

# TENDER NO. 104Q/2021/22



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

SCM – 516 | Approved by Branch Manager: 03/04/2020

Version: 5

Page 1 of 272

## FRAMEWORK CONTRACT DOCUMENT (PANEL TYPE)

FOR THE

## TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**Framework Contract Period:** 36 Months from Commencement Date

**Works Projects:** Not exceeding R9 000 000

## VOLUME 1: TENDERING PROCEDURES

### NOTE:

- The Form of Offer and Acceptance (C1.1) is on **page 62** of this document
- Table 1: Preference Schedule (B-BBEE contribution) is on **page 60** of this document

<b>ISSUED BY:</b>	<b>COMPILED BY:</b>	<b>For official use.</b>
<b>DIRECTOR: WATER AND WASTE: DIRECTORATE</b> Tower Block, Civic Centre 12 Hertzog Boulevard CAPE TOWN 8001	<b>VUYO JAMES</b> <b>WATER AND SANITATION</b> <b>CITY OF CAPE TOWN</b> 3rd Floor, Water and Sanitation Cnr of Mike Pienaar Boulevard & Voortrekker Road, Bellville 7530	<b>TENDER SERIAL No.:</b>
		<b>SIGNATURES OF CITY OFFICIALS AT TENDER OPENING</b>
		1.
		2.
		3.

October 2021

<b>NAME OF TENDERING ENTITY</b>	
<b>EMAIL ADDRESS OF TENDERING ENTITY</b>	
<b>FAX NUMBER OF TENDERING ENTI</b>	
<b>NATURE OF TENDER OFFER (please indicate below)</b>	
<b>Main Offer (see clause C.2.12)</b>	
<b>Alternative Offer (see clause C.2.12)</b>	

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE

## General Tender Information

TENDER ADVERTISED	:	22 October 2021
CIDB CONTRACTOR GRADING DESIGNATION	:	7CE or higher
SITE VISIT/CLARIFICATION MEETING	:	10h00 on 29 October 2021 (Not compulsory, but strongly recommended)
VENUE FOR SITE VISIT/CLARIFICATION MEETING	:	A virtual clarification meeting will be conducted via Skype. Please send an email to Vuyo.James@capetown.gov.za for the link to the virtual meeting prior to the meeting date and time
CLOSING DATE	:	22 November 2021
CLOSING TIME	:	10h00
TENDER BOX & VENUE	:	<b>Tender Box 149</b> at the <b>Tender &amp; Quotation Box Office</b> , 2 <sup>nd</sup> Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.

The Tender Document (which includes the Form of Offer and Acceptance) completed in all respects, plus any additional supporting documentation required, must be submitted in a sealed envelope with the name and address of the tenderer, the tender No. and title, the tender box No. and the closing date indicated on the envelope. The sealed envelope must be inserted into the appropriate official tender box before closing time.

If the tender offer is too large to fit into the abovementioned box or the box is full, please enquire at the public counter (Tender Distribution Office) for alternative instructions. The onus remains with the tenderer to ensure that the tender is placed in either the original box or as alternatively instructed.

**TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT  
REFERS TO ANY PARTICULAR TRADE MARK, NAME, PATENT,  
DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH  
REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE  
WORDS 'OR EQUIVALENT'**

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

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**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

## **T1.1 Tender Notice and Invitation to Tender**

The **CITY OF CAPE TOWN**, DIRECTORATE: WATER AND WASTE, invites tenders for Tender No. **104Q/2021/22: TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE.**

Tenderers must be registered on Supplier Databases as described in the tender conditions.

Tenderers who are not registered on these Databases are not precluded from submitting tenders, but must however be registered upon being requested to do so in writing and within the period contained in such a request.

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

Preferences are offered to tenderers who tender in accordance with the Preferential Procurement Regulations, 2017. Furthermore, in terms of these Regulations, tenderers are required to meet the pre-qualification criteria as defined in C.2.1.4.3 and C.2.1.4.4 of the Tender Data

Bids must be compliant with the Preferential Procurement Regulations, 2017 including but not limited to local content, functionality, price and preference, eligibility criteria and relevant statutory criteria. The details of this are contained in the tender document.

Only locally produced or manufactured goods, meeting the stipulated minimum threshold for local production and content, will be considered.

The physical address for collection of tender documents is:

**Tender Distribution Office**, 2<sup>nd</sup> Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.

Documents may be collected during working hours between 08:30 – 15:00 from **22 October 2021**.

A non-refundable fee of R300.00 is required on collection of the tender document by Cash or EFT

Queries relating to any issues in these documents may be addressed to Mr V James, Tel No. 021 400 5731, e-mail [vuyo.james@capetown.gov.za](mailto:vuyo.james@capetown.gov.za).

A non-compulsory but strongly recommended clarification meeting with representatives of the Employer will be held on **29 October 2021 at 10h00** via Skype. Please send an email to [vuyo.james@capetown.gov.za](mailto:vuyo.james@capetown.gov.za) for the link to the virtual meeting prior to the meeting date and time. Skype for Business will be the platform for virtual meeting).

The closing time for receipt of tenders is **10:00 on 22 November 2021**.

Telegraphic, telephonic, telex, facsimile, e-mail and late tenders will not be accepted.

Tenders may only be submitted on the tender documentation that has been issued. Printed Schedules of Rates, in the same format (that is, layout, scheduled items, units and quantities, if applicable) as those issued electronically by the Employer upon request, may be submitted as stated in the Tender Data.

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

A non-compulsory but strongly recommended clarification meeting with representatives of the Employer will be held on **29 October 2021 at 10h00** via Skype. Please send an email to [yuyo.james@capetown.gov.za](mailto:yuyo.james@capetown.gov.za) for the link to the virtual meeting prior to the meeting date and time. Skype for Business will be the platform for virtual meeting

**CITY OF CAPE TOWN  
DIRECTORATE: WATER AND WASTE  
CONTRACT NO. 104Q/2021/22  
TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE**

**LOCALITY PLAN – SITE VISIT/CLARIFICATION MEETING VENUE**

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## T1.2 Tender Data

The conditions of tender for the Framework Contract are the Standard Conditions of Tender as contained in Annex C of Government Gazette No. 42622 of 8 August 2019, Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement. (see [www.cidb.org.za](http://www.cidb.org.za)) which are reproduced without amendment or alteration for the convenience of tenderers as an Annex to this Tender Data.

The Standard Conditions of Tender make several references to the Tender Data for details that apply specifically to this tender. The Tender Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the standard conditions of tender. Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

**The following variations, amendments and additions to the Standard Conditions of Tender as set out in the Tender Data below shall apply to this tender:**

**Clause number    Tender Data**

### **C.1            General**

**C.1.1        Actions**

**C.1.1.1      *Add the following:***

**The parties agree that this tender, its evaluation and acceptance and any resulting contract shall also be subject to the Employer's Supply Chain Management Policy ('SCM Policy') that was applicable on the date the bid was advertised. Please refer to this document contained on the Employer's website.**

**Abuse of the supply chain management system is not permitted and may result in the tender being rejected, cancellation of the contract, restriction of the supplier, and/or the exercise by the Employer of any other remedies available to it as described in the SCM Policy.**

The Employer is the City of Cape Town, represented by the Director: DISTRIBUTION SERVICES.

In addition to the above, the following further documents are part of the tender:

**VOLUME 4:**        Drawings (listed in C3.2 Engineering and, if applicable, in each Works Project)

**VOLUME 5 :** The General Conditions of Contract for Construction Works, Third Edition, 2015, prepared by the South African Institution of Civil Engineering (SAICE). This publication is available and tenderers must obtain copies at their own cost from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House 1685, Tel: (011) 805 5947, Fax: (011) 805 5971, e-mail: [civilinfo@saice.org.za](mailto:civilinfo@saice.org.za).

**VOLUME 6 :** The SANS Standardised Specifications for Civil Engineering Construction prepared by Standards South Africa. These publications are available and tenderers must obtain copies at their own cost from Standards South Africa, Private Bag X191, PRETORIA, 0001.

Volumes 5 and 6 may also be inspected, by appointment, at the offices of the Employer's agent during normal office hours.

**VOLUME 7:** The Works Project contract document (this is a separate document to be issued for each Works Project)

### C.1.3 Interpretation

*Add the following to F.1.3.3:*

- C.1.3.3 g) **framework contract** means the Framework Contract defined in Part C1.2 Contract Data
- h) **panel** means Panel defined in Part C1.2 Contract Data
- i) **Works Project** means Works Project defined in Part C1.2 Contract Data.

### C.1.4 Communication and employer's agent

*Delete the first sentence of the clause and replace with the following:*

Verbal or any other form of communication, from the Employer, its employees, agents or advisors during site visits/clarification meetings or at any other time prior to the award of the Contract, will not be regarded as binding on the Employer, unless communicated by the Employer in writing to suppliers by its Director: Supply Chain Management or his nominee.

The Employer's agent is:

Name: Mr V James (Senior Professional Officer – Water and Waste: Water and Sanitation Services)  
Address: City of Cape Town, 8 Voortrekker road, Bellville, 7535  
Tel: 021 400 5603  
E-mail: [vuyo.james@capetown.gov.za](mailto:vuyo.james@capetown.gov.za)

### C.1.5 Cancellation and Re-Invitation of Tenders

*Delete the fullstop at the end of C.1.5.1 d) and replace with ,  
Add the following after C.1.5.1 d):*

- e) the parties are unable to negotiate market related pricing.

### C.1.6 Procurement procedures

#### C.1.6.1 General

*Add the following:*

For the purposes of this tender, four regions within the City of Cape Town municipal area have been identified and are outlined in the table below.

The Employer intends to appoint a panel of three (3) tenderers, but reserves the right to appoint fewer tenderers to a panel, or not to appoint a panel at all.

Please refer to C.3.11.1 c for manner in which award would be made.

Contractors, once appointed and subject to operational requirements, will be invited to execute the Works by means of Works Projects citywide.

Each Works Project shall not exceed R9 000 000 (including contingencies and VAT, but excluding contract price adjustment, if applicable).

The framework contract period shall be for a period of **three years** from the commencement date of the contract, as stated in Part C1.2 Contract Data.

#### C.1.6.2 Competitive negotiation procedure

*Add the following to C.1.6.2:*

A competitive negotiation procedure will not be followed.

#### C.1.6.3 Proposal procedure using the two-stage system

*Add the following to C.1.6.3:*

A two-stage system will not be followed.

*Add the following after C.1.6.3.2.2*

#### C.1.6.4 Nomination of Alternative Bidder

Alternative Bidder means a bidder, identified at the time of awarding a bid, that will be considered for award should the contract be terminated for any reason whatsoever. In the event that a contract is terminated during the execution thereof, the CCT may consider the award of the contract, or non-award, to the alternative bidder in terms of the procedures included its SCM Policy.

- C.1.6.5 **Objections, complaints, queries and disputes/ Appeals in terms of Section 62 of the Systems Act/ Access to court**
- C.1.6.5.1 **Disputes, objections, complaints and queries**  
 In terms of Regulations 49 and 50 of the Local Government: Municipal Finance Management Act, 56 of 2003 – Municipal Supply Chain Management Regulations (Board Notice 868 of 2005):
- a) Persons aggrieved by decisions or actions taken by the City of Cape Town in the implementation of its supply chain management system, may lodge within 14 days of the decision or action, a written objection or complaint or query or dispute against the decision or action.
- C.1.6.5.2 **Appeals**
- a) In terms of Section 62 of the Local Government: Municipal Systems Act, 32 of 2000 a person whose rights are affected by a decision taken by the City, may appeal against that decision by giving written notice of the appeal and reasons to the City Manager within 21 days of the date of the notification of the decision.
  - b) An appeal must contain the following:
    - i) Must be in writing
    - ii) It must set out the reasons for the appeal
    - iii) It must state in which way the Appellant's rights were affected by the decision;
    - iv) It must state the remedy sought; and
    - v) It must be accompanied with a copy of the notification advising the person of the decision
  - c) The relevant City appeal authority must consider the appeal and **may confirm, vary or revoke** the decision that has been appealed, but no such revocation of a decision may detract from any rights that may have accrued as a result of the decision.
- C.1.6.5.3 **Right to approach the courts and rights in terms of Promotion of Administrative Justice Act, 3 of 2000 and Promotion of Access to Information Act, 2 of 2000**  
 The sub- clauses above do not influence any affected person's rights to approach the High Court at any time or its rights in terms of the Promotion of Administrative Justice Act and Promotion of Access to Information Act.
- C.1.6.5.4 All requests referring to sub clauses C.1.6.5.1 and C.1.6.5.2 must be submitted in writing to:  
**The City Manager** - C/o the Manager: Legal Compliance Unit, Legal Services Department, Corporate Services Directorate  
**Via hand delivery at:** 20<sup>th</sup> Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001  
**Via post at:** Private Bag X918, Cape Town, 8000  
**Via fax at:** 021 400 5963 or 021 400 5830  
**Via email at:** [MSA.Appeals@capetown.gov.za](mailto:MSA.Appeals@capetown.gov.za)
- C.1.6.5.5 All requests referring to clause C.1.6.5.2 3 must be submitted in writing to:  
**The City Manager** - C/o the Manager: Access to Information Unit, Corporate Services Directorate  
**Via hand delivery at:** 20<sup>th</sup> Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001  
**Via post at:** Private Bag X918, Cape Town, 8000  
**Via fax at:** 086 202 9982  
**Via email at:** [Access2info.Act@capetown.gov.za](mailto:Access2info.Act@capetown.gov.za)
- C.1.7 **City of Cape Town Supplier Database Registration**  
 Tenderers are required to be registered on the CCT Supplier Database as a service provider. Tenderers must register as such upon being requested to do so in writing and within the period contained in such a request, failing which no orders can be raised or payments processed from the resulting contract. In the case of Joint Venture partnerships this requirement will apply individually to each party of the Joint Venture.
- Tenderers who wish to register on the City of Cape Town's Supplier Database may collect registration forms from the Supplier Management Unit located within the Supplier Management / Registration Office, 2<sup>nd</sup> Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5). Registration forms and related information are also available on

the City of Cape Town's website [www.capetown.gov.za](http://www.capetown.gov.za) (follow the Supply Chain Management link to Supplier registration).

