety documentation, an independent Safety Consultant will be appointed by the Client to assist at their own cost.

What should the construction Health & Safety plan cover?

The Construction Health and Safety Plan should set out the arrangement for ensuring the Health and Safety of everyone carrying out the construction work and all others who may be affected by it. The Plan must demonstrate Management's commitment to safety and must include how safety responsibilities are assigned to different roles within the organization.

What should be addressed as key requirements in the Construction Health & Safety Plan?

- Provide a systematic method of managing hazards according to risk priority and must include all mobilization and site set up activities as per the Baseline Risk Assessment.
- Methodology/ Scope of Works of what work is to be undertaken on site.
- Anticipated risks and hazards and mitigating controls to be implemented to reduce the risk. Competency of Employees and proof of training
- Resources/ Equipment to be used on site

7.16. Communication and Management of the work

Site Safety committee meetings will be held monthly or as determined by the associated risks on site. This does not preclude the requirement that each Contractor will implement and maintain their own safety meetings where applicable.

- In addition to the above, communication may be directly to the Client or his appointed Agent, verbally or in writing, as and when the need arises.
- Consultation with the workforce on OH&S matters will be through their Supervisors, OH&S Representatives, the OH&S committee and their elected Trade Union Representatives, if any.
- The Site Manager or his Site Safety Officer will be responsible for the dissemination of all relevant OH&S information to the other Contractors e.g. design changes agreed with the Client and the Designer, instructions by the Client and/or his/her agent, exchange of information between Contractors, the reporting of hazardous/dangerous conditions/situations etc.
- A due diligence, one page report must be completed (and retained on file) by the Contractor every week after he has performed a site inspection. This document will be referenced at each formal site safety meeting and should be communicated via e mail with Client Safety Agent.
- The Contractors will be required to conduct Toolbox Talks with their employees on a weekly basis and records of these must be kept on the OH&S File. Employees must acknowledge the receipt of Toolbox Talks which record must, likewise, be kept on the OH&S File.
- The Contract Manager or suitable designate of each appointed Contractor will be required to attend all Site OH&S meetings.

8. CLIENT IDENTIFIED HAZARDS AND POTENTIALLY HAZARDOUS SITUATIONS

8.1. Client identified Hazards

The following items have been identified by the Client as potential hazards for this construction work and must be incorporated in the Contractor's site-specific Risk Assessments.

- **Underground service strikes** — electric shock, gas explosion, water/fibre damage during locating/excavation/trenchless.
- **Excavation/pit collapse & entrapment** — trenches, launch/retrieval pits, undermining.
- **Falls into/within excavations & manholes** — workers or public at open edges.
- **Confined-space atmospheres** — H₂S, low O₂, toxic gases, engulfment/drowning in sewers/manholes.
- **Trenchless energy hazards** — winch/cable snap-back, pressurised/hydraulic failure, rotating kit entanglement.
- **Lifting & suspended loads** — pipe lifting/placing, crane/excavator interactions.
- **Manual handling & pinch/crush injuries** — pipe joints, bedding, compaction equipment.
- **Hot work/cutting & ignition** — burns and fire/explosion when cutting/fusing/re-tapping pipes.
- **Biological exposure** — raw sewage, sharps, pathogens.
- **Hazardous substances** — cement/lime, epoxies/PU resins, drilling fluids, fumes/vapours.

- **Plant/traffic interface** — reversing vehicles, work near live traffic or public.
- **Environmental releases** — drilling “frac-out”, fuel/oil spills, sediment runoff, sewage spills.
- **Inundation/water ingress** — uncontrolled flows/stormwater flooding excavations or manholes.
- **Ground/asset instability** — settlement or damage to adjacent structures/services.
- **Adverse weather & site conditions** — heat stress, lightning, heavy rain causing collapse/slips.

8.2. Unforeseeable Hazards

The Principal Contractor must immediately notify other Contractors as well as the Client/Agent, in writing, of any hazardous or potentially hazardous situations that may arise during the performance of construction activities. During the Project, the Client/ Agent may advise of any new exposures relating to change of scope or design.
All communicated shall be in writing.

9 Site operational Requirements

9.1. Construction Health and Safety Officer

The Principal Contractor is to appoint a **full-time construction safety officer** in writing to assist in the control of all safety related aspects on site. It is compulsory to provide the name and CV of your appointed, competent construction safety officer to the CLIENT, prior to work commencing on site. The Safety Officer shall have a minimum qualification of SAMTRAC and/or NEBOSH IGCC and relevant site experience.

The construction safety officer must assist with the control of all safety related aspects on site and be utilized to provide input at early stages of the project, to assist in compiling the health and safety plan. In addition, his/her duties to include:

- Health and safety audits and inspections including administrative and physical audits of all CONTRACTOR'S health and safety plans, files and activities, and record findings in the form of audit reports that are to be kept in the health and safety file.
- Maintain the PRINCIPAL CONTRACTOR'S health and safety plan and file and make documents available on request of the CLIENT;
- Assist with investigations of near misses, incidents and injuries.
- Co-ordinate the function of reviewing the hazard identifications and risk assessments;
- Assisting with method statements (safe work procedures) and checking that the responsible persons follow these procedures.
- Assist with the implementation, monitoring and enforcement of occupational health and safety control measures to minimize all risks.

9.2. HEALTH AND SAFETY REPRESENTATIVE(S) (OHS Act Section 17)

The PRINCIPAL CONTRACTOR and all CONTRACTORS must ensure that for any workplace where more than 20 employees work, the minimum legislative prescribed number of Health and Safety Representatives in a ratio of 1:50 employees be nominated, elected, designated in writing and trained to carry out his/ her functions in his/ her area of responsibility. In addition, it is required that in areas where twenty (20) or less employees are engaged in an activity, at least one Health and Safety Representative be designated in writing in the same manner.

The PRINCIPAL CONTRACTOR /CONTRACTOR must consult in good faith, with registered trade unions where applicable, prior to elections and conclude an agreement on procedures outlined in General Administrative Regulations 6 (1) (a-e).

The PRINCIPAL CONTRACTOR / CONTRACTOR must ensure that all Health and Safety Representatives carry out their functions in their area of responsibility, in accordance with Section 18 of the Occupational Health and Safety Act, Act 85 of 1993.

Health and Safety Representatives shall be required to conduct monthly inspections within their area of responsibility; the records must be kept for CLIENT auditing purposes. All deviations recorded must immediately be reported to the appointed Construction Supervisor and Safety Officer, where applicable, within the designated person's area. Appropriate action must immediately be taken to eliminate the identified health and safety hazard.

9.3. Health and Safety Committees (Section 19)

The Principal Contractor must ensure that project health and safety committee meetings are held monthly with minutes kept. Meetings must be chaired by the Principal Contractor's Responsible Person [CR 8 (1)]. All Contractors' Responsible Persons and Health & Safety Representatives must attend the Principal Contractor's monthly health & safety meetings. The Principal Contractor's appointed supervisors must attend health & safety meetings.

The following topics must be tabled at meetings: management appointments; Sub-contractor legal issues; injuries and incidents; hazards and Risk Assessments (present and foreseen); method statements; planned inspections and registers/record keeping, leading and lagging indicators etc. The committee chairperson must sign off minutes.

9.4. Health and Safety Training

Induction

The Principal Contractor must ensure that all site personnel undergo a site-specific health & safety induction training session before any worker starts work. A record of attendance shall be kept in the health & safety file. The Principal Contractor will be required to induct all Contractors' employees. Workers must carry some sort of proof of inductions on their person.

Awareness

The Principal Contractor must ensure that, on site, periodic toolbox health & safety talks take place at least once every week. These talks should deal with risks relevant to the construction work at hand. Records of attendance must be kept in the health & safety file. Daily pre-task crew talks and DSTI's are to be conducted by the appointed CR8(7) supervisors.

Competence

All competent persons must have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control, and carry out. This must be assessed on a regular basis e.g. training, evaluation, and periodic audits by the Client, progress meetings, etc. The Principal Contractor is responsible to ensure that competent Contractors are appointed to carry out construction work.

9.5. Health & Safety Audits, Monitoring and Reporting

A monthly compliance audit will be done by Client (Construction Regulation 5.1(0)), through their appointed safety agent.

OHS agent will be conducting the audit to comply with Construction Regulations to ensure that the Contractor has implemented and is maintaining the agreed and approved OH&S Plan.

The Principal Contractor is obligated to conduct monthly audits on all Contractors appointed by him and keep audit reports in its health & safety file. Contractors have to audit their sub-Contractors and keep records of these audits in their health & safety files, made available on request.

9.6. Emergency Procedures

The Principal Contractor must prepare a detailed Emergency Procedure / Evacuation Plan prior to commencement on site. The procedure/plan must take into consideration the risks and potential incidents posed by work to be carried out on this project.

The procedure must detail the response plan including the following key elements:

- List of key competent personnel; Details of
- emergency services.

Actions or steps to be taken in the event of the specific types of emergencies.

Emergency procedure(s) shall include, but shall not be limited to fire; chemical spills; injury to employees; damage to material/equipment/plant; use of hazardous substances; bomb threats; major incidents/injuries; evacuation; etc. The Principal Contractor must advise the Client in writing forthwith, of any emergency situations, together with a record of action taken/action to be taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and made available to site personnel.

9.7. First Aid Boxes and First Aid Equipment (GSR 3)

The Principal Contractor and all Contractors shall appoint First Aider(s) in writing. The Principal Contractor must appoint at least one First Aider who must be certificated. Copies of valid certificates are to be kept on site. The Principal Contractor must provide at least 1 (one) first aid box, adequately always stocked. All Contractors with more than 5 employees shall supply their own first aid box. Contractors with more than 10 employees must have their own trained, always certified first aider on site.

The Contingency Plan of the Contractor must include the arrangements for speedily and promptly transporting injured persons to a medical facility or securing emergency medical help to persons that may require it.

9.8. Personal Protective Equipment (PPE) and Clothing

The Principal Contractor and Contractors must ensure that all site workers are issued with and wear the appropriate PPE as indicated in their Risk Assessments.

The Principal Contractor and Contractors must make provision and keep adequate quantities of SABS always approved PPE on site according to their Risk Assessments. The above procedure applies to Contractors and their Sub-contractors, as they are all Employers and must therefore supply their own PPE.

Labour only Contractors appointed by the Principal Contractor become the responsibility of the Principal Contractor unless otherwise instructed. The Contractor must compile a detailed PPE matrix for the various disciplines and tasks.

9.9. Occupational Health and Safety (OHS) Signage

The Principal Contractor must provide adequate on-site OHS signage. Including but not limited to: 'no unauthorized entry', 'report to site office', direction to site office, 'beware of overhead work', 'hard hat area' – to be posted up at all site entrances. Signage must also be posted up on site in strategic locations e.g. access routes, stairways, entrances to structures and buildings, scaffolding, and other potential risk areas/operations such as exposed edges and openings and trenches/excavations where persons are at work. Health & safety signage must be well maintained including weekly inspections, cleaning, replacement and repair.

9.10. Public and Site Visitor Health & Safety

Public walkways and roadways must be kept clean and free of excessive construction materials to prevent a negative impact on the public. Roadways and walkways will have to be cleaned on a regular basis – daily inspections to be conducted by the Principal Contractor with action to be taken without delay.

Site visitors must be briefed on the hazards they may be exposed to as well as what measures are in place or should be taken to control these hazards. As per the Construction Regulations, a record of these 'inductions' must be kept on site. It is advised that a visitor book with a site rules leaflet be kept at the gate or at reception/site office and all visitors to be directed to such point where they must read through the site safety information and sign the visitor book. All hoarding lay out drawing are to be strictly adhered to.