C.1.8

**National Treasury Web Based Central Supplier Database (CSD) Registration**

Tenderers are required to be registered on the National Treasury Web Based Central Supplier Database (CSD) as a service provider. Tenderers must register as such upon being requested to do so in writing and within the period contained in such a request, failing which no orders can be raised or payments processed from the resulting contract. In the case of Joint Venture partnerships this requirement will apply individually to each party of the Joint Venture.

Tenderers who wish to register on the National Treasury Web Based Central Supplier Database (CSD) may do so via the web address <https://secure.csd.gov.za>.

It is each tenderer's responsibility to keep all the information on the National Treasury Web Based Central Supplier Database (CSD) updated.

## C.2 Tenderer's obligations

### C.2.1.1 *Delete the clause and replace with the following:*

Tenderers must submit a tender offer that complies in all aspects to the conditions as detailed in this document. Only those tenders that comply in all aspects with the tender conditions, specifications, pricing instructions and contract conditions will be declared responsive.

### *Add the following after C.2.1.2:*

### C.2.1.3 Only those tender submissions from which it can be established that a clear and unambiguous offer has been made to Employer, by whom the offer has been made and what the offer constitutes, will be declared responsive.

### *Add the following to F.2.1.1:*

### C.2.1.4 Only those tenderers who satisfy the following criteria will be declared responsive:

#### C.2.1.4.1 **Construction Industry Development Board (CIDB) Registration**

Only those tenderers who are registered with the CIDB, or capable of being so prior to the evaluation of submissions, in a contractor grading designation equal to or higher than a 7CE contractor grading designation, are eligible to have their tenders evaluated.

Joint Ventures are eligible to submit tenders provided that:

- a) every member of the joint venture is registered with an active status with the CIDB;
- b) the lead partner has a contractor grading designation of not lower than one level below the required grading designation in the CE class of construction work; and
- c) the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a 7CE contractor grading designation.

Notwithstanding the above, tenderers who are capable of being so registered with an active status with the CIDB prior to the evaluation of submissions may be evaluated at the sole discretion of the Employer (the evaluation of tenders takes place when the Employer's Bid Evaluation Committee meets to make a final recommendation to the Bid Adjudication Committee).

For alpha-numeric associated with the contractor Grading Designations see Annex G attached.

#### C.2.1.4.2 **Compliance with requirements of CCT SCM Policy and procedures**

Only those tenders that are compliant with the requirements below will be declared responsive:

- a) A completed **Compulsory Enterprise Questionnaire** to be provided (applicable schedule to be completed);
- b) A completed **Certificate of Authority for Partnerships/ Joint Ventures/ Consortiums** to be provided authorising the tender to be made and the signatory to sign the tender on the partnership /joint venture/consortium's behalf (applicable schedule to be completed);
- c) A copy of the partnership / joint venture / consortium agreement to be provided;
- d) A completed **Declaration of Interest – State Employees** to be provided and which does not indicate any non-compliance with the legal requirements relating to state employees (applicable schedule to be completed);
- e) A completed **Declaration – Conflict of Interest** and **Declaration of Bidder's past Supply Chain Management Practices** to be provided and which does not indicate any conflict or past practises that renders the tender non-responsive based on the conditions contained thereon (applicable schedules to be completed);
- f) A completed **Certificate of Independent Bid Determination** to be provided and which does not indicate any non-compliance with the requirements of the schedule (applicable schedule to be completed);
- g) The tenderer (including any of its directors or members), has not been restricted in terms of abuse of the Supply Chain Management Policy;
- h) The tenderer's tax matters with SARS are in order, or the tenderer is a foreign supplier that is not required to be registered for tax compliance with SARS;
- i) The tenderer is not an advisor or consultant contracted with the Employer whose prior or current obligations creates any conflict of interest or unfair advantage;
- j) The tenderer is not a person, advisor, corporate entity or a director of such corporate entity, involved with the bid specification committee;
- k) A complete Authorisation for the Deduction of Outstanding Amount Owed to the City of Cape Town to be provided and which does not indicate any details that renders the tender non-responsive based on the conditions contained thereon (applicable schedules to be completed);
- l) The tenderer (including any of its directors or members), has not been found guilty of contravening the Competition Act 89 of 1998, as amended from time to time;
- m) The tenderer (including any of its directors or members), has not been found guilty on any other basis listed in the SCM Policy.

#### C.2.1.4.3 Eligibility

##### Registered Asbestos Contractor with the Department of Labour

Only those tenderers who are registered with the Department of Labour (DoL) in accordance with Asbestos Regulations GNR. 155 are eligible to have their tender evaluated.

Tenderers must supply their proof of registration certificate as Asbestos contractors together with their tender submissions. Tenderers will be declared non-responsive if they fail to submit their submission.

#### C.2.1.4.4 Minimum score for functionality

In order to be considered for a contract in terms of this tender, tenderers must achieve the minimum score for functionality as stated below.

The description of the functionality criteria and the maximum possible score for each is shown in the table below. The score achieved for functionality will be the sum of the scores achieved, in the evaluation process, for the individual criteria.

Item No.	Description		
1.	<b>Tendering entity has experience in the rehabilitation of gravity sewers by means of trenchless technology:</b>	<b>Required years</b>	<b>Scores</b>
1.1	Specifically the Cured In Place Pipe (CIPP) Lining method for various pipeline diameters up to 450 mm between two existing manholes at various spacing including 80m or more apart (Refer to Schedule 9)	More than 5 years	15
		More than 3 to 5 years	10
		1 to 3 years	5
		Less than 1 year	0
2	<b>Tenderer has the following key personnel in its permanent employment</b>	<b>Required years</b>	<b>Scores</b>
2.1	<b>Contract Manager:</b> Years of verifiable experience in Contract Management related field, (Refer to Schedule 12)	More than 5 years	10
		More than 1 to 5 years	6
		Less than 1 year	0
2.2	<b>Site Agent:</b> Years of verifiable experience as a Site Agent for Trenchless Rehabilitation, which utilised Cured In Place Pipe (CIPP) Lining technology projects (Refer to Schedule 12)	More than 5 years	15
		More than 3 to 5 years	10
		1 to 3 years	5
	Less than 1 year	0	
<b>Maximum possible score for Functionality</b>		<b>40</b>	

The minimum score for functionality is **24**. Tenderers that fail to achieve the minimum score for functionality will be declared as non-responsive.

Only the personnel submitted on Schedule 12 will be evaluated for responsiveness. The Curriculum Vitae must be submitted, confirming experience required for this tender. The Contract Manager and the Site Agent cannot be the same person.

Where the entity tendering is a Joint Venture the tender must be accompanied by a statement describing exactly what aspects of the work will be undertaken by each party to the joint venture (appended to Schedule 3, Part T2.2: Returnable Schedules).

#### C.2.1.4.5 Local Content

The City promotes the procurement of goods manufactured by local suppliers. The Department of Trade and Industry and National Treasury has identified specific designated sectors which require local content compliance. The current designated sectors are listed below:

Note: All to be listed including the date that the relevant Sector became effective.

Tenderers are required to ensure that they comply with these designated Sector requirements by ensuring that the products provided to the City are locally manufactured. Failure to meet the minimum stipulated threshold for local production and content will result in a bid being declared non-responsive.

Further details of designated sectors are available on [http://www.thedti.gov.za/industrial\\_development/ip.jsp](http://www.thedti.gov.za/industrial_development/ip.jsp) and [http://ocpo.treasury.gov.za/Buyers\\_Area/Legislation/Pages/Practice-Notes.aspx](http://ocpo.treasury.gov.za/Buyers_Area/Legislation/Pages/Practice-Notes.aspx)

**In addition to the above:**

- a) The supplier shall study the terms and conditions as stated in the **Local Content Declaration / Annexure C** returnable schedule.
- C.2.1.4.5.1 The stipulated minimum threshold percentages for local production and content for the **Plastic Pipes and Fittings** ("the designated sector") is **100%** and will include all sub-sectors from the applicable National Treasury Instruction Note.
- C.2.1.4.5.2 Only tenders with locally produced or locally manufactured raw material or input will be considered. If the raw material or input to be used for a specific item is not available locally, bidders should obtain written authorisation from the Department of Trade and Industry (DTI) (Chief Director: Industrial Procurement, tel. 012 394 3927 and fax 012 394 4927) should there be a need to import such raw material or input.
- C.2.1.4.5.3 A copy of the authorisation letter must be submitted together with the bid document at the closing date and time of the bid.
- C.2.1.4.5.4 The Employer is obliged and must ensure that contracts for **the designated sector** are awarded at prices that are market related taking into account, among others, benchmark prices designated by the DTI for the sector, value for money and economies of scale. Where appropriate, prices may be negotiated with preferred bidders in accordance with provisions for Negotiation with Preferred Bidders as set out in the City of Cape Town SCM Policy.
- C.2.1.4.5.5 A bid will be declared non-responsive / disqualified if the **Local Content Declaration / Annexure C** returnable schedule as well as the authorisation letter referred to above (if applicable) are not submitted as part of the bid documentation at the closing date and time of the bid.
- C.2.1.4.5.6 For further information relating to the local production and content legislation, bidders may refer to website [http://www.thedti.gov.za/industrial\\_development/ip.jsp](http://www.thedti.gov.za/industrial_development/ip.jsp), or may contact the Chief Director: Industrial Procurement at the DTI at telephone number (012) 394 3927 and fax (012) 394 4927, the Director: Fleet Procurement, Ms Cathrine Matidza, at telephone number (012) 394 3927 and e-mail [CMatidza@thedti.gov.za](mailto:CMatidza@thedti.gov.za), or the DTI Contact Centre no 0861 843384.

**C.2.1.4.7 Good standing with Bargaining Council**

Only those tenders submitted by tenderers who are in good standing with the **Bargaining Council for the Civil Engineering Industry (BCCEI) or any Other Relevant Bargaining Council** at the time of the tender award will be declared responsive. Tenderers must attach such proof to the schedule titled **Declaration in Respect of Compliance with Labour Legislation** or obtain such upon being requested to do so in writing and within the period contained in such a request, failing which their tenders will be declared non-responsive.

**C.2.3 Check documents**

*Delete the clause and replace with the following:*

The Tenderer should check the tender documents on receipt for completeness, missing or duplicated pages, indistinct figures or writing and any obvious errors. The Tenderer must notify the Employer's agent at once of any such problems identified

**C.2.7 Clarification meeting**

*Add the following:*

The arrangements for the site visit/clarification meeting are as stated on the General Tender Information page and in the Responsiveness Criteria (if applicable).

Tenderers should be represented at the site visit/clarification meeting by a person who is suitably qualified and experienced to comprehend the implications of the work involved.

**C.2.8 Seek Clarification**

*Add the following after the first sentence:*

The tenderer warrants that it has:

- a) inspected the Specifications and read and fully understood the Conditions of Contract.
- b) read and fully understood the whole text of the Specifications and Price Schedule and thoroughly acquainted itself with the nature of the goods proposed and generally of all matters which may influence the Contract.

- c) visited the site(s) where delivery of the proposed works will take place, carefully examined existing conditions, the means of access to the site(s), the conditions under which the delivery is to be made, and acquainted itself with any limitations or restrictions that may be imposed by the Municipal or other Authorities in regard to access and transport of materials, plant and equipment to and from the site(s) and made the necessary provisions for any additional costs involved thereby.
- d) requested the Employer to clarify the requirements contained in the Specifications and Price Schedule, the exact meaning or interpretation of which is not clearly intelligible to the tenderer.
- e) received any notices to the tender documents which have been issued in accordance with the Employer's SCM Policy.