9.11. Minimum Environmental Requirements

All Contractors shall, comply with the following environmental protection procedures and requirements:

Water Use and Disposal:

- No water hoses may be used on site unless they are fitted with nozzles that can prevent flow when not being used. Leaks in hoses are not permitted.
- Water from fire hydrants may not be used without prior authorization from the Client.
- Contaminated water may not be disposed of into the effluent drainage system without the prior authorization of the Engineer.
- Contaminated water may not be discharged into storm water drains under any circumstances.
- Contaminated water that cannot be disposed of via the site effluent system must be removed from site by a recognized waste disposal company and disposed of as per relevant legislation

Storm Water Drains:

- Nothing other than clean uncontaminated water may be discharged into the site storm water drains.
- In the event of pollutants accidentally entering the storm water drains, the Supervisor shall be notified immediately and the removal of the contaminants from the storm water system and their proper disposal shall be commenced without delay.
- If contamination has reached the outside of the site, the appropriate local authorities shall be notified, and full-scale cleanup operations shall be commenced immediately.

Sewerage System

- Nothing shall be discharged into the site sewerage systems except domestic waste
- water. Authorization shall be obtained from the site manager before connecting any temporary toilet or ablution facilities into the site sewerage system.

Solid Waste Disposal

- Contractors shall be responsible for the safe and proper disposal of solid waste generated by their activities.
- Hazardous waste material shall only be disposed of via approved and recognized waste disposal companies. Disposal certificates shall be obtained and copies kept in the safety file.

Discharges to Atmosphere

- Nothing will be burnt on site.
- Any process which causes dust will be assessed prior to the work starting and authorization to work obtained before starting work.

Reporting Of Environmental Incidents

- Environmental Incidents shall be reported without delay and at the latest before the end of the shift during which the incident occurred.
- Spillages or incidents that could cause pollution outside of the boundaries of site shall be reported immediately for prompt preventative measures to prevent or reduce contamination of the environment.

9.12. Access to Site

The Principal Contractor or Site Manager will establish site access rules and implement and maintain these throughout the construction period. Access control must include the rule that non-employees will not be allowed on site unaccompanied.

Access to site will be restricted to persons working on site that attended a site-specific safety induction BEFORE starting work on site. Safety induction cards must be always issued and carried by all persons while on site. Visitors to site must be inducted and accompanied by a safety representative during their visit on site.

Security on Site

Both the Client and the Principal Contractor have a duty in terms of the OHS Act 85/1993 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities. The site must be suitably always hoarded with a limited number of access points which must be controlled to ensure safe access and egress. The access points must be kept closed and must have the adequate notices displayed.

9.13. Hours of Work

Weekend and after-hours work may only be done with the prior approval of the Clients Agent.

Approval shall be subject to:

- Competent supervision being on site throughout the duration of the weekend/afterhours work.
- The Contractor having a demonstrated history of adequate, problem free control and supervision of the work during normal working hours.

9.14 Lighting

The Contractor is to ensure that wherever work is performed where the lighting conditions are less than the minimum requirement as defined in Environmental Regulation 3 and relative schedules, that this is supplemented with additional lighting capacity to ensure that all works contemplated can be conducted safely. Portable Lights must be fitted with a robust non- hygroscopic non-conducting handle and the lamp must be protected by a robust and weatherproof guard. The cable lead-in must withstand rough handling. Registers must be maintained for each piece of equipment and findings of regular inspections must be entered into a register. Inspections must concentrate on plug, cord, switch and any obvious faults. When used in wet/damp conditions, it must be protected as for portable electrical tools, above.

10. PHYSICAL REQUIREMENTS

10.1 Erection of Hoarding

- All hoarding operations on site are to comply with the issued drawings.
- A detailed hoarding maintenance plan is to be drafted and submitted for approval.

10.2. Earthworks (Including Trenching and Excavations) (CR 13)

The Principal Contractor and relevant Contractors must make provision in their tender for the shoring of excavations where the soil conditions warrant it or if this is not possible cut it back - excavation walls must be battered back to a safe angle, termed the safe angle of repose.

The Principal Contractor has the following options: first option is to shore or brace the excavation, should this not be practical then such excavation must be battered back to the safe angle of repose (second option). Should the first two options not be deemed necessary by the Contractor, then permission must be given in writing by the appointed competent excavation supervisor (third option). Where uncertainty pertaining to the stability of the soil exists, the decision of a professional engineer or professional technologist competent in excavations shall be decisive. Such permission must be in writing.

The following is relevant to excavations:

- Excavations/trenches are inspected before every shift, and a record of these inspections is kept.
- Safe work procedures have been communicated to the workers.
- The safe work procedures are always enforced and maintained by the Principal Contractor's and Contractors' responsible persons.
- Excavations next to permanent or temporary roadways - ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it is likely to cause its

collapse and thereby endangering the safety of any person, unless precautions such as the provision of sufficient and suitable shoring or bracing are taken to prevent the sides from collapsing.

- Ensure that where the stability of an adjoining building, structure or road is likely to be affected by the making of an excavation, steps are taken that may be necessary to ensure the stability of such building, structure or road as well as the safety of persons.
- Cause convenient and safe means of access to be provided into every excavation in which persons are required to work, and such access shall not be further than 6m from the point where any worker within the excavation is working.
- Ascertain as far as is reasonably practicable, the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed. The necessary steps must then be taken to render the circumstances safe for all persons involved.
- Cause every excavation which is accessible to the public or which is adjacent to public roads or thoroughfares, or where the safety of persons may be endangered, to be
- Adequately protected by a barrier or fence of at least one meter in height and as close to the excavation as is practicable; and provided with warning illuminants or any other clearly visible boundary indicators at night or when visibility is poor.
- Cause warning signs to be positioned next to an excavation within which persons are working or carrying out inspections or tests.

10.3 Traffic Diversions

Provision by means of a method statement must be made for any traffic diversions to conduct your construction activities as well as any loading and off-loading of materials and waste.

The method statement must include a drawing indicating traffic signage and the like. Please refer to paragraph 4.9 – Permits, of this specification. Permission must be obtained from the local Metropolitan Council's Traffic Department to use the site entrance for heavy vehicles on site.

10.4 Edge Protection, Barricading and Penetrations (CR 10)

A Contractor must ensure that—

- All unprotected openings in floors, edges, slabs, hatchways and stairways are adequately guarded, fenced or barricaded or that similar means are used to safeguard any person from falling through such openings.
- No person is required to work in a fall risk position, unless such work is performed safely as contemplated in sub-regulation (2);
- A detailed Fall Rescue Plan will be drafted and implemented on site.
- The above-mentioned plan will be demonstrated on instruction of the Clients Agent.

Note: Danger tape does not represent barricading and cannot be used as such.

10.5 Housekeeping (CR 27)

The Contractor to ensure that:

- Housekeeping is continuously
- implemented Scrap, waste & debris are removed regularly
- Materials placed for use are placed safely and not allowed to accumulate or cause obstruction to free movement of pedestrian and vehicle traffic
- Waste & debris not to be removed by disposing from heights, but by chute or crane Where practicable, construction sites are fenced off to prevent access of
- unauthorized persons
- An unimpeded workspace is maintained for every employee

- Every workplace is kept clean, orderly and free of tools etc. that are not required for the work being done.
- As far as is practicable, every floor, walkway, stair, passage and gangway is kept in good state of repair, slip and trip, skid-free and free of obstruction, waste and
- materials
- The walls and roof of every indoor workplace is sound and leak-free
- Openings in floors, hatchways, stairways and open sides of floors or buildings are barricaded, fences, boarded over or provided with protection to prevent persons from falling.

10.6 Stacking & Storage (Construction Regulation 28)

- The Contractor/Employer must ensure that a competent person is appointed in writing to supervise all stacking and storage on a construction site.
- Adequate storage areas are provided and demarcated
- The base of any stack is level and capable of sustaining the weight exerted on it by the stack. The items in the lower layers can support the weight exerted by the top
- layers.
- Cartons and other containers that may become unstable due to wet conditions are kept dry. Pallets and containers are in good condition and no material is allowed to
- spill out.
- The height of any stack does not exceed 3X 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 has been obtained to build the stacks higher with the aid of an appropriate machine.
- The articles that make up a single tier are consistently of the same size, shape and mass. Structures for supporting stacks are structurally sound and able to support the mass of the stack
- No articles are removed from the bottom of the stack, but from the top tier first. Anybody climbing onto a stack can and does so safely and that the stack is sufficiently stable to support him/her
- Stacks that are in danger of collapsing are broken down and restacked
- Stability of stacks are not threatened by vehicles or other moving plant and machinery. Stacks are built in a header and stretcher fashion and that corners are securely bonded
- Persons climbing onto stacks do not approach unguarded moving machinery or electrical installations

10.7 Fire Extinguishers and Fire Fighting Equipment (CR 29)

The Principal Contractor and relevant Contractors shall provide adequate, regularly serviced firefighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted up as required. **A minimum of four 9kg dry chemical powder fire extinguishers** must be available in and around the site office establishment and stores. Wherever 'hot work' is taking place, additional fire extinguishers must be on hand. Contractors are responsible for ensuring compliance with hot work procedures and must be in possession of method statements detailing the safe working procedures. 'Hot work' includes all work that generates a spark or flame and may therefore result in a fire.

10.8 Fall Protection – Fall Risk Positions (Construction regulation 10.)

A Contractor must—

- Designate a competent person to be responsible for the preparation of a fall protection plan; ensure that the fall protection plan contemplated in paragraph (a) is implemented, amended where and when necessary and maintained as required; and take steps to ensure continued adherence to the fall protection plan.
- A fall protection plan contemplated in sub regulation (1), must include—

- A Risk Assessment of all work carried out from a fall risk position and the procedures and methods used to address all the risks identified per location;
- The processes for the evaluation of the employees' medical fitness necessary to work at a fall risk position and the records thereof;
- A program for the training of employees working from a fall risk position and the records thereof;
- The procedure addressing the inspection, testing and maintenance of all fall protection equipment; and
- A rescue plan detailing the necessary procedure, personnel and suitable equipment required to affect a rescue of a person in the event of a fall incident to ensure that the rescue procedure is implemented immediately following the incident.

A Contractor must ensure that a construction manager appointed under regulation 10(1) is in possession of the most recently updated version of the Fall Protection Plan.

Fall prevention and fall arrest equipment are —

- Approved as suitable and of sufficient strength for the purpose for which they are being used, having regard to the work being carried out and the load, including any person, they are intended to bear; and
- Securely attached to a structure or plant, and the structure or plant and the means of attachment thereto is suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who could fall; and
- Fall arrest equipment is used only where it is not reasonably practicable to use fall prevention equipment.

10.9 Scaffolding (CR 16 / SANS 10085 - 1)

The Principal Contractor must ensure that all scaffolding operations are carried out under the supervision of a competent person and that all erectors, team leaders and inspectors are competent to carry out their work. The Principal Contractor must ensure that scaffolding when used and erected, complies with the safety standards as per SANS 10085-1:2004

10.10. Roof Work

Not Applicable

10.11 Severe Weather Plan

When high wind creates a hazard to craftsmen or work being performed, i.e., instability in elevated areas, limited visibility due to dust or particles in the air, unmanageable materials, etc., supervision will stop work activities, re-assign work and area, properly store and secure material which might blow away, injure or damage, lower/tie down crane booms and obtain further instruction from Site Management.

When rain creates a hazard to craftsmen on work being performed, i.e., un-stable footing conditions due to slippery structural steel, muddy and flooded work environments, unstable trenches or excavations, poor visibility due to rain or eye protection, supervision will stop specific work due to hazard, re-assign work duties and/or areas, and obtain further instructions from Project Management. All scaffolding equipment and lifting equipment to be inspected and proclaimed safe to use or rectified as to be safe to use after any inclement weather. Signage must be posted to indicate the status of the scaffolding.

10.12 Structures (Construction Regulation 11)

The Contractor will ensure that in terms of the Construction Regulations
A Contractor must ensure that—

- All reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
- No structure or part of a structure is loaded in a manner which would render it unsafe; and
- All drawings pertaining to the design of the relevant structure are kept on site and are available on request to an inspector, other Contractors, the Client and the Client's Agent or employee.
- An owner of a structure must ensure that—
- Inspections of that structure are carried out periodically by competent persons in order to render the structure safe for continued use;
- That the inspections contemplated in paragraph (a) are carried out at least once every six months for the first two years and thereafter yearly;
- The structure is maintained in such a manner that it remains safe for continued use;
- The records of inspections and maintenance are kept and made available on request to an inspector.
- That the structure on/in, which works, are to be performed has been inspected by a certified structural engineer declaring the structure to be safe for construction, demolition or renovations work processes.
- Steps are taken to ensure that no structure becomes unstable or poses a threat of collapse due to demolition and construction work being performed on it, or in the vicinity of it.
- No structure is overloaded to the extent where it becomes unsafe He/she has received from the designer the following information:
- Information on known or anticipated hazards relating to the construction/demolition work and the relevant information required for the safe execution of the construction/demolition work
- A geo-scientific report (where applicable) The loading the structure is designed to bear
- The methods and sequence of the construction/demolition process
- All drawings pertaining to the design are on site and available for inspection
- The structural engineer shall carry out inspections at appropriate and sufficient intervals of the construction work involving the design of the relevant structure to ensure compliance with the design and record the results of these inspections in writing. These records shall be maintained on the relevant site safety files as per Construction regulation 11(2)(d).

10.13 Asbestos

Asbestos-containing materials (ACMs) pose significant health risks when fibers are inhaled. These risks include asbestosis, lung cancer, and mesothelioma. The Occupational Health and Safety Act (OSHACT) and the Asbestos Regulations, 2001, place strict requirements on any employer or contractor who may encounter or disturb asbestos during construction, demolition, or maintenance work.

The contractor must ensure that asbestos-related risks are identified, controlled, and managed in accordance with statutory provisions. No person may work with, remove, or dispose of asbestos without proper authorization, training, and protective measures.

Contractor Requirements

If asbestos is present or suspected on site, the Contractor shall:

Identification and Risk Assessment

- Conduct a survey to identify asbestos-containing materials before commencing work.
- Compile an asbestos inventory and risk assessment in line with Regulation 3 of the Asbestos Regulations.

- Submit the assessment to the Client/Agent before disturbing any asbestos material.

Approval and Notification

- Notify the Department of Employment and Labour in writing before undertaking asbestos work, as required by law.
- Obtain written approval where necessary for asbestos removal or encapsulation.

Competency and Training

- Ensure all workers involved in asbestos work are trained and certified in asbestos handling.
- Appoint a competent person to supervise asbestos-related activities.

Medical Surveillance

- Enrol employees exposed to asbestos in a medical surveillance Programme as per Regulation 9.
- Maintain medical records for the prescribed period.

Protective Measures

- Provide appropriate personal protective equipment (PPE), including approved respirators and protective clothing.
- Implement dust suppression methods (e.g., wetting or encapsulation) to prevent airborne asbestos fibers.
- Prohibit the use of power tools without adequate controls (HEPA filters, wet cutting methods).

Work Area Control

- Clearly demarcate asbestos work zones with warning signage.
- Restrict access to authorized personnel only.
- Prevent contamination of adjacent work areas.

Waste Management

- Collect asbestos waste in sealed, labeled containers in compliance with waste disposal regulations.
- Dispose of asbestos waste at a licensed hazardous waste site with proof of disposal retained.

Emergency Procedures

- Develop and implement emergency procedures for accidental asbestos exposure or fiber release.
- Report any incidents immediately to the Client/Agent and the Department of Labour.

10.14 Demolition work (Construction Regulation 14)

- A contractor must appoint a competent person in writing to supervise and control all demolition work on site.
- A contractor must ensure that before any demolition work is carried out, and in order to ascertain the method of demolition to be used, a detailed structural engineering survey of the structure to be demolished is carried out by a competent person and that a method statement on the procedure to be followed in demolishing the structure is developed by that person.
- During a demolition, the competent person contemplated in sub regulation (1) must check the structural integrity of the structure at intervals determined in the method statement
- contemplated in sub regulation (2), in order to avoid any premature collapses.

A contractor who performs demolition work must –

- Regarding a structure being demolished, take steps to ensure that—
 - No floor, roof or other part of the structure is overloaded with debris or material in a manner which would render it unsafe;
 - all reasonably practicable precautions are taken to avoid the danger of the structure collapsing when any part of the framing of a framed or partly framed building is removed, or when reinforced concrete is cut; and

- precautions are taken in the form of adequate shoring or other means that may be necessary to prevent the accidental collapse of any part of the structure or adjoining structure;
- Ensure that no person works under overhanging material or a structure which has not been adequately supported, shored or braced;
- ensure that any support, shoring or bracing contemplated in paragraph (b), is designed and constructed so that it is strong enough to support the overhanging material;
- Where the stability of an adjoining building, structure or road is likely to be affected by demolition work on a structure, take steps to ensure the stability of such structure or road and the safety of persons;
- ascertain as far as is reasonably practicable the location and nature of electricity, water, gas or other similar services which may in any way be affected by the work to be performed, and must before the commencement of demolition work that may affect any such service, take the steps that are necessary to render circumstances safe for all persons involved;
- Cause every stairwell used and every floor where work is being performed in a building being demolished, to be adequately illuminated by either natural or artificial means;
- cause convenient and safe means of access to be provided to every part of the demolition site in which persons are required to work; and
- erect a catch platform or net above an entrance or passageway or above a place where persons work or pass under, or fence off the danger area if work is being performed above such entrance, passageway, or place so as to ensure that all persons are kept safe where there is a danger or possibility of persons being struck by falling objects.

A contractor must ensure that no material is dropped to any point, which falls outside the exterior walls of the structure, unless the area is effectively protected,

No person may dispose of waste and debris from a high place by a chute unless the chute—

- Is adequately constructed and rigidly fastened;
- if inclined at an angle of more than 45 degrees to the horizontal, is enclosed on its four sides;
- if of the open type, is inclined at an angle of less than 45 degrees to the horizontal;
- Where necessary, is fitted with a gate at the bottom end to control the flow of material; and
- Discharges into a container or an enclosed area surrounded by barriers.

A contractor must ensure that every chute used to dispose of rubble is designed in such a manner that rubble does not free-fall and that the chute is strong enough to withstand the force of the debris travelling along the chute.

A contractor must ensure that no equipment is used on floors or working surfaces, unless such floors or surfaces are of sufficient strength to support the imposed loads.

Where a risk assessment indicates the presence of asbestos, a contractor must ensure that all asbestos related work is conducted in accordance with the Asbestos Regulations, 2001, promulgated by Government Notice No. R.155 of 10 February 2002.

Where a risk assessment indicates the presence of lead, a contractor must ensure that all lead related work is conducted in accordance with the Lead Regulations, 2001, promulgated by Government Notice No. R.236 of 28 February 2002.

Where the demolition work involves the use of explosives, a method statement must be developed in accordance with the applicable explosives legislation, by an appointed person who is competent in the use of explosives for demolition work and all persons involved in the demolition works must adhere to demolition procedures issued by the appointed person.

A contractor must ensure that all waste and debris are as soon as reasonably practicable removed and disposed of from the site in accordance with the applicable legislation.

11 PLANT, MACHINERY AND EQUIPMENT

11.1. Construction Vehicles & Mobile Plant (CR 23)

“Construction Plant” includes all types of plant including but not limited to, cranes, piling rigs, excavators, construction vehicles, compaction plant, batch plants and lifting equipment.

The Principal Contractor must ensure that such plant complies with the requirements of the OHS Act, Construction Regulations 2014 and any manufacturer’s specifications. The Principal Contractor and all relevant Contractors must inspect and keep records of inspections on construction vehicles and mobile plant used on site. Only authorized/competent persons in the possession of the necessary training certificates and in possession of a certificate of medical fitness may operate construction vehicles and mobile plant. Appropriate PPE and clothing must be always provided and maintained in good condition. Reverse alarms must be installed on construction vehicles i.e. trucks, digger loaders, etc. Vehicles and pedestrian traffic must be safely separated, preventing any unnecessary interfacing. All construction vehicles and mobile plant must be tagged and a full-service history of these vehicles and plant must be available on site.

Any vehicle or mobile plant using any public road must be roadworthy and carry a certificate proving this, likewise any operator of such construction vehicle or mobile plant will have to carry the necessary driver’s license.

11.2. Bulk Earthworks and the haulage

PPE REQUIREMENTS

- Hardhat
- Overall (non-supervisory)
- Steel cap Safety Boots / shoes

Oxygen and acetylene bottles must be secured in an upright position, must not show signs of corrosion or damage and must have flash back arrestors fitted on both bottle and torch.

11.3. Pressure Equipment and Gas Bottles

The Principal Contractor and all relevant Contractors shall comply with the Pressure Equipment Regulations (PER) and all other applicable statutory requirements when pressure vessels, gas bottles, or related equipment are brought onto site.

Contractor Requirements

The following measures shall be implemented and maintained:

Inspection and Certification

- All pressure vessels (owned or hired) shall comply with the statutory 36-month pressure vessel inspection and testing requirement.
- Valid certificates of testing and inspection must always be available on site for verification by the Client/Agent.

Competence and Training

- Only trained, competent personnel shall be permitted to operate or handle pressure equipment and gas bottles.
- Records of such training and competency shall be kept on site.

Personal Protective Equipment (PPE)

- Users must be issued with and required to wear the correct PPE, including face shields, gloves, ear protection, and other equipment as risk assessed.

Noise Control

- Areas where pressure equipment is in use shall be **identified as noise zones** with clear warning signage.
- Where reasonably practicable, noise levels must be reduced and maintained within permissible exposure limits.

Daily Pre-Use Inspections

- A **pre-start inspection** shall be carried out daily on all pressure equipment and gas bottles.

- Findings must be **recorded in a register** and corrective action taken immediately where defects are found.

Fire Prevention and Protection

- Appropriate **fire-fighting equipment** must always be available in areas where pressure equipment and gas bottles are used or stored.
- Fire extinguishers must be inspected and maintained in line with legal requirements.

Handling and Storage of Gas Bottles

- Gas bottles shall be stored in designated areas, upright, and secured with chains or similar restraints to prevent tipping.
- Gas bottles must be transported on suitable **trolleys**, never dragged or rolled.
- Empty and full cylinders must be stored separately and clearly marked.

Flashback Arrestors and Safety Devices

- All gas cutting and welding equipment must be fitted with **flashback arrestors** and non-return valves where applicable.
- Equipment must be maintained in safe working order.

11.4. Hired Plant and Machinery

The Principal Contractor shall ensure that any hired plant and machinery used on site is safe for use and complies with the minimum legislated requirements. The necessary requirements as stipulated by the OHS Act and Construction Regulations 2014 shall apply.

The Principal Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health & safety file.

Any load test requirements and inspections in terms of legislation must be complied with and copies of load test certificates and inspections must be kept in the health & safety file. All relevant Contractors must ensure the same.