The Employer will therefore not be liable for the payment of any extra costs resulting from any claim submitted by the tenderer arising from any alleged ambiguity or uncertainty contained in the tender document.

**C.2.10 Pricing the tender offer**

*Add the following at the end of C.2.10.2:*

C.2.10.2 (only applicable in respect of Works Projects).

*Add the following new sub-clause after C.2.10.4:*

C.2.10.5 Provide rates for the items specified in Part C2.2 Schedules of (refer to C.1.6.1). If a nil rate (i.e. "nil" or "0.00" or no rate) is entered against an item, it will be considered that there is no charge for that item.

Certain items in the Schedules of Rates may have been linked to minimum/maximum quantities to provide for differential pricing in respect of economies of scale. Where such rate categories have been provided a rate must be inserted in each category for such items.

**If a rate is not provided for any item in the Schedules of Rates such item will be regarded as having a nil rate.**

The tenderer may be requested by the Employer to clarify nil rates or items regarded as having nil rates. The Employer may also perform a risk analysis in respect of such rates in accordance with C.3.11.10.

The rates shall also be used to evaluate tender offers in accordance with C.3.11.

**F.2.11 Alterations to documents**

*Delete the first sentence and replace with the following:*

Do not make any alterations or additions to the tender documents, except to comply with instructions issued by the employer in writing, or necessary to correct errors made by the tenderer.

**C.2.12 Alternative tender offers**

*Delete clauses C.2.12.1, C.2.12.2 and C.2.12.3 and replace with the following:*

C.2.12.1 Alternative rates/tender offers will not be considered.

**C.2.13 Submitting a tender offer**

*Add the following to C.2.13.1 at the end of the first sentence 1:*

C.2.13.1 Where the tendering entity is a joint venture it is recommended that the standard CIDB Joint Venture Agreement be used.

C.2.13.3 *Delete the clause and replace with the following:*

C.2.13.1 1 (One) copy(ies) of the following elements of the bid submission (please refer to **Contents (Volume 3)**) must be submitted separately bound in the same envelope where possible (see C.2.13.5):

Number	Heading
T2.2	Returnable Schedules
C2.2	Bills of Quantities
	All other attachments submitted by bidder

C.2.13.5 *Delete the clause and replace with the following:*

C.2.13.5 The tender submission details are all described on the General Tender Information page. If it is not possible to submit the original tender and the required copies (see C.2.13.3) in a single envelope, then the tenderer must seal the original and each copy of the tender offer as separate packages, marking the packages as "ORIGINAL" and "COPY" in addition to the aforementioned tender submission details.

*Add the following to C.2.13.6:*

C.2.13.6 A two-envelope procedure will **not** be followed (C.3.5).

*Add the following sub-clause after C.2.13.9:*

C.2.13.10 By signing the offer part of C1.1 Form of Offer and Acceptance the tenderer declares that all information provided in the tender submission is true and correct.

C.2.13.11 The Employer shall not formally issue tender documents in electronic format and shall only issue tender documents in hardcopy. An electronic version of the issued tender documents, or elements thereof, may be made available to the tenderer at the Employer's discretion, upon written request in terms of this clause, subject to the following:

- a) Electronic copies of the issued tender documents, or parts thereof, will only be provided to tenderers who have been issued with the tender documents as contemplated in C.1.2 in hardcopy.
- b) The electronic version shall not be regarded as a substitute for the issued tender documents.
- c) The Employer shall not accept tenders submitted in electronic format. Only those tenders that have been completed on the issued hard copy tender document shall be considered, provided that printed Schedules of Rates, in the same format (that is, layout, billed items, etc.) as those issued electronically by the Employer, may be submitted with the tender as stated in C.2.13.2.
- d) Where Addenda have been issued which amend the Schedules of Rates, then the printed Schedules of Rates shall take these into account. The pages of the issued Schedules of Rates should not be removed from the tender document.
- e) The Employer accepts no responsibility or liability arising from any reliance on or use of the electronic version provided in terms of this clause. Tenderers are alerted to the fact that electronic versions of the tender documents may not reflect any notices or addenda that amend the tender document.
- f) Any non-compliance with these provisions, including effecting any unauthorised alterations to the tender documents as contemplated in C.2.11, shall render the tender non-responsive. The Employer reserves the right to take any action against such tenderer allowed in law including, in circumstances where the tender had already been awarded, the right to cancel the contract.
- g) In requesting the electronic version of the tender documents or parts thereof, the tenderer is deemed to have read, understood and accepted all of the above conditions.

**C.2.15 Closing time**

*Add the following to C.2.15.1 after the first sentence:*

C.2.15.1 The closing time for submission of tender offers is as stated in the Tender Notice and Invitation to Tender.

**C.2.16 Tender offer validity**

*Add the following to C.2.16.1 after the first sentence:*

C.2.16.1 The tender offer validity period is **12 weeks (84 days)**.

C.2.16.2 *Delete the clause and replace with the following:*

Notwithstanding the period stated above, bids shall remain valid for acceptance for a period of twelve (12) months after the expiry of the original validity period, unless the City is notified in writing of anything to the contrary by the bidder. The validity of bids may be further extended by a period of not more than six months subject to mutual agreement and administrative processes and upon approval by the City Manager.

**C.2.17 Clarification of tender offer after submission**

*Add the following to C.2.17 at the end of the third sentence:*

A tender will be rejected as non-responsive if the tenderer fails to provide any clarification or supporting documentation requested by the Employer within the time for submission stated in the Employer's written request for such clarification or documentation.

**C.2.18 Provide other material**

*Delete the following word in C.2.18.1:*

C.2.18.1 notarized

*Add the following to C.2.18.1 at the end of the first paragraph:*

C.2.18.1 Provide, on written request by the Employer, where the transaction value (estimated combined total of prices for all possible Work Projects which may be allocated to the tenderer/contractor over the entire framework contract period) inclusive of VAT **exceeds R 10 million:**

- a) audited annual financial statement for the past 3 years, or for the period since establishment if established during the past 3 years, if required by law to prepare annual financial statements for auditing;

- b) a certificate signed by the tenderer certifying that the tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days;
- c) particulars of any contracts awarded to the tenderer by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract;
- d) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality or municipal entity is expected to be transferred out of the Republic.

Each party to a Consortium/Joint Venture shall submit separate certificates/statements in the above regard.

*Add the following after C.2.18.2:*

- C.2.18.3 Tenderers shall fully cooperate with the Employer's external service provider appointed to perform a due diligence review and risk assessment upon receipt of such written instruction from the Employer.

Failure to fully cooperate could result in a tender being declared as non-responsive.

C.2.18.4 **Compliance with Occupational Health and Safety Act, 85 of 1993**

Tenderers are to note the requirements of the Occupational Health and Safety Act, 85 of 1993 and the Construction Regulations, 2014 issued in terms of Section 43 of the Act. The Tenderer shall be deemed to have read and fully understood the requirements of the above Act and Regulations and to have allowed for all costs in compliance therewith.

In this regard the Tenderer shall submit with his tender or upon request, appended to Schedule 18: Health and Safety Plan in T2.2 : Returnable Schedules, a draft Health and Safety Plan in respect of the Works in sufficient detail to demonstrate the necessary competencies and resources to perform the construction work all in accordance with the Act, Regulations and Health and Safety Specification in Part C3.5 Management in the Scope of Work.

C.2.23 **Certificates**

*Add the following:*

The tenderer is required to submit the following:

C.2.23.1 **Evidence of tax compliance**

Tenderers shall be registered with the South African Revenue Service (SARS) and their tax affairs must be in order and they must be tax compliant subject to the requirements of clause C.2.1.4.2 h). In this regard, it is the responsibility of the Tenderer to submit evidence in the form of a valid Tax Clearance Certificate issued by SARS to the Employer at the Supplier Management Unit located within the Supplier Management / Registration Office, 2<sup>nd</sup> Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5), or included with this tender. The tenderer must also provide its Tax Compliance Status PIN number on the **Compulsory Enterprise Questionnaire**.

Each party to a Consortium/Joint Venture shall submit a separate Tax Clearance Certificate.

Before making an award the City must verify the bidder's tax compliance status. Where the recommended bidder is not tax compliant, the bidder should be notified of the non-compliant status and be requested to submit to the City, within 7 working day, written proof from SARS that they have made arrangement to meet their outstanding tax obligations. The proof of tax compliance submitted by the bidder must be verified by the City via CSD or e-Filing. The City should reject a bid submitted by the bidder if such bidder fails to provide proof of tax compliance within the timeframe stated herein.

Only foreign suppliers who have answered "NO" to all the questions contained in the Questionnaire to Bidding Foreign Suppliers section on the **Details of Tenderer** pages of the tender submission, are not required to register for a tax compliance status

C.2.23.2 **Broad-Based Black Economic Empowerment Status Level Documentation**

In order to qualify for preference points, it is the responsibility of the tenderer to submit documentary proof, either as certificates, sworn affidavits or any other requirement prescribed in terms of the B-BBEE Act, of its B-BBEE status level of contribution in accordance with the applicable Codes of good practise as issued by the Department of Trade and Industry, to the CCT at the Supplier Management Unit located within the Supplier Management / Registration Office, 2<sup>nd</sup> Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5) or included with the tender submission.

Consortiums/Joint Ventures will qualify for preference points, provided that the **entity** submits the relevant certificate/scorecard in accordance with the applicable codes of good practise. Note that, in the case of unincorporated entities, a verified consolidated B-BBEE scorecard must be submitted in the form of a certificate with the tender.

Tenderers are further referred to the content of the **Preference Schedule** for the full terms and conditions applicable to the awarding of preference points.

The applicable code for this tender is the **Amended Codes for Measuring Broad-Based Black Economic Empowerment in the Construction Sector**.

The tenderer shall indicate in Section 4 of the **Preference Schedule** the Level of Contribution in respect of the enterprise status or structure of the tendering entity (the supplier).

The Tenderer's B-BBEE status as at the closing date for submission of framework tender offers will be used for determining preference points for the full duration of the term tender.

*Add the follow new clause after C.2.23.2*

#### C.2.24 **Proposed Deviations and Qualifications**

Where the tenderer cannot tender in all respects in accordance with the provisions contained in the tender documents, all deviations therefrom shall be clearly and separately listed in the schedule titled **Proposed Deviations and Qualifications by Tenderer** in T2.2 Returnable Schedules, or in a tenderer's covering letter expressly referenced in this schedule.

The tenderer accept that the Employer will examine such deviations in terms of clause F.3.8.2 and shall not be bound to accept any such deviations or qualifications.

It must be clearly stated by the tenderer whether the sum tendered in the Tender Offer includes for all such deviations or qualifications listed or referred to in the schedule titled **Proposed Deviations and Qualifications by Tenderer** or not.

## **C.3 The Employer's undertakings**

### **C.3.2 Issue Addenda**

*Delete the first sentence and replace with:*

If necessary, issue addenda in writing that may amend or amplify the tender documents to each tenderer during the period from the date the tender documents are available until one week before the tender closing time stated in the Tender Data. The Employer reserves its rights to issue addenda less than one week before the tender closing time in exceptional circumstances.

*Add the following to C.3.2:*

Notwithstanding any requests for confirmation of receipt of Addenda issued, the tenderer shall be deemed to have received such addenda if the employer can show proof of transmission thereof (or a notice in respect thereof) via electronic mail, facsimile or registered post.

### **C.3.4 Opening of tender submissions**

*Add the following to C.3.4.2 at the end of the paragraph:*

The location for opening of the tender offers is the Tender Submission Office at the address as stated on the General Tender Information page.

### **C.3.8 Test for responsiveness**

#### **C.3.8.2**

*Replace the final sentence of C.3.8.2 with the following:*

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

*Add the following after clause C.3.8.2*

C.3.8.3 The Employer reserves the right to accept a tender offer which does not, in the Employer's opinion, materially and/or substantially deviate from the terms, conditions, and specifications of the tender documents.

### **C.3.9 Arithmetical errors, omissions and discrepancies**

*Delete clause C.3.9 in its entirety and replace with the following:*

#### **C.3.9 Corrections to tendered rates**

In the event of tendered rates being declared by the Employer to be unacceptable to it because they are excessively high, the Tenderer may be required to produce evidence and advance arguments in support of the tendered rates objected to. If, after submission of such evidence and any further evidence requested, the Employer is still not satisfied with the tendered rates objected to, it reserves the right to negotiate such rates subject to the provisions of C.3.20.

In the event of tendered rates being declared by the Employer to be unacceptable to it because they are excessively low, such rates cannot be amended. In this regard the Employer may then perform a risk analysis in terms of C.3.11.10.