11.5. Temporary Works (CR 12)

- A Contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on site before use.
- A Contractor must ensure that all temporary works operations are carried out under the supervision of a competent person who has been appointed in writing for that purpose.
- A Contractor must ensure that—
 - All temporary works structures are adequately erected, supported, braced and maintained by a competent person so that they are capable of supporting all anticipated vertical and lateral loads that may be applied to them, and that no loads are imposed onto the structure that the structure is not designed to withstand;
 - All temporary works structures are done with close reference to the structural design drawings, and where any uncertainty exists the structural designer should be consulted;
 - Detailed activity specific drawings pertaining to the design of temporary works structures are kept on the site and are available on request to an inspector, other Contractors, the Client, the Client's Agent or any employee;
 - All persons required to erect, move or dismantle temporary works structures are provided with adequate training and instruction to perform those operations safely;
 - All equipment used in temporary works structure are carefully examined and checked for suitability by a competent person, before being used;
 - All temporary works structures are inspected by a competent person immediately before, during and after the placement of concrete, after inclement weather or any other imposed load and at least on a daily basis until the temporary works structure has been removed and the results have been recorded in a register and made available on site;

- No person may cast concrete, until authorization in writing has been given by the competent person contemplated in paragraph (a);
- If, after erection, any temporary works structure is found to be damaged or weakened to such a degree that its integrity is affected, it is safely removed or reinforced immediately;
- Adequate precautionary measures are taken in order to—
 - Secure any deck panels against displacement; and
 - Dust masks when
 - required Dust goggles
 - Reflective vest displaying company name

11.6. TRAFFIC CONTROL

- A points-man / controller shall be placed at all road intersections, with a Stop / Go sign to control traffic.
- Ripple strips shall be placed at all road intersections and railway crossings During night driving, flashing lights shall be placed at crossings and intersections Adherence to all traffic signs is of vital importance
- All haul trucks, LDV's and Excavation Equipment will be always operated with headlights on.
- Following distances – 3 truck lengths must be always kept between the trucks Speed limit on site will be 10 Km per hour.
- Reversing of vehicles will only take place under the guidance of a
- spotter. Heavy vehicles / equipment will always have the right of way.
- A signal system will be in place between driver of haul truck and loader
- operator. To enter: 1 blow of hooter To stop : 2 blows of hooter
- To pull off: 3 blows of hooter
- No overtaking will take place on site by haul trucks.
- In case of a vehicle break-down on site road or haul road: The vehicle must be removed ASAP
- Warning signs must be placed (during Day time : Red Triangular) (During night time : flashing lights)
- Traffic controller in front and back of vehicle

HAUL LOADS

- Pedestrians will not be allowed to access the haul roads unnecessarily; however drivers of Plant and Haul Trucks must be alert for pedestrians.
- Haul roads will be wetted by water cart at regular intervals and if and when required. Any large rocks and / or spillages will be removed and cleaned from
- roads immediately.
- Ground pollution such as oil, diesel and hydraulic fluid will not be tolerated. If it occurs on the haul road or any other portion on the Site, the ground will be dug out, back filled and compacted.

VEHICLES / EQUIPMENT

- All vehicles will always be roadworthy
- Pre-use check will be done against any approved checklist; all faulty items will be attended to.
- Brakes
- Lights
- Air / Hydraulic
- Oil leaks
- The vehicles / Equipment will be withdrawn from service for repairs.
- Brake testing will be done every shift before use (Brake testing method to be submitted)
- No major repairs or services will be carried out on Site.

Vehicles and mobile equipment will be supplied with:-

- Fire Extinguisher
- Reflector's / Reflective tape
- Sides
- Front
- Back
- Reversing alarm OPERATORS / DRIVERS
- A supervisor or appointed person will drive around from on-loading to off-loading points and ensure that drivers get out of the vehicle and walk around for 5 minutes and if required allow the person to relieve himself or to drink water or cold drink which will be available on the LDV.
- Random alcohol / drug test must be done and results to be submitted.
- All drivers / operators will be appointed under OHS Act Construction Regulation 23, in addition a competent person must also be appointed in writing to inspect the plant, refer to OHS Act Construction Regulation 23
- If a driver / operator does not adhere to rules and regulations, his appointment will be cancelled, and he will not be able to carry on his duty.
- No driver / operator will be appointed without proof of training, Driver's license and valid medical certificate.
- No training of drivers / operators on site.
- No passengers on Dump trucks, Loaders, TLB's or Excavators No eating or drinking allowed while operating Plant
- No vehicle will be left unattended with the engine running or the key in the ignition.

11.7. Lifting Machines, Tackle and Lifting Operations/ Tower Cranes (DMR 18 / CR 22)

The Principal Contractor and all Contractors shall ensure that lifting machinery and tackle are inspected before use and thereafter in accordance with the Driven Machinery Regulations and the Construction Regulations (Regulation 22).

There must be a competent lifting machines inspector (registered with the Department of Labour, Gazette number 27305) and a competent lifting tackle inspector who must inspect the equipment, taking into account that:

- All lifting machinery and tackle has a safe working load clearly indicated;
- Regular inspection and servicing is carried out (3-monthly inspections and records for tackle and 6-monthly inspections and records for lifting machines);
- Records are kept of inspections and of service certificates;
- There is proper supervision in terms of guiding the loads that includes a trained banks man to direct lifting operations and check lifting tackle and attachments daily;
- Rigging of loads to be done in accordance with acceptable safe work practices;
- Tower crane bases have been designed and finally approved by an engineer before loading such base;
- Annual load test certificates for lifting machines are in place;
- Tower cranes are fitted with wind speed meters and audible alarm/warning lights, crane hooters, and that the crane's load chart is posted up in the crane cab;
- The operators are certified to operate the specific machine (valid certificate to be on site); The operators are physically and psychologically fit to work and are in possession of a medical certificate of fitness that is to be available on site.

The Principal Contractor must ensure that safe lifting operations are adhered to. This must include the following:

- Pallets of bricks being lifted by a tower crane or mobile crane may only be lifted when secured in a brick cage or brick net, securing the entire load of bricks to the crane hook; Mortar bins, waste bins and any other receptacle must be deemed to be a lifting attachment and must be designed to carry the required load. Such attachments must be on register and inspected every 3 months by the competent lifting tackle inspector.
- Temporary Works may only be lifted by using purpose designed and manufactured lifting tackle – eight-gauge wire and the like is prohibited.
- A competent banks man must be in control of all rigging, slinging and lifting operations and must wear a high visibility vest, be in possession of a two-way radio and make use of a whistle, warning persons of overhead loads. The crane operator may only take commands and signals from the designated bank men;
- Guide ropes (tag lines) must be used when lifting large shutters, long bundles of re-bar and other similar loads. This must be detailed in the Principal Contractor's and Contractors' fall prevention plans.
- Lifting operations must be re-evaluated once wind speeds reach 40 km/h unless otherwise specified by the lifting machine manufacturer.

11.8 Ladders (GSR 13)

The Principal Contractor must ensure that all ladders are inspected daily with monthly records kept; in good safe working order; the correct height for the task; extend at least 1m above the landing; fastened and secured; and at a safe angle.

Stepladders must be safe for use, must be the correct height for the task and the top two rungs may not be used. Records of inspections must be kept in a register on site.

Contractors using their own ladders must ensure the same.

11.9. Driven Machinery

The Principal Contractor and relevant Contractors must ensure compliance with the Driven Machinery Regulations, which includes carrying out risk assessments on the machines, inspecting machinery regularly, appointing a competent person to inspect and ensure maintenance, issuing PPE and relevant clothing, and training those who use machinery.

11.10. Electrical Installations and Portable Electrical Tools (CR 24)

The Client will ensure as far as possible that the Principal Contractor is made aware of the positions of all electrical power lines.

The Principal Contractor must notify the Client should it not be sure of the location of any electrical power lines.

The Principal Contractor must comply with the Electrical Installation Regulations, the Electrical Machinery Regulations and the Construction Regulations (CR 24).

The Principal Contractor must keep a copy of the Certificate of Compliance (COC) for its electrical power supply.

A revised COC is required whenever the installation is altered or changed in any way. All temporary electrical installations must be inspected at least weekly by a competent person appointed in writing. Portable electrical tools and equipment must be visually inspected daily. Records of inspections must be kept on site (monthly inspection records to be kept after a competent inspector has carried out the monthly check).

11.11. Electrical & Mechanical Lockout

A system of control shall be established in order that no unauthorized person can energize a circuit, open a valve, or activate a machine on which people are working or doing maintenance, even if equipment, plant or machinery is out of commission for any period, thus eliminating injuries and damage to people and equipment as far as is reasonably practicable.

Physical/mechanical lock-out systems shall be part of the safety system and included in training. Lockouts shall be tagged and the system tested before commencing with any work or repairs.

11.12. Cantilever Loading Platforms

Should these platforms be used, they must carry a design drawing issued by a competent person indicating the maximum safe workload and the erection and maintenance procedures.

The platform must be complete with guardrails and toe boards and must carry a notice indicating the maximum safe workload. Access routes under the loading platforms must be diverted and persons must be protected from the potential material and objects falling. These platforms must be placed on a register and inspected on a weekly basis.

11.13. Materials Hoists (CR 19)

A Contractor shall ensure that every material hoist and its tower have been constructed of sound material in accordance with the generally accepted technical standards.

- Each Contractor shall cause the tower of every material hoist to be –
- Erected on firm foundations and secured to the structure or braced by steel wire guy ropes, and to ensure that the highest landing has an unobstructed space of 900 mm for over travel.
- Enclosed on all sides at the bottom, and at all floors
- Provided with a door or gate at least 2100 mm in height at each landing and such door or gate shall be kept closed, except when the platform is at rest at such a landing

A Contractor shall cause –

The platform of every material hoist to be designed in such a manner that it shall safely contain the loads being conveyed and that the combined weight of the platform and the load does not exceed the designed lifting capacity of the hoist;

The hoisting rope of every material hoist which has a remote winch to be effectively protected from damage

The material hoist to be provided with an efficient brake capable of holding the platform with its maximum load in any position when the power is not being supplied to the hoisting machinery.

The Contractor is to ensure that wherever building tools and equipment are conveyed that these have been tied down and secured so as to prevent uncontrolled movement.

A Contractor shall cause a notice, indicating the maximum mass MML load which may be carried at any one time and the prohibition of persons from riding on the platform of the material hoist, to be affixed around the base of the tower and at each landing.

A Contractor of a material hoist shall not require or permit any person to operate such a hoist, unless the person is competent (Has proof of training which should be retained on the site Health & Safety File) in the operation thereof. No Contractor shall require or permit any person to ride on a material hoist unless certified otherwise.

A Contractor shall cause every material hoist-

- To be inspected daily by a competent person who has been
- Appointed in writing and has the experience pertaining to the erection and maintenance of material hoists or similar machinery.
- Inspection contemplated in paragraph (a), to include the determination of
- The serviceability of the entire material hoist including guides, ropes and their connections, drums, sheaves or pulleys and all safety devices.
- Inspection results to be entered and signed in a register, which shall be kept on the site safety file C.R. 7 for that purpose.
- To be properly maintained and that the maintenance records in this regard are kept on the site safety file C.R.7

11.14. Waste Chutes

The disposal of rubble and other waste from elevated positions may only be conducted under controlled conditions. Waste chutes must be secured to a scaffold structure, which must in turn be secured to the main building. A person must be designated to take control of waste chute operations,

which must include the inspection of the chute daily. Waste must discharge into an enclosed area (ready fence panels to be used), eliminating the risk of persons being struck by waste material.

11.15. Explosive Actuated Fastening Devices (CR 21)

No Contractor may use or permit any person to use an explosive actuated fastening device, unless—

- The user is provided with and uses suitable protective equipment.
- The user is trained in the operation, maintenance and use of such a device.
- The explosive actuated fastening device is provided with a protective guard around the muzzle end, which effectively confines any flying fragments or particles; and
- The firing mechanism is so designed that the explosive actuated fastening device, will not function unless —
- It is held against the surface with a force of at least twice its weight; and
- The angle of inclination of the barrel to the work surface is not more than 15 degrees from a right angle.

A Contractor must ensure that —

- Only cartridges suited for the relevant explosive actuated fastening device, and the work to be performed, are used.
- An explosive actuated fastening device is cleaned and examined daily before use and as often as may be necessary for its safe operation by a competent person who has been appointed for that purpose.
- The safety devices of an explosive actuated fastening device are in good working order prior to use.
- When not in use, an explosive actuated fastening device and its cartridges are locked up in a safe place, which is inaccessible to unauthorized persons.
- An explosive actuated fastening device is not stored in a loaded condition.
- A warning notice is displayed in a conspicuous manner in the immediate vicinity wherever an explosive actuated fastening device is used; and
- The issuing and collection of cartridges and nails or studs of an explosive actuated fastening device are—
- Controlled and done in writing by a person having been appointed in writing for that purpose; and
- Recorded in a register by a competent person and that the recipient has accordingly signed for the receipt thereof as well as the returning of any spent and unspent cartridges.

12 OCCUPATIONAL HEALTH

12.1. Industrial Hygiene (exposure to physical and chemical stress factors)

- Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction.
- Occupational exposure is a major problem, and all Contractors must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. Prevent inhalation, ingestion, and adsorption through the skin of hazardous chemical substances.

12.2. Noise Exposure and Hearing Conservation must comply with the updated Noise Exposure Regulations, 2024 (GN 5953 of 6 March 2025), which replace the previous GNR 307 of 2003. These regulations require the use of personal dosimetry, updated medical surveillance including audiometry in accordance with the Code of Practice for Audiometry, and a phased transition with full repeal of GNR 307 by September 2026. Employers must ensure compliance with SANS 10083:2020 and implement comprehensive noise risk assessments, exposure controls, and hearing conservation programs.

- Occupational noise emitted by construction machinery and power tools must be controlled as far as possible by implementing engineering solutions such as noise dampening, regular maintenance, servicing and inspection, screening off the noise, and reducing the number of

persons exposed. It is generally accepted that all employees on a construction site will be exposed to varying degrees of noise.

- In view of this, the Contractor shall ensure full compliance with the above- mentioned regulation; furthermore, provide proof of the relative management process.
- The Contractor is advised to pay particular attention to section 12 of the "Noise- Induced Hearing Loss Regulation"

12.3. Ergonomics

Ergonomics is the study of how workers relate to their workstations. We advise the Principal Contractor and Contractors to take this into consideration when conducting risk assessments, thereby improving the worker-task relationship, which will in turn improve productivity and reduce chronic conditions such as back strains, joint problems and mental fatigue, amongst others.

12.4. Hazardous Chemical Substances (HCS)

- The Principal Contractor must ensure that the use, transport, and storage of HCS are carried out as prescribed in the HCS Regulations.
- The Principal Contractor and Contractors must ensure that all hazardous chemicals on site have Material Safety Data Sheets (MSDS) on site, and the users are made aware of the hazards and precautions that need to be taken when using the chemicals.
- The First Aiders must be made aware of the MSDS's and how to treat HCS incidents appropriately.
- Copies of the MSDS's must be kept in the first aid box and in the store. All containers
- must be clearly labelled.
- Flammable substances must be stored separately, away from other materials, and in a well-ventilated area (appropriate cross ventilation).
- A competent person should be appointed to be in control of this portfolio.
- Fuel storage tanks must conform to the general environmental legislation and Environmental Management Plan. The necessary safety signage must be posted up on the tanks – 'no naked flames', 'no smoking'.
- Two 9kg DCP fire extinguishers must be placed near to fuel tanks, but not within 5m of the tanks. These extinguishers are over and above the minimum four required for the offices and stores.

12.5. Construction Employees' Facilities (CR 30) (Welfare)

- The Principal Contractor must supply sufficient toilets (1 toilet per 30 workers), clean, lockable changing facilities, hand washing facilities, soap, toilet paper, and hand drying material.
- Waste bins must be strategically placed around site and emptied regularly. Workers must not be exposed to hazardous materials/substances while eating and must be provided with adequate, sheltered eating areas complete with benches and tables.
- Stores may not double up a change rooms or mess areas.

12.6. Alcohol and other Drugs

- No alcohol and drugs will be allowed on site.
- No person may be under the influence of alcohol or any drug while on the construction site. Any person on prescription medication must inform his/her superior, who shall in turn report this to the Principal Contractor forthwith.
- Any person suffering from any illness/condition that may have a negative effect on his/her/anyone else's health or safety performance must report this to his/her superior.

- Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately.

12.7. Reporting on occupational health issues

- As per the incident reporting and investigation requirements, it is essential that the Contractor advise the Client on any condition or occurrence where the health of any worker has been affected.
- Where an occupational health concern has been raised such incident is to be investigated as any other incident.

12.8 Occupational health medicals

- Although not a requirement, Contractors are advised to consider the possibility of providing for both entry and exit medicals for all employees.
- It is however the responsibility of the Principal Contractor to ensure that where legislation requires a medical fitness certificate that such medicals are conducted and records kept in the site safety file.
- Medicals must be issued as per Annexure 3 document.

ANNEXURES

Annexure A - List of possible legal appointments and assignments

Annexure B - Safe Work Method Statements, minimum requirement

Annexure C - Compliance submissions in terms of the Specification

Annexure D - Sample site safety file index

PRINCIPAL CONTRACTOR'S ACCEPTANCE OF SPECIFICATION

I, _____ the Contractor, do

hereby declare that my company _____

acknowledge having read and understood the conditions contained in this document and furthermore

we agree and accept to abide by the conditions and requirements of the OHS Act and all applicable regulations there under.

CONTRACTOR: _____ DATE: _____

WITNESS _____ PRINT NAME: _____

CLIENT: _____ DATE: _____

WITNESS _____ PRINT NAME: _____

Annexure A - Assignment of responsible persons

The Principal Contractor must make all management appointments. Below is a list of possible appointments for this project. (Further appointments could become necessary as the project progresses).

No	OHS Act Ref.	Appointment	Name of Appointee
1	Section 16	Overall Authority and Accountability	
2	Section 16(2)	Assignment of Duties	
3	CR 8(1)	Construction Manager	
4	CR 8(2)	Assistant Construction Manager	
5	CR 8(7)	Construction Supervisor	
6	CR 8(8)	Assistant Construction Supervisor	
7	GMR 2(1)	Supervision of Machinery (not for construction sites)	
8	Section 17	Health and Safety Representative	
9	CR 16(2)	Scaffold Erector, Inspector (separate appointments)	
10	CR 13(1)	Excavation Inspector	
11	GSR 3(4)	First Aiders	
12	CR 29(h)	Fire Equipment Inspector	
13	EMR 10(4)	Portable Electrical Tool Inspector	
14	CR 19(8)(a)	Materials Hoist Inspector	
15	DMR 18(5)	Lifting Machinery and Equipment Inspector	
16	DMR 18(6)	Lifting Tackle Inspector	
17	GSR 13(a)	Ladder Inspector	
18	HCS Reg	Hazardous Chemical Substances Inspector	
19	CR 21(2)(b)	Explosive Actuated Fastening Device Inspector	
20	GSR 3	Emergency Procedure Coordinator	
21	CR 12(a)	Temporary Works Supervisor	
22	CR 14(1)	Demolition Work Supervisor	
23	CR 23(j)	Construction Vehicle and Mobile Plant Inspector	
24	CR24(e)	Electrical Installation and Machinery Responsible Person	
25	CR 28(a)	Stacking and Storage Supervisor	
26	DMR 18(11)	Crane Manager	
27	DMR 18(11)	Crane Supervisor	
28	DMR 18(11)	Crane Operator	
29	DMR 18(11)	Banksman	
CR	=	Construction Regulations	
EMR	=	Electrical Machinery Regulations	
DMR	=	Driven Machinery Regulations	
GMR	=	General Machinery Regulations	
ER	=	Environmental Regulations	
GSR	=	General Safety Regulations	
HCS	=	Hazardous Chemical Substances Regulations	

Annexure B - Safe work procedures/method statements required

The hazardous operations listed below have been identified by the Client and must be managed by the Principal Contractor in the form of preparation of method statements / SWP's before such work begins. The onus remains on the Principal Contractor to conduct Risk Assessments and compile method statements for hazardous tasks (Construction Regulations). Contractors appointed by the

Principal Contractor will be required to conduct the necessary Risk Assessments and method statements and forward these to the Principal Contractor before such work begins.

Since various structures will be constructed with varying engineering designs, structure specific method statements will be required.

No.	METHOD STATEMENT / SWP	DATE APPROVED	DATE LAST REVIEWED
1	Demolition, method statements and demolition plans including the safety thereof.		
2	Scaffolding Erection, alteration, dismantling Work thereon Inspections – when and who		
3	Lifting machines and related equip. Erection of equipment, operational procedures (slinging, control of various lifting operations)		
4	Roof work installation/removal of roof tiles, including worker safety methods and procedures while conducting this work		
5	Temporary barricading of exposed edges and elevated walkways (concrete floors, stairways and other)		
6	Movement of construction vehicles and mobile plant across/on public roadways and walkways (including cleaning procedures and road signage)		
7	Temporary Works Erection and dismantling Inspections – when and who. Edge protection strategy		
8	Major concrete work		
9	Cladding, sheeting and other structural steel work including hot works		
10	Brickwork		
11	Traffic Management		

Annexure C - Compliance submission requirements

The Principal Contractor and Contractors must comply with [where applicable] but not be limited to the requirements tabled below: Prove compliance at audits conducted by the safety agent.

OHS Act Section/ Regulation	Subject	Requirements
Construction. Regulation 4	Notification of intent to commence Construction work	Department of Labour notified Copy of Notice available on Site
General Admin. Regulation 4	Copy of OH&S Act (Act 85 of 1993)	Updated copy of Act & Regulations on site. Readily available for perusal by employees.
COID Act Section 80	Registration with Compensation Insurer	Written proof of registration/Letter of good standing available on site
Construction. Regulation 5	H&S Specification	H&S Spec received from Client and/or its Agent on its behalf OH&S Programme developed & updated regularly
Section 8(2)(d) Construction n. Regulation 9	Hazard Identification & Risk Assessment	Hazard Identification carried out/Recorded Risk Assessment and – Plan drawn up/Updated RA Plan available on Site Employees/Sub-Contractors informed/trained
Section 16(2)	Assigned duties (Managers)	Responsibility of complying with the OH&S Act assigned to other person/s by CEO.
Construction Regulations 8(1)	Designation of Person Responsible for Managing of Site	Competent person appointed in writing as Construction Manager with job description
Construction Regulations 8(2)	Designation of Assistant for above	Competent person appointed in writing as Assistant Construction Manager with job description
Construction. Regulation 8(7)	Designation of Person Responsible on Site	Competent person appointed in writing as Construction Supervisor with job description
Construction. Regulation 8(8)	Designation of Assistant for above	Competent person appointed in writing as Assistant Construction Supervisor with job description
Section 17 & 18 General Administrative Regulations 6 & 7	Designation of Health & Safety Representatives	More than 20 employees - one H&S Representative, one additional H&S Rep. for each 50 employees or part thereof. Designation in writing, period and area of responsibility specified in terms of GAR 6 & 7 Meaningful H&S Rep. reports. Reports actioned by Management.
Section 19 & 20 General Administrative Regulations 5	Health & Safety Committee/s	H&S Committee/s established. All H&S Reps shall be members of H&S Committees Additional members are appointed in writing. Meetings held monthly, Minutes kept. Actioned by Management.
Section 24 & General Admin. Regulation 8 COID Act Sect.38, 39 & 41	Reporting of Incidents (Dept. of Labour)	Incident Reporting Procedure displayed. All incidents in terms of Sect. 24 are reported to the Provincial Director, Department of Labour, within 3 days. (Annexure 1)(WCL 1 or 2) and to the Client and/or its Agent on its behalf Copies of Reports available on Site Record of First Aid injuries kept
General Admin. Regulation 9	Investigation and Recording of Incidents	All injuries which resulted in the person receiving medical treatment other than first aid, recorded and investigated by investigator designated in writing. Copies of Reports (Annexure 1) available on Site Tabled at H&S Committee meeting
Construction Regulation 10	Fall Prevention & Protection	Competent person appointed to draw up and supervise the Fall Protection Plan Proof of appointees competence available on Site