### **C.3.10 Clarification of a tender offer**

*Delete the clause and replace with the following:*

C.3.10 The Employer may, after the closing date, request additional information or clarification from tenderer, in writing on any matter affecting the evaluation of the tender offer or that could give rise to ambiguity in a contract arising from the tender offer, which written request and related response shall not change or affect their competitive position or the substance of their offer. Such request may only be made in writing by the Director: Supply Chain Management using any means as appropriate.

### **C.3.11 Evaluation of tender offers**

*Add the following after clause C.3.11.1*

C.3.11.2 Where the scoring of functionality forms part of a bid process, each member of the Bid Evaluation Committee must individually score functionality. The individual scores must then be interrogated and calibrated if required where there are significant discrepancies. The individual scores must then be added together and averaged to determine the final score.

- C.3.11.3 The tender will be evaluated in terms of the requirements of the Preferential Procurement Regulations of 2017 as follows:
- C.3.11.3.1 The preference point system applicable to this tender is 90/10 preference point system and the lowest acceptable tender will be used to determine the applicable preference point system.
- C.3.11.3.2 Price, preference and functionality will be scored, as relevant, to two decimal places.
- C.3.11.3.3 Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences.

Points will be awarded to tenderers who are eligible for preferences in terms of the **Preference Schedule** (where preferences are granted in respect of B-BBEE contribution) which is included in T2.2 Returnable Schedules.

The terms and conditions of the **Preference Schedule** shall apply in all respects to the tender evaluation process and any subsequent contract.

In addition, the various deemed B-BBEE Status Level of Contributor in accordance with the relevant Codes can be attained and such tenderers must be awarded the appropriate number of points.

It should be noted that the Deemed B-BBEE Status Level of Contribution from the above tables can be enhanced or discounted in accordance with clauses 4.3 and 5.3 of the **Amended Codes for Measuring Broad-Based Black Economic Empowerment in the Construction Sector**.

- C.3.11.3.4 General procurement procedures specific to this tender are set out in C.1.6.1.

For the purposes of this tender, the City of Cape Town have identified CIPP Lining systems that could be used for this project the Employer shall create, for tender evaluation purposes, simulated (representative) Works Projects, indicative of the nature of works required in terms of CIPP Lining rehabilitation of a sewer system.

The Employer shall have assigned quantities to the items in the Schedules of Rates necessary for the execution of the representative Works Projects. The assigned quantities shall be multiplied by the tendered rates submitted by the tenderers to obtain amounts that will be totalled to provide a financial offer for each tenderer for the representative Works Projects. The financial offer per works project, required in terms of the Preferential Procurement Regulations shall be determined by the average of the sum of the representative Works Projects for each tenderer.

Up to three tenderers may be appointed to a panel, per systemr (refer to C.1.6.1).

*Add the following new sub-clause after F.3.11.9:*

**F.3.11.4 Risk Analysis**

Notwithstanding compliance with regard to CIDB registration or any other requirements of the tender, the Employer will perform a risk analysis in respect of the following:

- a) reasonableness of the financial offer
- b) reasonableness of unit rates and prices
- c) the tenderer's ability to fulfil its obligations in terms of the tender document, that is, that the tenderer can demonstrate that he/she possesses the necessary professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, capacity, experience, reputation, personnel to perform the contract, etc.; the Employer reserves the right to consider a tenderer's existing contracts with the Employer in this regard
- d) any other matter relating to the submitted bid, the tendering entity, matters of compliance, verification of submitted information and documents, etc.

The conclusions drawn from this risk analysis will be used by the Employer in determining the acceptability of the tender offer in terms of C.3.13).

**C3.13 Acceptance of tender offer**

*Delete first sentence of C.3.13 and replace with the following):*

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

- a) *Delete C.3.13 a) and replace with the following):*

is not under restrictions, has any principals who are under restrictions, or is not currently a supplier to whom notice has been served for abuse of the supply chain management system., preventing participation in the employer's procurement,

*Add the following below C.3.13 f)*

If an award cannot be made in terms of anything contained herein, the Employer reserves the right to consider the next ranked tenderer(s).

C.3.13.1 The Employer reserves the right not to make an award, or revoke an award already made, where the implementation of the contract may result in reputational risk or harm to the City as a result of (inter alia):

- a) reports of poor governance and/or unethical behaviour;
- b) association with known family of notorious individuals;
- c) poor performance issues, known to the City;
- d) negative social media reports; and
- e) adverse assurance (e.g. due diligence) report outcomes.

C.3.13.2 The Employer reserves the right to nominate an alternative bidder at the time when an award is made and in the event that a contract is terminated during the execution thereof, the CCT may consider the award of the contract, or non-award, to the alternative bidder in terms of the procedures included its SCM Policy.

C.3.13.3 The Employer shall notify the successful tenderer in writing of the decision of the Employer's Bid Adjudication Committee to award the tender to the successful tenderer. No rights shall accrue to the successful tenderer in terms of this notice.

C.3.13.4 The Employer shall, at the same time as notifying the successful tenderer of the Bid Adjudication Committee's decision to award the tender to the successful tenderer, also give written notice to the other tenderers informing them that they have been unsuccessful.

C.3.17 **Provide copies of the contract**

*Add the following:*

The number of paper copies of the signed contract to be provided by the Employer is one.

C.3.18 *Add the following after C.3.19*

C.3.19 **Negotiations with preferred tenderers**

The Employer may negotiate the final terms of a contract with tenderers identified through a competitive tendering process as preferred tenderers provided that such negotiation:

- a) does not allow any preferred tenderer a second or unfair opportunity;
- b) is not to the detriment of any other tenderer; and
- c) does not lead to a higher price than the tender as submitted.

If negotiations fail to result in acceptable contract terms, the City Manager (or his delegated authority) may terminate the negotiations and cancel the tender, or invite the next ranked tenderer for negotiations. The original preferred tenderer should be informed of the reasons for termination of the negotiations. If the decision is to invite the next highest ranked tenderer for negotiations, the failed earlier negotiations may not be reopened by the CCT

Minutes of any such negotiations shall be kept for record purposes.

The provisions of this clause will be equally applicable to any invitation to negotiate with any other tenderers.

In terms of the PPPFA Regulations, 2017, tenders must be cancelled in the event that negotiations fail to achieve a market related price with any of the three highest scoring tenderers.

**Annex C**  
(normative)  
**Standard Conditions of Tender**

**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, immediately and with integrity, and behave equitably, honestly and transparently, comply with all legal obligations and not engage in anticompetitive practices.

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

Note:

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

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

**C.1.2 Tender Documents**

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

**C.1.3 Interpretation**

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

**C.1.3.2** These conditions of tender, the tender data and tender schedules which are required for tender evaluation purposes, shall form part of any contract arising from the invitation to tender.

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

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

- b) **comparative offer** means the price after the factors of a non-firm price and all unconditional discounts it can be utilised to have been taken into consideration;
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process;
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels;

#### **C.1.4 Communication and employer's agent**

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

#### **C.1.5 Cancellation and Re-Invitation of Tenders**

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

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

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

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

#### **C.1.6 Procurement procedures**

##### **C.1.6.1 General**

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

##### **C.1.6.2 Competitive negotiation procedure**

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

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

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

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

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

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

### **C.1.6.3 Proposal procedure using the two stage-system**

#### **C.1.6.3.1 Option 1**

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

#### **C.1.6.3.2 Option 2**

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

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

## **C.2 Tenderer's obligations**

### **C.2.1 Eligibility**

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

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

### **C.2.2 Cost of tendering**

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

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

### **C.2.3 Check documents**

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

### **C.2.4 Confidentiality and copyright of documents**

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

### **C.2.5 Reference documents**

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

### **C.2.6 Acknowledge addenda**

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

### **C.2.7 Clarification meeting**

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

### **C.2.8 Seek clarification**

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

### **C.2.9 Insurance**

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

### **C.2.10 Pricing the tender offer**

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

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

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

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

### **C.2.11 Alterations to documents**

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

### **C.2.12 Alternative tender offers**

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

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

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

### **C.2.13 Submitting a tender offer**

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

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

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

**C.2.13.4** Sign the original and all copies of the tender offer where required in terms of the tender data. The employer will hold all authorized signatories liable on behalf of the tenderer. Signatories for tenderers proposing to contract as joint ventures shall state which of the signatories is the lead partner whom the employer shall hold liable for the purpose of the tender offer.

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

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

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

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

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

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

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

### **C.2.15 Closing time**

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

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

## **C.2.16 Tender offer validity**

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

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

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

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

## **C.2.17 Clarification of tender offer after submission**

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

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

## **C.2.18 Provide other material**

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

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

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

## **C.2.19 Inspections, tests and analysis**

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

## **C.2.20 Submit securities, bonds and policies**

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

## **C.2.21 Check final draft**

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

### **C.2.22 Return of other tender documents**

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

### **C.2.23 Certificates**

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

## **C.3 The employer's undertakings**

### **C.3.1 Respond to requests from the tenderer**

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

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

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

### **C.3.2 Issue Addenda**

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

### **C.3.3 Return late tender offers**

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

### **C.3.4 Opening of tender submissions**

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

**C.3.4.2** Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, number of points claimed for its BBBEE status level and time for completion for the main

tender offer only.

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

### **C.3.5 Two-envelope system**

**C.3.5.1** Where stated in the tender data that a two-envelope system is to be followed, open only the technical proposal of valid tenders in the presence of tenderers' agents who choose to attend at the time and place stated in the tender data and announce the name of each tenderer whose technical proposal is opened.

**C.3.5.2** Evaluate functionality of the technical proposals offered by tenderers, then advise tenderers who remain in contention for the award of the contract of the time and place when the financial proposals will be opened. Open only the financial proposals of tenderers, who score in the functionality evaluation more than the minimum number of points for functionality stated in the tender data, and announce the score obtained for the technical proposals and the total price and any points claimed on BBBEE status level. Return unopened financial proposals to tenderers whose technical proposals failed to achieve the minimum number of points for functionality.

### **C.3.6 Non-disclosure**

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

### **C.3.7 Grounds for rejection and disqualification**

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

### **C.3.8 Test for responsiveness**

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

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

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

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

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

### **C.3.9 Arithmetical errors, omissions and discrepancies**

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

shall govern.

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

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

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

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

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

### **C.3.10 Clarification of 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 are by definition the document that establishes a tenderer's obligations in submitting a tender and the employer's undertakings in soliciting and evaluating tender offers. Such conditions establish the rules from the time a tender is advertised to the time that a contract is awarded and require employers to conduct the process of offer and acceptance in terms of a set of standard procedures.

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

Cost effective	The processes, procedures and methods are standardized with sufficient flexibility to attain best value outcomes in respect of quality, timing and price, and least resources to effectively manage and control procurement processes.
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**The activities associated with evaluating tender offers are as follows:**

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

### **C.3.11.1 General**

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

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

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

### **C.3.13 Acceptance of tender offer**

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

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

### **C.3.14 Prepare contract documents**

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

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

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

### **C.3.15 Complete adjudicator's contract**

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

### **C.3.16 Registration of the award**

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

### **C.3.17 Provide copies of the contracts**

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

### **C.3.18 Provide written reasons for actions taken**

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

## Annex G

(normative)

### Alpha-numeric associated with the Contractor Grading Designations

In terms of Government Gazette 42561, dated 5 July 2019, the tender value range as set out in Table 8 in cidb Regulation 17 has been amended. Table G1 below reflects the amended values that come into effect on 07 October 2019

**Table G1: Contractor grading designations and associated parameters applicable after 7 October 2019**

Contractor Grading Designation	Tender Value Range designation	Maximum value of contract that a contractor is considered capable of performing (R)
1 (class of construction works)	1	500 000
2 (class of construction works)	2	1 000 000
3 (class of construction works)	3	3 000 000
4 (class of construction works)	4	6 000 000
5 (class of construction works)	5	10 000 000
6 (class of construction works)	6	20 000 000
7 (class of construction works)	7	60 000 000
8 (class of construction works)	8	200 000 000
9 (class of construction works)	9	No Limit