		Risk Assessment carried out for work at heights Fall Protection Plan drawn up/updated and workers trained Available on Site
Construction. Regulation 10(5)	Roof work	Competent person appointed to plan & supervise Roof work. Proof of appointees competence available on Site Risk Assessment carried out and workers trained Roof work Plan drawn up/updated Roof work inspect before each shift. Inspection register kept Employees medically examined for physical & psychological fitness. Written proof on site
Construction Regulation 11	Structures	Information re. the structure being erected received from the Designer including: Geo-science technical report where relevant The design loading of the structure The methods & sequence of construction Anticipated dangers/hazards/special measures to construct safely Risk Assessment carried out Method statement drawn up All above available on Site
Construction Regulation 12	Temporary Works	Competent person appointed in writing to supervise erection, maintenance, use and dismantling of Temporary Works Contractor must appoint a Temporary Works Designer to design, Inspect and approve the erected temporary works on site before use. Design drawings available on site Risk Assessment carried out Support & Formwork inspected: Before use/inspection Before pouring of concrete Weekly whilst in place Before stripping/dismantling. Inspection register kept
Construction Regulation 16	Scaffolding	Competent persons appointed in writing to: Erect scaffolding (Scaffold Erector/s) Inspect Scaffolding weekly and after inclement weather (Scaffold Inspector/s) Written Proof of Competence of above appointees available on Site Risk Assessment carried out Inspected weekly/after bad weather. Inspection register/s kept
Construction Regulation 13	Excavations	Competent person/s appointed in writing to supervise and inspect excavation work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out Inspected: Before every shift After any blasting After an unexpected fall of ground After any substantial damage to the shoring After rain. Inspections register kept Method statement developed where explosives will be/ are used
Construction. Regulation 14	Demolition Work	Competent person/s appointed in writing to supervise and control Demolition work Written Proof of Competence of above appointee/s available on Site Risk Assessment carried out

		Engineering survey and Method Statement available on Site Inspections to prevent premature collapse carried out by competent person before each shift. Inspection register kept.
Construction. Regulation 19	Materials Hoist	Competent person appointed in writing to inspect the Material Hoist Written Proof of Competence of above appointee available on Site. Materials Hoist to be inspected weekly by a competent person. Inspections register kept.
Construction. Regulation 21	Explosive Actuated fastening devices	Competent person appointed to control the issue of the Explosive Actuated Fastening Devices & cartridges and the service, maintenance and cleaning. Register kept of above Empty cartridge cases/nails/fixing bolts returns recorded Cleaned daily after use Work areas are demarcated.
Construction. Regulation 22/ Driven Machinery Regulations 18 & 19	Cranes & Lifting Machines Equipment	Competent person appointed in writing to inspect Cranes, Lifting Machines & Equipment Written Proof of Competence of above appointee available on Site. Cranes & Lifting tackle identified/numbered Register kept for Lifting Tackle Log Book kept for each individual Crane Inspection: - All cranes - daily by operator Tower Crane/s - after erection/6monthly Other cranes - annually by comp. person Lifting tackle(slings/ropes/chain slings etc.) - daily or before every new application
Construction. Regulation 24/Electrical Machinery Regulations 9 & 10/ Electrical Installation Regulations	Inspection & Maintenance of Electrical Installation & Equipment (including portable electrical tools)	Competent person appointed in writing to inspect/test the installation and equipment. Written Proof of Competence of above appointee available on Site. Inspections: - Electrical Installation & equipment inspected after installation, after alterations and quarterly. Inspection Registers kept Portable electric tools, electric lights and extension leads must be uniquely identified and numbered. Weekly visual inspection by User/Issuer/Storeman. Register kept.
Construction. Regulation 28/ General Safety Regulation 8(1)(a)	Stacking & Storage Supervisor.	Competent Person/s with specific knowledge and experience designated to supervise all Stacking & Storage Written Proof of Competence of above appointee available on Site
Construction. Regulation 29/ Environment al Regulation 9	Designation of a Person to Co-ordinate Emergency Planning And Fire Protection	Person/s with specific knowledge and experience designated to co- ordinate emergency contingency planning and execution and fire prevention measures Emergency Evacuation Plan developed: Drilled/Practiced Plan & Records of Drills/Practices available on Site Fire Risk Assessment carried out All Fire Extinguishing Equipment identified and on register. Inspected weekly. Inspection Register kept Serviced annually
General Safety Regulation 3	First Aid	Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed)

		First Aid freely available Equipment as per the list in the OH&S Act. One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed) List of First Aid Officials and Certificates Name of person/s in charge of First Aid box/es displayed. Location of First Aid box/es clearly indicated. Signs instructing employees to report all Injuries/illness including first aid injuries
General Safety Regulation 2	Personal Safety Equipment (PSE)	Items of PSE prescribed/use enforced Records of Issue kept Undertaking by Employee to use/wear PSE PSE remain property of Employer, not to be removed from premises GSR 2(4)
General Safety Regulation 9	Inspection & Use of Welding/Flame Cutting Equipment	Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment Written Proof of Competence of above appointee available on Site All new vessels checked for leaks, leaking vessels NOT taken into stock but returned to supplier immediately Equipment identified/numbered and entered into a register Equipment inspected weekly. Inspection Register kept
Hazardous Chemical Substances (HCS) Regulations Construction Regulation 25	Control of Storage & Usage of HCS and Flammables	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of HCS (including Flammables) Risk Assessment carried out Register of HCS kept/used on Site
Pressure Equipment Regulations	Pressure Equipment	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections & testing of VUP's Written Proof of Competence of above appointee available on Site Risk Assessment carried out Register of Pressure Equipment on Site
Construction. Regulation 23	Construction Vehicles &Earth Moving Equipment	Operators/Drivers appointed to: Carry out a daily inspection prior to use Drive the vehicle/plant that he/she is competent to operate/drive Written Proof of Competence of above appointee available on Site. Medical Report available for each operator available on site Record of Daily inspections kept
General Safety Regulation 13A	Inspection of Ladders	Competent person appointed in writing to inspect Ladders Ladders inspected at arrival on site and weekly thereafter. Inspections register kept
General Safety Regulation 3	First Aid	Every workplace provided with sufficient number of First Aid boxes. (Required where 5 persons or more are employed) First Aid freely available Equipment as per the list in the OH&S Act. One qualified First Aider appointed for every 50 employees. (Required where more than 10 persons are employed)

		List of First Aid Officials and Certificates Name of person/s in charge of First Aid box/es displayed. Location of First Aid box/es clearly indicated. Signs instructing employees to report all Injuries/illness including first aid injuries
General Safety Regulation 2	Personal Safety Equipment (PSE)	Items of PSE prescribed/use enforced Records of Issue kept Undertaking by Employee to use/wear PSE PSE remain property of Employer, not to be removed from premises GSR 2(4)
General Safety Regulation 9	Inspection & Use of Welding/Flame Cutting Equipment	Competent Person/s with specific knowledge and experience designated to Inspect Electric Arc, Gas Welding and Flame Cutting Equipment Written Proof of Competence of above appointee available on Site All new vessels checked for leaks, leaking vessels NOT taken into stock but returned to supplier immediately Equipment identified/numbered and entered into a register Equipment inspected weekly. Inspection Register kept
Hazardous Chemical Substances (HCS) Regulations Construction Regulation 25	Control of Storage & Usage of HCS and Flammables	Competent Person/s with specific knowledge and experience designated to Control the Storage & Usage of HCS (including Flammables) Risk Assessment carried out Register of HCS kept/used on Site
Pressure Equipment Regulations	Pressure Equipment	Competent Person/s with specific knowledge and experience designated to supervise the use, storage, maintenance, statutory inspections & testing of VUP's Written Proof of Competence of above appointee available on-Site Risk Assessment carried out Register of Pressure Equipment on Site
Construction. Regulation 23	Construction Vehicles &Earth Moving Equipment	Operators/Drivers appointed to: Carry out a daily inspection prior to use Drive the vehicle/plant that he/she is competent to operate/drive Written Proof of Competence of above appointee available on Site. Medical Report available for each operator available on site Record of Daily inspections kept
General Safety Regulation 13A	Inspection of Ladders	Competent person appointed in writing to inspect Ladders Ladders inspected at arrival on site and weekly thereafter. Inspections register kept

Annexure D - Typical safety file index and registers

Please note: Site File contents may vary depending on the type of trade. (Typical Site File Contents)

1. SHE Policy
2. Notification of Construction Work
3. Client Safety Spec
4. SHE Plan
5. Environmental Management Plan
6. Organogram
7. Mandatory Appointments
8. General Appointments
9. Drivers Licenses and Certificates of Training
10. Medical Certificates & Psychiatric Evaluations
11. Method Statements
12. Risk Assessments
13. Risk Assessment Review Plan
14. Proof of Risk Assessment Training
15. Safe Works Procedures
16. Fall Protection Plan
17. Proof of Fall Protection Training
18. Demolition Plan
19. MSDS
20. Emergency Procedure
21. Emergency Tel List
22. Accident and Incident Procedures
23. Annexure 1 Forms
24. Severe Weather Plan
25. Heat Stress Procedure
26. Lock Out Procedure
27. Equipment list and Test Certifications
28. Minutes – Safety Meetings
29. Audits and Notifications
30. WCA Certificate of Good Standing & Claim Forms
31. Site Rules
32. Inductions
33. Toolbox Talks
34. Copy of the Act
35. Copy of Construction Regulation

ANNEXURE 1 LEGAL APPOINTMENTS TEMPLATES

Attention: **(Assistant Construction Manager's Name)**

APPOINTMENT OF THE ASSISTANT CONSTRUCTION MANGER IN TERMS OF CONSTRUCTION REGULATION 8(2)

I, **(contractor's name)** hereby appoint **(assistant construction supervisor's name)** as the assistant supervisor responsible for **(site address)** to carry out the construction work of **(description of construction work and area of responsibility)**.

In terms of this appointment, you are required to ensure that all construction work performed under your supervision is carried out as follows:

1. By persons suitably trained and competent to do such work.
2. That all persons are aware and understand the hazards attached to the work being carried out.
3. That the required risk assessments are carried out.
4. That precautionary measures are identified and implemented.
5. That discipline is enforced at the construction site at all times.
6. That all identified statutory requirements are met.
7. That any other interest in terms of health and safety with respect to the responsible area is met.
8. You will accept the duties of the Construction manager in his absence.

You are required to report any deviations of the above-mentioned instruction to **(construction manager's name)** and in his absence to the contractor's representative.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

You shall submit a written weekly report any non-compliance with the Construction Regulations, 2014.

Contractor's Representative full name

Signature

Date

.....
Kindly confirm your acceptance of this appointment by completing the following:

I, **(assistant construction manager)** understand the implications of the appointment as detailed above and confirm my acceptance.

Assistant construction supervisor's
Attention: **(Safety Officer's Name)**

Signature

Date

APPOINTMENT OF THE CONSTRUCTION HEALTH AND SAFETY OFFICER IN TERMS OF CONSTRUCTION REGULATION 8(5)

I, **(contractor's name)** hereby appoint **(safety officer's name)** as the Construction Health and Safety Officer responsible for **(site address)** to manage all the health and safety issues as required in terms of the Act by establishing a health and safety program with elected health and safety Representatives. You shall ensure that all the requirements in terms of the Act and in particular in terms of the Construction Regulations, 2014 are met. You shall also ensure that all appointed sub-contractors comply with the requirements as stipulated in the Construction Regulations, 2014.