**Table G2: Classes of construction work**

Description	Designation	Definition	Work types	Examples
<b>Civil engineering works</b>	<b>CE</b>	Construction works that are primarily concerned with materials such as steel, concrete, earth and rock and their application in the development, extension, installation, maintenance, removal, renovation, alteration, or dismantling of building and engineering infrastructure	Water, sewerage, roads, railways, harbours and transport, urban development and municipal services	Structures such as a cooling tower, bridge, culvert, dam, grand stand, road, railway, reservoir, runway, swimming pool, silo or tunnel The results of operations such as dredging, earthworks and geotechnical processes. Township services, water treatment and supply, sewerage works, sanitation, soil conservation works, irrigation works, storm-water and drainage works, coastal works, ports, harbours, airports and pipelines.
<b>Electrical engineering works (Infrastructure)</b>	<b>EP</b>	Construction works that are primarily concerned with development, extension, installation, removal, renovation, alteration or dismantling of engineering infrastructure: a) relating to the generation, transmission and distribution of electricity;	Electrical power generation, transmission, control and distribution equipment and systems.	Power generation Street and area lighting Substations and protection systems Township Reticulations Transmission Lines Supervisory control and data acquisition systems
<b>Electrical engineering works (buildings)</b>	<b>EB</b>	Construction works that are primarily concerned with the installation, extension, modification or repair of electrical installations in or on any premises used for the transmission of electricity from a point of control to a point of consumption, including any article forming part of such an installation	All electrical equipment forming an integral and permanent part of buildings and/or structures, including any wiring, cable jointing and laying and electrical overhead line construction	Electrical installations in buildings Electrical reticulations within a plot of land (erf) or building site Standby plant and uninterrupted power supply Verification and certification of electrical installations on premises
<b>General building works</b>	<b>GB</b>	Construction works that: a) are primarily concerned with the development, extension, installation, renewal, renovation, alteration, or dismantling of a permanent shelter for its occupants or contents; or b) cannot be categorised in terms of the definitions provided for civil engineering works, electrical engineering works,	Buildings and ancillary works other than those categorised as being: a) civil engineering works; b) electrical engineering works; c) mechanical engineering works; or d) specialist works.	Buildings for domestic, industrial, institutional or commercial occupancies Car ports Fences other than classified as SS Stores Walls

Description	Designation	Definition	Work types	Examples
<b>Mechanical engineering works</b>	<b>ME</b>	Construction works that are primarily concerned with the development, extension, installation, removal, alteration, renewal of engineering infrastructure for gas transmission and distribution, solid waste disposal, heating, ventilation and cooling, chemical works, metallurgical works, manufacturing, food processing and, materials handling	Machine systems including those relating to the environment of building interiors. a) gas transmission and distribution systems b) pipelines c) solid waste disposal d) materials handling, lifting machinery, heating, ventilation and cooling, pumps, e) continuous process systems f) chemical works, metallurgical works, manufacturing, food processing such as that in concentrator machinery and apparatus, oil and gas wells, smelters, cyanide plants, acid plants, metallurgical machinery, equipment and apparatus, and works necessary for the beneficiation of metals, minerals, rocks, petroleum and organic substances or other chemical processes.	Air-conditioning and mechanical ventilation Boiler installations and steam distribution Central heating Centralised hot water generation Cranes and hoists Dust and sawdust extraction Compressed air, gas and vacuum installations Conveyor and materials handling installations Continuous process systems involving chemical works, metallurgical works, oil and gas wells, acid plants, metallurgical machinery, equipment and apparatus, and works necessary for the beneficiation of metals, minerals, rocks, petroleum and organic substances and other chemical processes Kitchen equipment Laundry equipment Lift installations and escalators Refrigeration and cold rooms Waste handling systems (including compactors)
<b>Specialist works</b>	<b>SB</b>	A subset of construction works identified and defined by the Board that involves specialist capabilities for its execution	The extension, installation, repair, maintenance or renewal, or removal, of asphalt	
	<b>SC</b>		The development, extension, installation, removal, and dismantling, as relevant, associated with building excavations, shaft sinking and lateral earth support	
	<b>SD</b>		The development, extension, installation, repair, renewal, removal, or alteration of corrosion protection systems (cathodic, anodic and electrolytic)	
	<b>SE</b>		Demolition of buildings and engineering infrastructure and blasting	
	<b>SF</b>		The development, extension, installation, renewal, removal, renovation, alteration or dismantling of fire prevention and protection infrastructure (drencher and sprinkler systems and fire installation)	
	<b>SG</b>		The development, extension, installation, renewal, removal, renovation, alteration or dismantling of glazing, curtain walls and shop fronts	
	<b>SH</b>		The development, extension, installation, maintenance, renewal, removal, alteration or dismantling, as relevant, of landscaping, irrigation and horticultural works	
	<b>SI</b>		The development, extension, installation, repair, maintenance, renewal, removal, renovation, alteration or, dismantling of lifts, escalators, travellers and hoisting machinery	
	<b>SJ</b>		The development, installation, removal, or dismantling, as relevant, of piles and other specialized foundations for buildings and structures	

Description	Designation	Definition	Work types	Examples
	SK	A subset of construction works identified and defined by the Board that involves specialist capabilities for its execution	The installation, renewal, removal, alteration or dismantling, as relevant, road markings and signage	
	SL		The development, extension, installation, renewal, removal, renovation, alteration or dismantling of structural steelwork and scaffolding	
	SM		Timber buildings and structures	
	SN		The extension, installation, repair, maintenance, renewal, removal, renovation or alteration, as relevant, of the waterproofing of basements, roofs and walls using specialist systems.	
	SO		The development, extension, installation, renewal, removal, alteration or dismantling or demolition of water installations and soil and waste water drainage associated with buildings (wet services, plumbing)	
	SQ		The development, extension, installation, repair, removal, alteration, dismantling or demolition of precast concrete or steel fencing	

# TENDER NO. 104Q/2021/22



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

SCM – 516 | Approved by Branch Manager: 03/04/2020

Version: 5

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## FRAMEWORK CONTRACT DOCUMENT (PANEL TYPE)

FOR THE

## TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**Framework Contract Period:** 36 Months from Commencement Date

**Works Projects:** Not exceeding R9 000 000

## VOLUME 2: RETURNABLE DOCUMENTS

<b>ISSUED BY:</b>	<b>COMPILED BY:</b>	<b>For official use.</b>
<b>DIRECTOR: WATER AND WASTE: DIRECTORATE</b> Tower Block, Civic Centre 12 Hertzog Boulevard CAPE TOWN 8001	<b>VUYO JAMES</b> <b>WATER AND WASTE</b> 3 <sup>rd</sup> Floor Water and Sanitation Building 8 Voortrekker Road BELLVILLE 7535	<b>TENDER SERIAL No.:</b>
		<b>SIGNATURES OF CITY OFFICIALS AT TENDER OPENING</b>
		1.
		2.
		3.

October 2021

<b>NAME OF TENDERING ENTITY</b>	
<b>EMAIL ADDRESS OF TENDERING ENTITY</b>	
<b>FAX NUMBER OF TENDERING ENTI</b>	
<b>NATURE OF TENDER OFFER</b> (please indicate below)	
<b>Main Offer</b> (see clause F.2.12)	
<b>Alternative Offer</b> (see clause F.2.12)	

FILE REFERENCE NO:

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## Part T2: Returnable Documents

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C1.2 Contract Data (data provided by Contractor) .....	40 – 40
C2.2 Schedule of Rates .....	41 – 56
T2.2 Returnable Schedules .....	58 – 99

## T2.1 List of Returnable Documents

The tenderer must complete the following Returnable Documents in non-erasable **black ink**:

### 1. C1.1 The offer portion of the C1.1 Form of Offer and Acceptance

### 2. C1.2 Contract Data (provided by contractor)

### 3. C2.2 Schedules of Rates

### 4. Returnable Schedules that will be incorporated into the Contract

	Pages
1: COMPULSORY ENTERPRISE QUESTIONNAIRE .....	56 - 57
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7: DECLARATION IN RESPECT OF COMPLIANCE WITH LABOUR LEGISLATION .....	67
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17: PROPOSED DEVIATIONS AND QUALIFICATIONS BY TENDERER.....	80
18: FUNCTIONALITY CRITERIA .....	81
19: REGIONS OF PREFERENCE .....	82
20: DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS .....	83-87
21: PRICE BASIS FOR IMPORTED RESOURCES .....	88-89
22: RECORD OF ADDENDA TO TENDER DOCUMENTS .....	90
23: PREFERENCE SCHEDULE (where preferences are granted in respect of B-BBEE contribution) .....	91 – 95
24: INFORMATION TO BE PROVIDED WITH THE TENDER .....	96

### 5. Other documents required for tender evaluation purposes

- a) Joint Venture Agreement (if applicable) - append to Schedule 3.
- b) Health and Safety Plan - append to Schedule 16.
- c) Functionality Criteria - append to Schedule 18.

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

### C1.1 Form of Offer and Acceptance

#### Offer

The employer, identified in the acceptance signature block, has solicited offers to enter into a contract for the procurement of:

**CONTRACT NO. DP4709Q/2020/21: TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

The tenderer, identified in the offer signature block, 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 authorized, 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 completed Schedules of Rates (excluding VAT), as contained in Part C2.2 Pricing Data, shall form the tender offer. These rates shall be multiplied, as applicable, by the quantities required in respect of relevant items to develop individual Works Projects to be allocated in accordance with the procedures described in Part C1.2 Contract Data in this Framework Contract document.**

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.

Signature(s) .....  
Name(s) .....  
Capacity .....

**for the tenderer**

(Name of organization/tenderer) .....

(Address of organization/tenderer) .....

.....  
.....

Name and  
signature  
of witness .....

Date .....

For official use.		
INITIALS OF CITY OFFICIALS AT TENDER OPENING		
1.	2.	3.

## 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 any amounts due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract are contained in:

- Part C1: Agreements and contract data (which includes this framework agreement)
- Part C2: Pricing data
- Part C3: Scope of work
- Part C4: Site information

in Volumes 3 and 5, together with any drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the returnable 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 form of offer and acceptance. No amendments to or deviations from said documents are valid unless contained in this schedule.

The tenderer shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the employer's agent (whose details are given in the contract data) to arrange the delivery of any securities, bonds, 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 parties have signed the table below and confirms receipt from the employer of one fully completed original copy of this agreement, including the schedule of deviations (if any). The tenderer (now contractor) shall within five working days of the agreement coming into effect notify the employer in writing of any reason why he cannot accept the contents of this agreement as a complete and accurate memorandum thereof, failing which the agreement presented to the contractor shall constitute the binding contract between the parties.

**This agreement constitutes a framework contract for the purposes of developing individual Works Projects to be allocated in terms of the procedures described in the contract,**

The Parties	Employer	Contractor
Business Name		
Business Registration		
Tax number (VAT)		
Physical Address		
Accepted contract sum including tax		
Accepted contract duration		
Signed – who by signature hereto warrants authority		
Name of signatory		
Signed: Date		
Signed: Location		
Signed: Witness		
Name of Witness		

ONLY TO BE COMPLETED AT  
ACCEPTANCE STAGE

## Schedule of Deviations

**Notes:**

1. The extent of deviations from the tender documents issued by the employer before 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.

1	Subject	
	Details	
2	Subject	.....
	Details	.....
		.....
		.....
3	Subject	.....
	Details	.....
		.....
		.....
4	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 and amendments to the documents listed in the tender data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

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

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C1.2 Contract Data

### Data provided by the Contractor

The name of the Contractor is .....

The address of the Contractor is

Physical : ..... Postal : .....  
Address Address

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

Telephone : ..... Fax: .....

email : .....

### CONTRACTOR'S ANNUAL HOLIDAY PERIODS DURING CONSTRUCTION PERIOD

Year 1 contractor's annual holiday period	Start date		End date
Year 1 contractor's annual holiday period	Start date		End date
Year 1 contractor's annual holiday period	Start date		End date

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C2.2 Schedules of Rates

Bid specifications may not make any reference to any particular trade mark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the words "or equivalent".

**TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT REFERS TO ANY PARTICULAR TRADE MARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS 'OR EQUIVALENT'**

CONTENTS	PAGES
<b><u>SCHEDULE OF RATES</u></b>	
SECTION A : PRELIMINARY AND GENERAL	42 – 46
SECTION B: SITE CLEARANCE	46 – 48
SECTION C: SEWERS EARTHWORKS (PIPE TRENCHES)	48 – 51
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SECTION E: PIPEWORK REPLACEMENT (NEW PIPES)	52 – 54
SECTION F: CURED IN PLACE PIPE (LINING) LINING	54 – 55
DECLARATION	56

**104Q/2021/22: Term Tender for Trenchless Rehabilitation of Sewers by Cured-In-Place Pipe Lining Citywide**

ITEM NO	PAYMENT	DESCRIPTION	UNIT	RATE
	<b>SABS1200 A</b>	<b>SECTION A: PRELIMINARY AND GENERAL (GENERAL)</b>		
	8.3	<b>FIXED CHARGES</b>		
	PSA 8.3.1	<b>Contractual requirements</b>		
A10		(a) Security (Performance Guarantee)	Sum	
A20		(b) Insurance (Blanket / Umbrella Policy)	Sum	
A30		c) Extra Over item A10 for COVID-19 requirements	Sum	
	8.3.2	<b>Establish facilities on the Site</b>		
	8.3.2.2	<b>Facilities for the Contractor</b>		
A40		a) Offices and storage sheds	Sum	
A50		e) Ablution and latrine facilities	Sum	
A60		g) Water supplies, electric power and communications	Sum	
A70	8.3.3	General responsibilities and other fixed-charge obligations	Sum	
A80		Testing carried out by commercial laboratory as instructed by the Employer's Agent	Prov Sum	
A90		% Profit + Attendance for item A80	%	
	8.4	<b>TIME-RELATED ITEMS</b>		
A100	8.4.1	Contractual requirements	day	
	8.4.2	<b>Operation and maintainance of facilities</b>		
	8.4.2.1	<b>Facilities for the Employer, for duration of construction</b>		
A110		c) Nameboards	Sum	
	8.4.2.2	<b>Facilities for the Contractor</b>		
A120		a)Offices and storage sheds	day	
A130		e) Ablution and latrine facilities	day	
A140		g) Water supplies, electric power and communications	day	
A150	8.4.5	General responsibilities and other time related obligations	day	
	PSA 8.7	<b>DAYWORKS</b>		
		<b>LABOUR CHARGES</b>		
A160		(a) Skilled Labourer	h	

A170		(b) Semi Skilled Labourer	h	
A180		(c) Unskilled Labourer	h	
A190		(d) Chargehand / Team Leader	h	
A200		(e) Foreman	h	
A210		(f) Artisan	h	
A220		(g) Plant Operator	h	
A230		(h) Flagperson	h	
A240		(i) Driver	h	
A250		(j) Surveyor	h	
		<b>MATERIALS CHARGES</b>		
A260		(a) Actual cost of material (excl. VAT)	Prov Sum	
A270		(b) Handling costs in respect of item A260	%	
		<b>PLANT CHARGES</b>		
A280		(a) Backhoe/loader	h	
A290		(b) Tractor	h	
A300		(c) Trailor	h	
		(d) Tip truck		
A310		(i) Capacity of 6 m <sup>3</sup>	h	
A320		(ii) Capacity of 10 m <sup>3</sup>	h	
A330		(e) Walk-behind vibrating roller (1t)	h	
A340		(f) Plate compactor	h	
A350		(g) Water cart (5000 l)	h	
A360		(g) Water cart (9000 l)	h	
A370		(i) Concrete mixer	h	
A380		(k) Flat bed truck (3t)	h	
A390		(l) Compressor (16 m <sup>3</sup> / min) including hoses and breakers	h	
A400		(m) Excavator (20 t minimum)	h	
		(n) Light delivery vehicle		
A410		(i) 0.5 t capacity	h	
A420		(ii) 1.0 t capacity	h	
		(o) Pumps		
		<b>Super Silent Seltorque pumps (or equivalent)</b>		
A430		(iii) 150mm diam	h	

A440		(p) Sludge pump	h	
A450		Other plant not specified above	Prov Sum	
A460		Handling costs in respect of item A450	%	
		TEMPORARY WORKS		
	PSA 8.8.2	<b>1) ACCOMMODATION OF TRAFFIC</b>		
A470		(a) Short Term Works	km	
A480		(b) Urban streets - Two-Way lane closure	km	
A490		(c) Urban streets - One-Way traffic accommodated	km	
A500		(d) Urban streets - Lane Closure in and beyond junction	km	
	PSA 8.8.3	<b>2) WATCHING, LIGHTING AND TEMPORARY FENCING</b>		
A510		a) Establishment	Sum	
		b) Daily Maintenance cost for:		
A520		i) Security	day	
A530		ii) Temporary fencing	m	
A540		iii) Lighting	day	
A550		iv) Extra-over item on item A640 for provision of additional day time security during construction in known volatile areas	day	
	PSA 8.8.4	<b>3) LOCATION AND PROTECTION OF EXISTING SERVICES</b>		
	PSA 8.8.4.1	i) Provision of detecting devices for:		
A560		(a) Water and sewer pipes	Sum	
A570		(b) Electrical and other cables	Sum	
A580		(c) Stormwater and other pipes	Sum	
	PSA 8.8.4.3	ii) Hand excavation necessary for locating and exposing existing services in all materials:		
A590		(a) In all roadways	m <sup>3</sup>	
A600		(b) In paved areas	m <sup>3</sup>	
A610		(c) In concrete areas	m <sup>3</sup>	
A620		(d) In all other areas	m <sup>3</sup>	
	PSA 8.8.6	<b>4) Dealing with water:</b>		
A630		(a) Dealing with subsurface water	Sum	
A640		(b) Dealing with surface water	Sum	

		(c) Extra-over for item (a) above:		
A650		i) Installation of well points	m	
A660		ii) Operate and maintain	day	
	PSA 8.8.7	<b>LIAISON WITH SERVICE AUTHORITIES</b>		
		Wayleave applications:		
A670		a) CCT - Roads & Stormwater	Sum	
A680		b) CCT - Water and Sanitation - Distribution Services	Sum	
A690		c) CCT - Water and Sanitation - Bulk	Sum	
A700		d) Eskom	Sum	
A710		e) CCT - Electricity Department and IS&T	Sum	
A720		f) CCT - Traffic Signal	Sum	
A730		g) Telkom	Sum	
A740		h) Fibre Service Providers	Sum	
A750		i) Metrorail	Sum	
A760		h) SANRAL	Sum	
A770		h) Other	Sum	
A780		i) Handling costs and profit for item A770	%	
	PSA 8.9	<b>HEALTH AND SAFETY</b>		
A790	PSA 8.9.1	Complying with Health and Safety requirements	day	
	PSA 8.9.2	<b>Asbestos Specialist Services:</b>		
A800		(a) Approved Asbestos Inspection Authority (AIA) to assist the Contractor with the approval of the asbestos plan of work, in accordance with legislation	Sum	
A810		(b) Administrative costs and profit in respect of item PSA8.9.2 (a) above	%	
A820		(c) Handling and disposal of asbestos-containing waste from site to the permitted Vissershok landfill site, in accordance with legislation	Sum	
A830		(d) Transport of asbestos-containing waste at the permitted low-hazard (l:h) landfill site at Vissershok, in accordance with legislation	t.km	
A840		(e) Cost of dumping at permitted Vissershok landfill site (Original tipping slips are required for audit purposes)	t	
	PSA8.10	<b>ENVIRONMENTAL MANAGEMENT</b>		
A850	PSA 8.10.1	Complying with Environmental Management	day	

		requirements		
A860	PSA 8.10.2	Noise Exemption Permit per Works Project	Sum	
	PSA11	COMMUNITY LIAISON OFFICER (CLO)		
A870		a) Employment of CLO	day	
A880		b) Handling costs and profit for Item A1100	%	
<b>104Q/2021/22: Term Tender for Trenchless Rehabilitation of Sewers by Cured-In-Place Pipe Lining Citywide</b>				
ITEM NO	PAYMENT	DESCRIPTION	UNIT	
	<b>SANS 1200C</b>	<b>SECTION B: SITE CLEARANCE</b>		
	PSC 8.2.1	<b>CLEAR AND GRUB:</b>		
B10		Clear and grub site (provisional: area to be designated by Employers Agent)	m <sup>2</sup>	
	8.2.2	<b>Remove and grub trees and tree stumps of girth</b>		
B20		a) over 0,5m up to and including 1,0m	No.	
B30		b) over 1,0 m up to and including 2,0m	No.	
	PSC 8.2.7	Dismantle and remove		
		a) Pipelines		
B40		i) Up to 150mm diameter	m	
B50		ii) Over 150mm diameter	m	
		b) Manhole (Fibre Cement Concrete)		
B60		1) 0 to 1.5m	No	
B70		2) 1.5 to 3.0m	No	
B80		3) 3.0 to 4.5m	No	
B90		4) 4.5 to 6.0m	No	
B100		5) 6.0 to 7.5m	No	
B110		6) 7.5 to 9.0m	No	
		c) Manhole (Brick)		
B120		1) 0 to 1.5m	No	
B130		2) 1.5 to 3.0m	No	

B140		3) 3.0 to 4.5m	No	
B150		4) 4.5 to 6.0m	No	
B160		5) 6.0 to 7.5m	No	
B170		6) 7.5 to 9.0m	No	
B180		d) Manhole cover and frame	No	
B190		e) Kerb, Edging and channels	m	
		f) Asphalt		
B200		i) Asphalt (0mm to 50mm thick)	m <sup>2</sup>	
B210		ii) Asphalt (Over 50mm thick)	m <sup>2</sup>	
B220		g) Road Signs	No.	
B230		h) Trees and Plants / Shrubs	No.	
B240		i) Grass and lawns	m <sup>2</sup>	
		j) Concrete in roads, driveways or walkways		
B250		i) Up to 100mm thick concrete	m <sup>2</sup>	
B260		ii) over 100mm and up to 200mm thick concrete	m <sup>2</sup>	
B270		iii) over 200mm thick concrete	m <sup>2</sup>	
B280		k) Brick Paving in roads, driveways or walkways	m <sup>2</sup>	
	PSC 8.2.10	Remove topsoil to a nominal depth of 150mm, stockpile and reinstate		
	PSC 8.2.11	<b>Remove and stockpile material for later reinstatement</b>		
B290		a) Kerbs, edging and channels	m	
B300		b) Brick paved / Interlocking bricks in roads, driveways or walkways	m <sup>2</sup>	
B310		c) Grass and lawns	m <sup>2</sup>	
B320	PSC 8.2.12	d) Trees and Plants / Shrubs <b>Saw cutting of existing surfaces</b> a) Asphalt	No.	

B330		i) Asphalt (0mm to 50mm thick)	m	
B340		ii) Asphalt (Over 50mm thick)	m	
B350		b) Concrete i) Up to 100mm thick concrete	m	
B360		ii) over 100mm and up to 200mm thick concrete	m	
B370		iii) over 200mm thick concrete	m	
B380		c) Paving	m	
B390	PSC 8.2.9	Remove rubbish from site, transport and dispose of at waste disposal facility.	m <sup>3</sup> .km	
<b>104Q/2021/22: Term Tender for Trenchless Rehabilitation of Sewers by Cured-In-Place Pipe Lining Citywide</b>				
ITEM NO	PAYMENT	DESCRIPTION	UNIT	
	<b>SANS 1200DB</b>	<b>SECTION C: SEWERS EARTHWORKS (PIPE TRENCHES)</b>		
	PSDB 8.3.2 (a)	<b>Excavate in all materials for short trenches, backfill, compact, and dispose of surplus/unsuitable material:</b>  For existing service connections and point repairs , from 100 up to 400 mm diam. Pipes, for total trench depth:		
C10		a) Up to a depth of 1,5m	m <sup>3</sup>	
C20		b) Exceeding 1,5m up to a depth of 2,5m	m <sup>3</sup>	
C30		c) Exceeding 2,5m up to a depth of 3,5m	m <sup>3</sup>	
C40		d) Exceeding 3,5m up to a depth of 4,5m	m <sup>3</sup>	
C50		e) Exceeding 4,5m up to a depth of 5,5m	m <sup>3</sup>	
C60		f) Exceeding 5,5m up to a depth of 6,5m	m <sup>3</sup>	
C70		g) Exceeding 6,5m up to a depth of 7,5m	m <sup>3</sup>	
C80		h) Exceeding 7,5m up to a depth of 8,5m	m <sup>3</sup>	
C90		i) Depths greater than 8,5m	m <sup>3</sup>	
		<b>EXCAVATION ANCILLARIES</b>		
	PSDB 8.3.3.1	Make up deficiency in backfill material (provisional)		
C100	8.3.3.1 a)	From other necessary excavations on site	m <sup>3</sup>	
	8.3.3.1 c)	By importation from commercial source (As approved by the Employer's Agent)		
C110		a) Sand	m <sup>3</sup>	
C120		b) Up to 37mm stone any thickness	m <sup>3</sup>	

C130	8.3.3.3	Compaction in road reserve	m <sup>3</sup>	
	8.3.4	<b>PARTICULAR ITEMS</b>		
	PSDB 8.3.4	a) Shoring trench in all cases for depths:		
C140		i) 1,0m - 2,0m	m <sup>2</sup>	
C150		ii) 2,0m - 3,0m	m <sup>2</sup>	
C160		iii) 3,0m - 4,0m	m <sup>2</sup>	
C170		iv) 4,0m - 5,0m	m <sup>2</sup>	
C180		v) 5,0m - 6,0m	m <sup>2</sup>	
C190		vi) 6,0m - 7,0m	m <sup>2</sup>	
C200		vii) 7,0m - 8,0m	m <sup>2</sup>	
C210		Viii) Depths greater than 8,5m	m <sup>2</sup>	
	8.3.5	<b>EXISTING SERVICES</b>		
	8.3.5 (a)	Services that intersect a trench(including temporary protection)		
C220		a) HV Electrical cables	No	
C230		b) LV Electrical cables	No	
C240		c) House water connections	No	
C250		d) Watermains	No	
C260		e) Bulk watermains	No	
C270		f) Telecommunication cables in ducts	No	
C280		g) Telecommunication optic fibre cables	No	
C290		h) Stormwater pipes up to 600mm diam.	No	
C300		i) Stormwater pipes over 600mm diam.	No	
C310		j) Sewer pipes up to 300mm diam.	No	
C320		k) Sewer pipes over 300mm diam.	No	
	8.3.5 (b)	Services adjoining a trench(including temporary protection)		
C330		a) HV Electrical cables	m	
C340		b) LV Electrical cables	m	
C350		c) House water connections	m	
C360		b) Watermains	m	
C370		b) Bulk watermains	m	