You shall further ensure that all records, registers and required lists are maintained and shall stop construction work upon identifying any non-compliance by any contractor; this includes stopping any work should the competency of the person carrying out such work be questionable.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

_____ Contractor's Representative full name	_____ Signature	_____ Date
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.....
Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction health and safety officer's name)** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ Construction Health & Safety Officer's full name	_____ Signature	_____ Date
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Attention: **(Construction Vehicle and Mobile Plant Inspector)**

APPOINTMENT OF THE CONSTRUCTION VEHICLE AND MOBILE PLANT INSPECTOR IN TERMS OF CONSTRUCTION REGULATION 23(1) (d)

I, **(contractor's name)** hereby appoint **(construction vehicles and mobile plant inspector's name)** as the construction vehicles and mobile plant inspector responsible for **(site address)** to inspect on a daily basis all construction vehicles and mobile plant, as per the provided checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to construction vehicles and mobile plant that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor, and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2014 are at all times met.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

_____ Contractor's Representative full name	_____ Signature	_____ Date
--	--------------------	---------------

.....
Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction vehicles and mobile plant inspector's full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ Construction vehicles and mobile plant Inspector's full name	_____ Signature	_____ Date
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Attention: **(Sub-Contractor's Name)**

APPOINTMENT OF SUB-CONTRACTOR IN TERMS OF THE CONSTRUCTION REGULATION 7(c)

I, **(contractor's name)** hereby appoint **(sub-contractor's name)** as the sub-contractor responsible for **(site address)** to carry out the construction work of **(description of construction work)**.

You shall ensure that you meet all the requirements in terms of the Act and in particular in terms of the section 37(2) agreement and the Construction Regulations, 2014. You shall also ensure that all contractors appointed by yourself and reporting to you comply with the requirements as stipulated in the Construction Regulations, 2003.

You shall also ensure that all the information and specifications to ensure that the construction work is carried out in a safe manner are carried over to all contractors appointed and reporting to you.

You shall further ensure that all records, registers and required lists are maintained and that all persons appointed to carry out tasks as stipulated by these regulations are competent and have the necessary resources to complete their tasks effectively in such a manner that health and safety is not in any manner compromised.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

You shall submit a written weekly report on all shortfalls that have not been met in terms of these regulations.

Contractor's Representative full name

Signature

Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(sub-contractor's name)** understand the implications of the appointment as detailed above and confirm my acceptance.

Sub-Contractor's Representative full name

Signature

Date

Attention: **(Construction Manger's Name)**

APPOINTMENT OF THE CONSTRUCTION SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 8(1)

I, **(contractor's name)** hereby appoint **(construction supervisor's name)** as the Supervisor responsible for **(site address)** to carry out the construction work of **(description of construction work and area of responsibility)**.

In terms of this appointment, you are required to ensure that all construction work performed under your supervision is carried out as follows:

1. By persons suitably trained and competent to do such work;
2. That all statutory appointments have been completed;
3. That, where required, health and safety committees are established and that meetings are accordingly held;
4. That all persons are aware and understand the hazards attached to the work being carried out;
5. That the required risk assessments are carried out;
6. That precautionary measures are identified and implemented;
7. That discipline is enforced at the construction site at all times;
8. That all identified statutory requirements are met; and
9. That any other interests in terms of health and safety with respect to the responsible area is met.
10. You will in writing delegate your duties to the Assistant Construction Supervisor while absent from site.

You are required to report any deviations of the above-mentioned instructions to **(contractor's name)**. This appointment is valid from **(date)** to the completion of the stipulated construction work. You shall submit a written weekly report on all shortfalls that have not been met in terms of these regulations.

Contractor's Representative full name

Signature

Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction manager)** understand the implications of the appointment as detailed above and confirm my acceptance.

Construction Manager's full name

Signature

Date

Attention: **(Excavation Work Supervisor's Name)**

APPOINTMENT OF THE EXCAVATION WORK SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 13 (1)(a)

I, **(contractor's name)** hereby appoint **(excavation work supervisor's name)** as the excavation work supervisor responsible for **(site address)** to supervise and carry out all the necessary inspections in terms of all excavation work as per the provided checklist.

You shall ensure that when becoming aware of any health and safety hazards in respect to excavation work that that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor, and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations are at all times met.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

Contractor's representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(excavation work supervisor's full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

Excavation Work Supervisor full name Signature Date

Attention: **(Ladder Inspector's Name)**

APPOINTMENT OF THE LADDER INSPECTOR IN TERMS OF THE GENERAL SAFETY REGULATION 13(A)

I, **(contractor's name)** hereby appoint **(ladder inspector's name)** as the ladder inspector responsible for **(site address)** to manage ladders on site. You should inspect the ladders as per the checklist at least once a week.

You shall ensure that when becoming aware of any health and safety hazards in respect to ladders that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor, and the necessary precautionary measures are taken and enforced.

You shall further ensure that the requirements of the Construction Regulations, 2003 are at all times met.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

Contractor's representative full name Signature Date

Kindly confirm your acceptance of this appointment by completing the following:

I, **(ladder inspector's full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

Ladder inspector's full name Signature Date

Attention: **(Risk Assessor's Name)**

APPOINTMENT OF THE CONSTRUCTION SITE RISK ASSESSOR IN TERMS OF CONSTRUCTION REGULATION 9(1)

I, **(contractor's name)** hereby appoint **(risk assessor's name)** as the construction site risk assessor responsible for **(site address)** to carry out risk assessments prior to the commencement of construction work and any other risk assessment that may be required for the duration of the construction work. You shall ensure that all risks are identified and analysed and that safe working procedures are drafted and implemented to reduce, mitigate or controls the hazards that were identified. You will at least use the risk evaluation program with the provided checklists.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

_____ Contractor's representative full name	_____ Signature	_____ Date
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Kindly confirm your acceptance of this appointment by completing the following:

I, **(construction site risk assessor's name)** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ Construction site Risk Assessor's full name	_____ Signature	_____ Date
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Attention: **(Stacking and Storage Supervisor's Name)**

APPOINTMENT OF THE STACKING AND STORAGE SUPERVISOR IN TERMS OF CONSTRUCTION REGULATION 28 (a)

I, **(contractor's name)** hereby appoint **(stacking and storage supervisor's name)** as the stacking and storage supervisor responsible for **(site address)** to manage all stacking and storage on site. You shall inspect all new stacking and thereafter as often as needed according to the checklist. You shall ensure that when becoming aware of any health and safety hazards in respect to stacking and storage that these hazards are reported in writing to the Construction Health and Safety Officer and Construction supervisor, and the necessary precautionary measures are taken and enforced. You shall further ensure that the requirements of the Construction Regulations are at all times met. On identifying any shortfalls or hazards convey such information in writing to the construction supervisor.

This appointment is valid from **(date)** to the completion of the stipulated construction work.

_____ Contractor's Representative full name	_____ Supervisor	_____ Date
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Kindly confirm your acceptance of this appointment by completing the following:

I, **(stacking and storage supervisor's full name)** understand the implications of the appointment as detailed above and confirm my acceptance.

_____ Stacking and Storage Supervisor's	_____ Signature	_____ Date
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Attention: First Aider

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993), GENERAL SAFETY REGULATIONS 3(4) – FIRST AIDER

I, _____, having been appointed as contemplated in Section 16(2) of the Occupational Health and Safety Act (85 of 1993), hereby appoint you, _____, as First Aider for the _____.

RESPONSIBILITIES

1. Ensure you inspect the contents of the first aid box at least once per month.
2. Ensure all dressing undertaken is recorded on the treatment register.
3. Ensure deviations noted are reported to your supervisor.
4. Ensure the necessary signage is placed to define first aid box placement and responsible first aider's name.

Kindly confirm your acceptance of this appointment and understanding of the duties involved by signing this legal appointment.

Yours faithfully

SECTION 16 (2) APPOINTEE

I accept the appointment as set out above and confirm my understanding of the duties involved.

Signed: _____

Date: _____

Attention: Safety Representative

OCCUPATIONAL HEALTH AND SAFETY ACT (ACT 85 OF 1993)

SECTION 17 – HEALTH AND SAFETY REPRESENTATIVE

I, _____, having been appointed as contemplated in Section 16(2) of the Occupational Health and Safety Act (85 of 1993), hereby appoint you, _____, as Health and Safety Representative, as contemplated in Section 17 of the Occupational Health and Safety Act (85 of 1993).

You are hereby appointed from _____ until _____
as a Health and Safety Representative for the following project: _____.

RESPONSIBILITIES

1. Review the effectiveness of the Health and Safety measures within your area of responsibility;
2. Assess the potential hazards to the Health and Safety of the employees at the workplace;
3. Investigate the causes of incidents and all complaints from the employees relating to their Health and Safety;
4. Inspect the workplace and report on such inspection, and the aspects mentioned in (1), (2) and (3) above, to the employer;
5. Participate in the investigations into incidents, in your designated area as contemplated in Section 18 of the Occupational Health and Safety Act (85 of 1993).

Kindly confirm your acceptance of this appointment and understanding of the duties involved by signing this legal appointment.

Yours faithfully

SECTION 16 (2) APPOINTEE

I accept the appointment as set out above and confirm my understanding of the duties involved.

Signed: _____ Date: _____

CITY OF TSHWANE
WATER AND SANITATION BUSINESS UNIT

CONTRACT NO: WSBU 02 2025/26

TENDER FOR THE APPOINTMENT OF CONTRACTORS FOR THE REPLACEMENT OF DEFICIENT SEWERS WITH COMBINATION OF TRENCHLESS AND CONVENTIONAL METHODS IN THE CITY OF TSHWANE, (AREAS A, B, AND C): THREE (3) YEAR PERIOD, AS AND WHEN REQUIRED

C3.8 REFERENCES TO THE SCOPE OF WORKS IN TERMS OF THE ENVIRONMENTAL MANAGEMENT PLAN

1. INTRODUCTION

The EMP will address the environmental impacts during the design, construction and operational phases of a project. Due regard must be given to environmental protection during the entire road project. In order to achieve this a number of environmental specifications/recommendations are made.

These are aimed at ensuring that the Contractor maintains adequate control over the project in order to -

- Minimise the extent of impact during construction;
- Ensure appropriate restoration of areas affected by construction; and
- Prevent long term environmental degradation.

The contractor must be made aware of the environmental obligations that are stipulated in this document and declares himself/herself to be conversant of all relevant environmental legislation. The Contractor should also be aware that the Engineer will monitor the implementation of the procedures.

2. POLICY STATEMENT

The construction will be to the best management practices as identified to minimize the environmental impact of activities associated with the development.

3. OBJECTIVES OF THE EMP

The EMP has the following goals:

- Identifying those construction activities that may have a detrimental impact on the environment.
- Detailing the mitigation measures that will need to be taken, and the procedures for their implementation.
- Establishing the reporting system to be undertaken during the construction.

The EMP also serves to highlight specific requirements that will be monitored during the development, and should the environmental impacts not have been satisfactory prevented or mitigated; corrective action will have to be taken. The document should, therefore, be seen as a guideline that will assist in minimising the potential environmental impact of activities.

4. DESIGNATED ENVIRONMENTAL OFFICER

For the purpose of the EMP, a nominated representative of the Contractor should be the designated environmental officer for the project. The nominated representative of the Contractor will therefore be responsible for ensuring that the provisions of the EMP are complied with. The

Engineer will be responsible for issuing instructions to the Contractor where environmental considerations call for action to be taken. The environmental officer will submit monthly reports to the Engineer on site who will verify the information.

5. LEGAL REQUIREMENTS

Under normal circumstances and EMP would be the end result or the final stage in the EIA procedure. However, a working agreement was negotiated between the National Department of Environmental Affairs and Tourism (DEAT) and the City of Tshwane Metropolitan Municipality. The agreement stipulates the project types the City of Tshwane Metropolitan Municipality need to submit to DEAT for approval and those project types of the City of Tshwane Metropolitan Municipality do not need to submit for approval. For those actions that do not need approval, the City of Tshwane Metropolitan Municipality undertook to compile generic EMP's to assist to minimising degradation to the area. The following project types fall in this non-approval category: periodic maintenance, special maintenance, rehabilitation and specific upgrades.

6. MITIGATION MEASURES

In setting mitigation measures, the practical implications of executing these measures must be borne in mind. With early planning, both the cost and the impacts can be minimised.