C380		j) Telecommunication cables in ducts	m	
C390		k) Telecommunication optic fibre cables	m	
C400		d) Stormwater pipes up to 600mm diam.	m	
C410		d) Stormwater pipes over 600mm diam.	m	
C420		d) Sewer pipes up to 300mm diam.	m	
C430		d) Sewer pipes over 300mm diam.	m	
	PSDB 8.3.6	<b>FINISHING (REINSTATEMENT)</b>  Reinstate the following surfaces using the existing materials:		
C440		a) Brick paving	m <sup>2</sup>	
C450		b) Interlocking block	m <sup>2</sup>	
C460		c) Grass and lawns	m <sup>2</sup>	
C470		d) Kerb and channel  Reinstate by supplying and installing/laying the following surfaces (including all sub-surface ground preparation):	m	
C480		a) Asphalt surfacing (medium continuously grade) 40mm thick	m <sup>2</sup>	
C490		b) Tack coat	m <sup>2</sup>	
C500		c) 150 mm G4 gravel base compacted to 98% of MOD Aashto density	m <sup>3</sup>	
C510		d) 150mm G5 gravel subbase compacted to 97% MOD AASHTO density  Reinstate sidewalks and footways surfaces including the following new layerworks from commercial sources:	m <sup>3</sup>	
C520		a) 100 mm thick G5 gravel Subbase compacted to 95% MOD. AASHTO density	m <sup>2</sup>	
C530		b) Asphalt surfacing 30mm thick  Reinstate other surfaces including the following new layerworks from commercial sources:	m <sup>2</sup>	
C540		a) Concrete (75 mm thick, 25 Mpa on 100 mm G5 gravel Subbase compacted to 95% MOD. AASHTO density on sidewalks and driveways)	m <sup>2</sup>	
C550		b) Brick Paving (60 mm thick concrete pavers on 20 mm sand bed to matching colours on 100 mm thick G5 gravel subbase compacted to 96% MOD. AASHTO density on sidewalks)	m <sup>2</sup>	
C560		c) Interlocking concrete block paving (80 mm thick 30 Mpa on 150 mm thick G5 gravel Subbase compacted to 96 % MOD. AASHTO density in roadway)	m <sup>2</sup>	

C570		d) Grass and lawns	m <sup>2</sup>	
	<b>PS-TB-6.1</b>	<b>OVERPUMPING</b> Temporary works: Over-pumping of sewage flow from pipes of the following nominal diameters. max. length 100 m: (supply all equipment: pump, sealed pipeline, sump if needed, power supply etc)		
C580		(1) From 0 up to 200 mm diam. pipes	h	
C590		(2) From 200mm up to 300 mm diam. pipes	h	
C600		(3) From 300mm up to 375 mm diam. pipes	h	
C610		(4) From 375mm up to 450 mm diam. pipes	h	
		Extra over for provision of additional pipe when length exceeds 100m for item from C900 to C930		
		<b>a) Layflat hosing</b>		
C620		(1) up to 200 mm diam. pipes	m	
C630		(2) Exceeding 200 mm diam. pipes	m	
		<b>b) Rigid piping</b>		
C640		(1) From 0 up to 200 mm diam. pipes	m	
C650		(2) From 200mm up to 300 mm diam. pipes	m	
C660		(3) From 300mm up to 375 mm diam. pipes	m	
C670		(4) From 375mm up to 450 mm diam. pipes	m	
<b>104Q/2021/22: Term Tender for Trenchless Rehabilitation of Sewers by Cured-In-Place Pipe Lining Citywide</b>				
ITEM NO	PAYMENT	DESCRIPTION	UNIT	
	<b>SANS 1200LD</b>	<b>SECTION D: SEWERS</b>		
	<b>PS-TC-5.1</b>	<b>CCTV CAMERA INSPECTION AND ASSESSMENT</b>		
		1) Pre - CCTV Inspection for nominal diameters		
D10		(a) 100mm/ 150mm / 200mm	m	
D20		(b) 225mm/ 250mm / 300mm	m	

D30		(c) 375mm/450mm 2) Post - CCTV Inspection for nominal diameters	m	
D40		(a) 100mm/ 150mm / 200mm	m	
D50		(b) 225mm/ 250mm / 300mm	m	
D60		(c) 375mm/450mm	m	
	<b>PS-TA-8.1</b>	<b>BULK CLEANING</b>		
D70		for nominal diameters		
D80		(a) 100mm/ 150mm / 200mm	m	
D90		(b) 225mm/ 250mm / 300mm	m	
D100		(c) 375mm/450mm	m	
		EXTRA OVER ITEM ON PS-TA-8.1 FOR CLEANING IN MIDBLOCKS		
		for nominal diameters		
D110		(a) 100mm/ 150mm / 200mm	m	
D120		(b) 225mm/ 250mm / 300mm	m	
D130		(c) 375mm/450mm	m	
		EXTRA OVER ITEM ON PS-TA-8.1 FOR CONCRETE REMOVAL		
		for nominal diameters		
D140		(a) 100mm/ 150mm / 200mm	m	
D150		(b) 225mm/ 250mm / 300mm	m	
D160		(c) 375mm/450mm	m	
		EXTRA OVER ON PS-TA-8.1 FOR CLEANING A SEMI TO FULLY DETORiated CAST IRON PIPELINE		
		for nominal diameters		
D170		(a) 100mm/ 150mm / 200mm	m	
D180		(b) 225mm/ 250mm / 300mm	m	
D190		(c) 375mm/450mm	m	
	<b>PS-TA-8.2</b>	<b>ROOT REMOVAL</b>		
		for nominal diameters		
D200		(a) 100mm/ 150mm / 200mm	m	
D210		(b) 225mm/ 250mm / 300mm	m	
D220		(c) 375mm/450mm	m	

**104Q/2021/22: Term Tender for Trenchless Rehabilitation of Sewers by Cured-In-Place Pipe Lining Citywide**

	<b>SABS 1200 LD 8.2.1</b>	<b>SECTION E: PIPEWORK REPLACEMENT (NEW PIPES)</b> Supply, lay, joint, bed, including testing and couplings		
	PSLD 8.2.1	UPVC Sewer Pipes to SABS 791 (Class 34) - Short lengths including point repair/erf connections (less than and up to 15m)		
E10		a) 100 mm diam.	m	
E20		b) 150 mm diam.	m	
E30		c) 200 mm diam.	m	
E40		d) 250 mm diam.	m	
E50		e) 300 mm diam.	m	
		<b>JOINTING (POINT REPAIRS)</b>  Cut into existing pipeline and reconnect new pipeline with special adaptors and make good, including hand excavation, dispose of surplus material and supply special adaptors		
E60		a) 110 mm diam.		
E70		b) 160 mm diam.		
E80		c) 200 mm diam.		
E90		d) 250 mm diam.		
E100		e) 300 mm diam.		
		<b>SPECIALS AND FITTINGS FOR HOUSE CONNECTIONS</b>  Supply, lay, joint, bed (Class B, incl. cut pipes where require), specials and fittings: uPVC Fittings to SABS 791 class 34		
		Y Junctions (45 deg)		
E110		a) 110 mm x 110 mm	No.	
E120		b) 160 mm x 110 mm	No.	
E130		c) 160 mm x 160 mm	No.	
		Bends		
E140		a) 110 mm x 11.25 deg.	No.	
E150		b) 110 mm x 22.5 deg.	No.	
E160		c) 110 mm x 45 deg.	No.	

E170	<b>PSLD 8.2.13</b>	d) Endcaps (110 mm)	No.	
		<b>Reinstatement of manholes</b>  1000mm precast concrete rings with dolomitic aggregate		
E180		a) 0 to 1.5m	No.	
E190		b) 1.5 to 3.0m	No.	
E200		c) 3.0 to 4.5m	No.	
E210		d) 4.5 to 6.0m	No.	
E220		e) 6.0 to 7.5m	No.	
E230		f) 7.5 to 9.0m  1250mm precast concrete rings with dolomitic aggregate	No.	
E240		a) 0 to 1.5m	No.	
E250		b) 1.5 to 3.0m	No.	
E260		c) 3.0 to 4.5m	No.	
E270		d) 4.5 to 6.0m	No.	
E280		e) 6.0 to 7.5m	No.	
E290		f) 7.5 to 9.0m	No.	
<b>104Q/2021/22: Term Tender for Trenchless Rehabilitation of Sewers by Cured-In-Place Pipe Lining Citywide</b>				
<b>ITEM NO</b>	<b>PAYMENT</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	
	PS-TD-10.1	<b>SECTION F: CURED-IN-PLACE-PIPE (CIPP) LINING</b>  SUPPLY AND INSTALL CIPP LINERS		
		<b>1) UN-REINFORCED LINERS</b>		
F10		a) 5,0 mm thick un-reinforced liner i) 150mm dia	m	
F20		ii) 200mm dia	m	
F30		iii) 225mm dia b) 7,5 mm thick un-reinforced liner	m	

F40		i) 250mm dia	m	
F50		i) 300mm dia c) Larger than 9 but less or equal to 12 mm thick unreinforced liner	m	
F60		i) 375 mm dia		
F70		ii) 450 mm dia		
F80		d) Larger than 12 but less or equal to 15 mm thick unreinforced liner l) 375 mm dia		
F90		ii) 450 mm dia		
F100		e) Larger than 15 but less or equal to 18 mm thick unreinforced liner l) 375 mm dia		
F110		ii) 450 mm dia		
		<b>2) REINFORCED LINERS as an ALTERNATIVE to UN-REINFORCED LINERS</b>		
		a) 3,5 mm thick reinforced liner		
F120		i) 150mm dia	m	
F130		ii) 200mm dia	m	
F140		iii) 225mm dia	m	
		b) 5,0 mm thick reinforced liner		
F150		i) 250mm dia	m	
F160		ii) 300mm dia	m	
	PS-TD-10.4	Extra-over items F210 to F260 for fluctuation in exchange rate	Prov Sum	
	PS-TD-10.2	<b>SERVICE RECONNECTIONS</b>		
F170		a) Service reconnections	No	
	PS-TA-8.3	<b>CUTTING OF PROTRUDING LATERALS</b>		
F180		a) larger than 50mm but less or equal to 200mm dia	No	
F190		b) larger than 200mm dia	No.	
	PS-TD-10.3	<b>REHABILITATION OF EXISITNG MANHOLES</b>		
F200		a) 20mm calcium aluminate mortar to internal faces	m2	
F210		b) Supply and Install Step Irons	No.	

F220	PS-TD-10.5	Extra-over items F10 to F160 for installation of CIPP liners in mid-blocks	m	
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**DECLARATION (In respect of completeness of Tender)**

City of Cape Town  
Tower Block, Civic Centre  
12 Hertzog Boulevard  
CAPE TOWN

I/we, the undersigned, do hereby declare that these are the properly priced Schedule of Rates forming Part C2.2 of this Contract Document containing 169 pages in consecutive order, with Annex 6 attached containing 47 pages in consecutive order, upon which my/our tender for **TENDER NO. 104Q/2021/22: TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE** has been based. If I/we have submitted a printed version of the Schedules of Rates, I/we warrant that no amendments have been made to it from the original, other than amendments issued in any Addenda in terms of Clause C.3.2 in Part T1.2 Tender Data.

-----  
SIGNATURE OF TENDERER/S

-----  
DATE

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE**

## **T2.2 Returnable Schedules**

NOTE: Certain of the following Returnable Schedules, amended as applicable, will also have to be completed for each Works Project.