6.1 Establishment of site offices

6.1.1 Site plan

The Contractor shall provide the Engineer on site with a plan detailing the layout of site offices facilities, such as chemical toilets, areas for stockpiling of material, storage of hazardous materials and provision of containers. The site offices should not be sited in close proximity to steep areas as this will increase soil erosion. Preferred locations would be flat areas along the route. If the route traverses water courses, streams and rivers, it is recommended that the site, and in particular the ablution facilities, aggregate stockpiles and hazardous material stockpiles are located as far away as possible from any water course as possible.

The site plan shall be submitted before the site hand over meeting. Read with Standard Specifications for Municipal Civil Engineering Works: Section 001 and 002.

6.1.2 Vegetation

The vegetation surrounding the site offices is to be left as intact as possible and vegetation planted at the site should be indigenous. Only trees directly affected by the works and such others as may be indicated by the Engineer in writing, may be sawn off/removed.

The project specification for the rehabilitation of the grass cover shall be strictly adhered to. Any proclaimed weed or alien invader plant shall be cleared by hand before seeding. Read with Specifications: 104 – Landscaping and grassing.

6.1.3 Rehabilitation

The site offices will require rehabilitation at the end of the contract. All construction material, including concrete slabs and braai areas are to be removed from the site on completion of the contract. Read with Specifications Sections 001, 002 and 104.

6.1.4 Water for human consumption

Water for human consumption must be tested and treated in accordance with recommendations.

6.2 Sewage treatment

Adequate toilet facilities are to be provided. Use of the veld for this purpose shall not, under any circumstances, be allowed. The Contractor shall be entirely responsible for enforcing their use and for maintaining such latrines in a clean, orderly and sanitary condition to the satisfaction of the Engineer. Latrines shall be positioned within walking distance from wherever employees are employed on the works.

Save and effective sewage treatment will require one of the following sewage handling methods: septic tanks and soak away, dry composting toilets such as “enviro loos”, or the use of chemical toilets which are supplied and maintained by a subcontractor. The type of sewage treatment will depend on the geology of the area selected, the duration of the contract and proximity (availability) of providers of chemical toilets is to be done in consultation with the Site Engineer.

Read with Specifications 104.

6.3 Waste management

Waste management and waste minimisation must be implemented at the outset of the contract.

6.3.1 Litter

No littering by construction workers is allowed. During the construction period, the facilities shall be maintained in a neat and tidy condition and the site is to be kept free of litter. Read with Specifications Sections 001 and 002.

6.3.2 Removal of solid waste

Solid waste is to be stored in an appointed area for collection and disposal. A refuse control system must be established for the collection and removal of refuse to the satisfaction of the

Engineer. Disposal of solid waste will be in a Department of Water Affairs and Forestry (DWAF) licensed landfill site.

6.3.3 Hazardous waste

Hazardous waste such as bitumen, tar, oils, etc. shall be disposed of in a Department of Water Affairs and Forestry approved landfill site. Special care must be taken when using tar products such as tar prime or pre-coating fluid to avoid water-soluble phenols from entering the ground or contaminating water.

6.4 Soil management

6.4.1 Topsoil

The contract provides for the stripping and stockpiling of topsoil from the site for later reuse. Topsoil is considered to be of a minimum thickness of ± 300 mm of the natural soil, including all the vegetation and organic matter. The areas to be cleared of topsoil shall include the storage areas. Weeds appearing on the stockpiled topsoil shall be removed by hand before seeding. Soils contaminated by hazardous substances shall be disposed of in an approved Department of Water Affairs and Forestry waste disposal site.

6.4.2 Borrow material

The Contractor's attention is drawn to the requirements set forth by the Department of Mineral and Energy Affairs in terms of the submission of EMPR's for establishment, operation and rehabilitation of borrow pits and quarries. The cost of complying with the requirements shall be deemed to be included in existing rates in the schedule of quantities. Read with the Specification Section 203.

6.5 Discovery of archaeological sites, artefacts or graves.

6.5.1 Archaeological site

If an artefact on site is uncovered, work in the immediate vicinity must be stopped immediately. The Contractor shall take reasonable precautions to prevent any person from removing or damaging any such article and shall immediately upon discovery thereof inform the Engineer of such discovery. The National Monuments Council must be contacted who will appoint and archaeological consultant. Work may only resume once clearance is given in writing by the archaeologist. Read with General Conditions of Contract.

6.5.2 Graves

If a grave on site is uncovered, work in the immediate vicinity must be stopped and an undertaker as well as the National Monuments Council should be contacted. The undertaker

will place advertisements in the newspapers concerning the grave. He will also provide for the relocation of bones, should it be necessary. Read with General Conditions of Contract.

6.6 Stockpiled material

The Contractor shall so plan his activities that materials excavated from borrow pits and cuttings, in so far as possible, can be transported direct to and placed at the point where it is to be used. However, should temporary stockpiling become necessary, the areas for the stockpiling of excavated and imported material must be indicated and demarcated on the site plan and approved in writing by the Engineer.

The area chosen shall be devoid of indigenous trees and shrubs. Care shall be taken to preserve all vegetation in the immediate area of these temporary stockpiles. After the stockpiled material has been removed, the site shall be reinstated as closely as possible to its original condition. All areas affected by stockpiling shall be landscaped, top soiled and grassed to the Engineer's approval and at the Contractor's cost.

Material milled out of the existing road surface that is temporarily stockpiled within the road reserve shall:

- be stockpiled so as to be as inconspicuous as possible;
- be prevented from contaminating water courses; and
- be cleared of weeds.

In all cases, the areas for stockpiling and disposal of construction rubble shall be approved by the Engineer before such operation commences.

Read with Series 2: Earthworks – Section 203.

6.7 Fuel, diesel and other hazardous materials

6.7.1 Hazardous materials

All hazardous materials i.e., bitumen binders shall be stored in an appointed area that is fenced and has restricted entry. Storage of bituminous products shall only take place using suitable containers to the approval of the Engineer.

Under no circumstances shall the spoiling of bituminous products on the site, over embankments, in borrow pits or any burying, be allowed. Unused or rejected bituminous products shall be taken to the supplier's production plant. No spillage of bituminous products shall be allowed on site. Affected areas shall be promptly reinstated to the satisfaction of the Engineer.

6.7.2 Fuel

Should any fuel storage tank be required on site, the Contractor shall ensure that he has complied with the necessary legal requirements for the erection of such tanks. Leakage must be avoided. The fuel and diesel areas should be bonded to accommodate any spillage or overflow from these activities.

6.7.3 Oil, grease

Oil, grease and cleaning materials from the maintenance of vehicles and machinery shall be collected in a sump and sent back to the supplier or otherwise disposed of at a registered site.

6.7.4 Cooking oil

The Contractor should ensure that sufficient fuel is available for heating and cooking purposes should this be necessary.

6.7.5 Spillages

Streams, rivers and dams must be protected from direct or indirect spillage of pollutants such as refuse, garbage, cement, concrete, sewage, chemicals, fuels, oils, aggregate, tailings, wash water, organic materials and bituminous products. In the event of a spillage, prompt action must be taken by competent instances to clear the affected area.

6.8 General considerations

Complaints received regarding activities on the construction site pertaining to the environment shall be recorded in a designated register and the response noted with the date and action taken. This record must be submitted with the monthly reports.

Any avoidable non-compliance with the above-mentioned measures may be considered sufficient ground for withholding payment of part or all amounts to be paid for the said item.

7. MEASUREMENT AND PAYMENT

The Contractor shall not be separately reimbursed or compensated in respect of his compliance with the provisions of this part of the Scope of Works. All costs so incurred shall, save and except to the extent provided for the schedule of quantities under SECTION 001: GENERAL REQUIREMENTS AND CHARGES, be deemed to be included in the rates tendered for the various items of work listed in the schedule of quantities.

TABLE 1 SUMMARY OF MITIGATION MEASURES

ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
<i>Establishment of site offices</i>	<i>Positioning of offices</i>	<i>Preferred areas would be flat areas along the route. Avoid steep areas as soil erosion could increase. Avoid water courses</i>	001 002.02.01
	<i>Site Plan</i>	<i>Contractor will provide engineer detail of layout of site facilities within two weeks of moving to the site ie chemical toilets, the demarcation of areas for stockpiling of materials, storage of hazardous materials and the provision of containers. The offices shall be fenced. The site plan will be submitted before the site hand over meeting.</i>	001 002
<i>Site rehabilitation</i>	<i>Cleanup</i>	<i>All construction material is to be removed from the site on completion of the contract.</i>	001 002 104
<i>Vegetation</i>	<i>On site</i>	<i>Vegetation planted on the site should be indigenous. Only trees directly affected by works as indicated in writing by Engineer, shall be sawn off/removed</i>	104
	<i>Weeds</i>	<i>Clearance of weeds must be done by hand before seeding.</i>	104
	<i>Grass cover</i>	<i>The grass cover surrounding the construction site is to be left as intact as possible or restored to its original condition.</i>	104
<i>Water</i>	<i>Available for human consumption</i>	<i>Water for human consumption must be tested and treated in accordance with recommendations.</i>	
<i>Soil management</i>	<i>Topsoil</i>	<i>The topsoil ($\pm$ 300 mm) of any excavation shall be removed and stockpiled separately from underlying material in an appointed area</i>	203 104

ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
	<i>Borrow material</i>	<i>EMPR's for borrow pits to be submitted to the Department of Mineral and Energy Affairs for approval</i>	201 203
<i>Archaeological & Cultural sites</i>	<i>Discover of archaeological sites of artefacts</i>	<i>If an artefact on site is uncovered, work in the immediate vicinity must be stopped immediately and an archaeological consultant must be contacted. Work may only resume once clearance is given in writing by the archaeologist.</i>	GCC
<i>Graves</i>	<i>Discovery of graves</i>	<i>If a grave on site is uncovered, work in the immediate vicinity must be stopped and an undertaker should be contacted</i>	GCC
<i>Waste management</i>	<i>Solid & Construction waste</i>	<i>Solid waste is to be stored in an appointment area for collection and disposal. Disposal of waste will be in a DWAF licensed landfill, and no waste may be burnt on site.</i>	
	<i>Litter</i>	<i>The site is to be kept free of litter</i>	001
<i>Sewage treatment</i>	<i>Toilet facilities</i>	<i>Adequate toilet facilities are to be provided, and the positioning of chemical toilets is to be done in consultation with the site engineer. Use of the veld for this purpose shall not be allowed.</i>	001 002
<i>Fuel, diesel & hazardous materials</i>	<i>Hazardous Materials</i>	<i>All hazardous materials ie bitumen binders will be stored in an appointed area that is fenced and has restricted entry. No spoiling of bituminous products on site, over embankments, in borrow pits or any burning. No spillage of bituminous products shall be allowed on site.</i>	
	<i>Fuels</i>	<i>All fuel tanks will be stored in an appointed area. Leakage will be avoided.</i>	

ENVIRONMENTAL COMPONENT	ACTIVITY	MITIGATION	RELEVANT SECTION IN SPECIFICATIONS
	<i>Cooking fuel</i>	<i>The Contractor should ensure that sufficient fuel is available for heating and cooking purposes should this be necessary.</i>	
	<i>Oil, grease</i>	<i>Oil, grease and cleaning materials from maintenance of vehicles shall be collected in a sump and sent back to supplier.</i>	
	<i>Spillages</i>	<i>Streams, rivers or dams must be protected against spillages of pollutants mentioned in 6.7 (e). In the event of a spillage, prompt action must be taken to clear the affected area.</i>	
<i>General considerations</i>	<i>Lines of authority</i>	<i>A nominated representative of the contractor will be the designated environmental officer for the site.</i>	RELEVANT SECTION IN SPECIFICATIONS
	Reports	The environmental officer will submit monthly reports to the Engineer who will verify the information	
	Complaints	Complaints received regarding activities on the construction site pertaining to the environment should be recorded in a designated register, and the response noted with the date and action taken. This record must be submitted with the monthly report	