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**SCHEDULE 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.	
<b>Section 1: Name of enterprise:</b> .....	
<b>Section 2: VAT registration number, if any:</b> .....	
<b>Section 2a: National Treasury Central Supplier Database registration number :</b> .....	
<b>Section 2b: SARS Tax Compliance Status PIN :</b> .....	
<b>Section 3: cidb registration number, if any:</b> .....	
<b>Section 4: Particulars of sole proprietors and partners in partnerships</b>	
<i>* Complete only if sole proprietor or partnership and attach separate page if more than 3 partners</i>	
<b>Section 5: Particulars of companies and close corporations</b>	
Company registration number .....	
Close corporation number .....	
Tax reference number .....	
<b>Section 6: Foreign Bidding Suppliers</b>	
Is tenderer the accredited representative in South Africa for the Goods / Services / Works offered?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, enclose proof
Is tenderer a foreign based supplier for the Goods / Services / Works offered?	<input type="checkbox"/> Yes <input type="checkbox"/> No If yes, answer the Questionnaire to Bidding Foreign Suppliers (below)
<b>Questionnaire to Bidding Foreign Suppliers</b>	
a) Is the tenderer a resident of the Republic of South Africa or an entity registered in South Africa?	<input type="checkbox"/> Yes <input type="checkbox"/> No
b) Is the tenderer a resident of the Republic of South Africa or an entity registered in South Africa?	<input type="checkbox"/> Yes <input type="checkbox"/> No
c) Does the tenderer have a permanent establishment in the Republic of South Africa?	<input type="checkbox"/> Yes <input type="checkbox"/> No
d) Does the tenderer have any source of income in the Republic of South Africa?	<input type="checkbox"/> Yes <input type="checkbox"/> No

e) Is the tenderer liable in the Republic of South Africa for any form of taxation?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
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The undersigned, who warrants that he / she is duly authorised to do so on behalf of the enterprise:

- i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are 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 or Database of Restricted Suppliers;
- 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;

Signed \_\_\_\_\_ Date \_\_\_\_\_

Name \_\_\_\_\_ Position \_\_\_\_\_

*Enterprise  
name*

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**SIGNED ON BEHALF OF TENDERER:** .....

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 2 : CERTIFICATE OF INDEPENDENT TENDER DETERMINATION**

I, the undersigned, in submitting this tender for Contract No. **104Q/2021/22: TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

in response to the invitation for the tender made by the City of Cape Town, do hereby make the following statements 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 I understand the contents of this Certificate;
2. I understand that this tender will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the tenderer to sign this Certificate, and to submit this tender on behalf of the tenderer;
4. Each person whose signature appears on this tender has been authorized by the tenderer to determine the terms of, and to sign, the tender, on behalf of the tenderer;
5. For the purposes of this Certificate and this 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 invitation to tender;
  - (b) could potentially submit a tender in response to this invitation to tender, based on their qualifications, abilities or experience; and
  - (c) provides the same goods and services as the tenderer and/or is in the same line of business as the tenderer;
6. The tenderer has arrived at this tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium<sup>1</sup> will not be construed as collusive tendering;
7. In particular, without limiting the generality of paragraph 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
  - (a) prices;
  - (b) geographical area where product or service will be rendered (market allocation);
  - (c) methods, factors or formulas used to calculate prices;
  - (d) the intention or decision to submit or not to submit a tender;
  - (e) the submission of a tender which does not meet the specifications and conditions of the tender; or
  - (f) tendering with the intention not to win the tender;

<sup>1</sup>Joint venture or Consortium means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

8. In addition, there have been no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specifications and conditions or delivery particulars of the products or services to which this invitation to tender relates;
9. The terms of this 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 of the awarding of the contract;
10. I am aware that , in addition and without prejudice to any other remedy provided to combat any restrictive practices related to 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 from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No. 12 of 2004 or any other applicable legislation.

.....  
Signature

.....  
Date

.....  
Name

.....  
Position

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**SCHEDULE 3 : CERTIFICATE OF AUTHORITY FOR JOINT VENTURES**

This returnable schedule is to be completed by joint ventures.

We, the undersigned, are submitting this tender offer in joint venture and hereby authorize

Mr/Ms .....

.....authorised signatory of the company,

close corporation or partnership .....

....., acting in the capacity of lead partner, to sign all documents in connection with the tender offer and any contract resulting from it on our behalf.

NAME OF FIRM	ADDRESS	DULY AUTHORISED SIGNATORY
Lead partner		Signature..... Name..... Designation.....
		Signature..... Name..... Designation.....
		Signature..... Name..... Designation.....
		Signature..... Name..... Designation.....

**Note :**

A copy of the Joint Venture Agreement, showing clearly the **percentage contribution of each partner** to the joint venture, shall be appended to this schedule.

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE  
CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 4: DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES (MBD 8)**

**Where the entity tendering is a joint venture, each party to the joint venture must sign a declaration in terms of the Municipal Finance Management Act, 56 of 2003, and attach it to this schedule.**

- 1 The tender offer of any tenderer may be rejected if that tenderer or any of its directors/members have:**
- a) abused the municipality's / municipal entity's supply chain management system or committed any improper conduct in relation to such system;
  - b) been convicted for fraud or corruption during the past five years;
  - c) willfully 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 (No 12 of 2004).

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

<b>Item</b>	<b>Question</b>	<b>Yes</b>	<b>No</b>
1.1.1	Is the Tenderer or any of its directors listed on the National Treasury's Database of Restricted Suppliers as a company or person prohibited from doing business with the public sector?  (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). <b>The Database of Restricted Suppliers now resides on the National Treasury's website <a href="http://www.treasury.gov.za">www.treasury.gov.za</a> and can be accessed by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
1.1.1	If so, furnish particulars:		
1.2.1	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, 12 of 2004? <b>The Register for Tender Defaulters can be accessed on the National Treasury's website (<a href="http://www.treasury.gov.za">www.treasury.gov.za</a>) by clicking on its link at the bottom of the home page.</b>	Yes <input type="checkbox"/>	No <input type="checkbox"/>
1.2.1	If so, furnish particulars:		
1.3.1	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 <input type="checkbox"/>	No <input type="checkbox"/>
1.3.1	If so, furnish particulars:		
1.4.1	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 <input type="checkbox"/>	No <input type="checkbox"/>
1.4.1	If so, furnish particulars:		
1.5.1	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 <input type="checkbox"/>	No <input type="checkbox"/>

1 . 5 . 1	If so, furnish particulars:
-----------------------	-----------------------------

I, \_\_\_\_\_, the undersigned,  
**(full name in block letters)**  
**certify that the information furnished on this declaration form is true and correct, and accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.**

.....  
Signature

.....  
Date

.....  
.....  
Position

Name of Tenderer/Contractor

**Where the entity tendering is a joint venture, each party to the joint venture must sign a declaration in terms of the Municipal Finance Management Act, 56 of 2003, and attach it to this schedule.**

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 5: DECLARATION OF INTEREST – STATE EMPLOYEES (MBD 4 amended)**

1. No bid will be accepted from:
  - 1.1 persons in the service of the state<sup>1</sup>, or
  - 1.2 if the person is not a natural person, of which any director, manager or principal shareholder or stakeholder is in the service of the state, or
  - 1.3 from persons, or entities of which any director, manager or principal shareholder or stakeholder, has been in the service of the City of Cape Town during the twelve (12) months after the City employee has left the employ of the City, or
  - 1.4 from an entity who has employed a former City employee who was at a level of T14 of higher at the time of leaving the City's employ and involved in any of the City's bid committees for the bid submitted, if:
    - 1.4.1 the City employee left the City's employment voluntarily, during a period of twelve (12) months after the City employee has left the employ of the City;
    - 1.4.2 the City employee left the City's employment whilst facing disciplinary action by the City, during a period of twenty-four (24) months after the City employee has left the employ of the City, or any other period prescribed by applicable legislative provisions, after having left the City's employ.
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 tenderer 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 tenderer or his or her representative:.....
- 3.2 Identity Number: .....
- 3.3 Position occupied in the Company (director, trustee, shareholder<sup>2</sup>):.....
- 3.4 Company or Close Corporation 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**
  - 3.8.1 If yes, furnish particulars. ....  
.....
- 3.9 Have you been in the service of the state for the past twelve months? **YES / NO**
  - 3.9.1 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**
  - 3.10.1 If yes, furnish particulars.  
.....

.....  
 3.11 Are you, aware of any relationship (family, friend, other) between any other supplier and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid? **YES / NO**

3.11.1 If yes, furnish particulars  
 .....  
 .....

3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.12.1 If yes, furnish particulars.....

3.13 Are any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state? **YES / NO**

3.13.1 If yes, furnish particulars.  
 .....  
 .....

13.4 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract? **YES / NO**

3.14.1 If yes, furnish particulars:  
 .....  
 .....

3.15 Have you, or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company been in the service of the City of Cape Town in the past twelve months? **YES / NO**

3.15.1 If yes, furnish particulars .....

3.16 Do you have any employees who was/were in the service of the City of Cape Town at a level of T14 or higher at the time they left the employ of the City, and who was involved in any of the City's bid committees for this bid? **YES / NO**

3.16.1 If yes, furnish particulars .....

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

Full Name	Identity Number	State Employee Number

If the above table does not sufficient to provide the details of all directors / trustees / shareholders, please append full details to the tender submission.

The tenderer hereby certifies that the information set out in this schedule and/or attached thereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract, restriction of the tenderer or the exercise by the employer of any other remedies available to it

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name (PRINT)

(For and on behalf of the tenderer, duly authorised)

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

***(a) a member of –***

***(i) any municipal council;***

***(ii) any provincial legislature; or***

***(iii) the national Assembly or the national Council of provinces;***

***(b) a member of the board of directors of any municipal entity;***

***(c) an official of any municipality or municipal entity;***

***(d) an employee of any national or provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999);***

***(e) an executive member of the accounting authority of any national or provincial public entity; or***

***(f) an employee of Parliament or a provincial legislature.***

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

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 6: AUTHORISATION FOR THE DEDUCTION OF OUTSTANDING AMOUNTS OWED TO THE CITY OF CAPE TOWN**

**To: THE CITY MANAGER, CITY OF CAPE TOWN**

**From:** \_\_\_\_\_  
(Name of tenderer)

The tenderer:

- a) hereby acknowledges that according to SCM Regulation 38(1)(d)(i) the City Manager may reject the tender of the tenderer if any municipal rates and taxes or municipal service charges owed by the tenderer (or any of its directors/members/partners) to the CCT, or to any other municipality or municipal entity, are in arrears for more than 3 (three) months; and
- b) therefore hereby agrees and authorises the CCT to deduct the full amount outstanding by the Tenderer or any of its directors/members/partners from any payment due to the tenderer; and
- c) confirms the information as set out in the tables below for the purpose of giving effect to b) above;

The tenderer hereby certifies that the information set out in this schedule and/or attached hereto is true and correct, and acknowledges that failure to properly and truthfully complete this schedule may result in steps being taken against the tenderer, the tender being disqualified, and/or (in the event that the tenderer is successful) the cancellation of the contract and/or steps in terms of abuse of the Supply Chain Management Policy.

Physical <b>Business</b> address of the Tenderer	Municipal Account number(s)

If there is not enough space for all the names, please attach the additional details to the Contract Document

Name of Director / Member / Partner	Identity Number	Physical <b>residential</b> address of Director / Member / Partner	Municipal Account number(s)

\_\_\_\_\_  
Signature  
Print name:  
On behalf of the tenderer (duly authorised)

\_\_\_\_\_  
Date

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 7: DECLARATION IN RESPECT OF COMPLIANCE WITH LABOUR LEGISLATION**

Tenderers must be registered with the relevant Bargaining Council as contained in the tender conditions and must append to this schedule a certificate of compliance / letter of good standing in terms of the relevant Government Gazette that indicates compliance / validity at the time of tender award.

Each party to a Consortium/Joint Venture shall append separate certificates in the above regard.

**Declaration in respect of labour legislation**

The tenderer, by signing this schedule, declares that it will comply with all labour legislation, as may be applicable.

**SIGNED ON BEHALF OF TENDERER: .....**

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 8: CONFIRMATION OF CITY OF CAPE TOWN SUPPLIER DATABASE REGISTRATION**

<b><u>CITY OF CAPE TOWN</u> VENDOR DATABASE REGISTRATION</b>		
<b>COMPANY NAME</b>	<b>REGISTERED YES/NO</b>	<b>REGISTRATION NUMBER IF APPLICABLE</b>

**SIGNED ON BEHALF OF TENDERER: .....**

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITY WIDE

**SCHEDULE 9: SCHEDULE OF WORK EXPERIENCE OF TENDERER**

The tenderer shall insert in the spaces provided below a list of similar completed contracts awarded to him and those currently being undertaken.

CLIENT/ EMPLOYER			CONSULTING ENGINEER			NATURE OF WORK	VALUE OF WORK R(m)	START DATE – END DATE
NAME	TEL. NO.	EMAIL	NAME	TEL. NO.	EMAIL			
<b>COMPLETED CONTRACTS</b>								
<b>CURRENT CONTRACTS</b>								

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF TENDERER:** .....

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE  
NOT APPLICABLE  
CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE**

**SCHEDULE 10: SCHEDULE OF EQUIPMENT INSTALLATIONS AND SERVICE HISTORY**

[Not Applicable]

**SIGNED ON BEHALF OF TENDERER: .....**

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 11: CONFIRMATION OF CONTRACTOR REGISTRATION / ACCREDITATION**

[Not Applicable]

**SIGNED ON BEHALF OF TENDERER:** .....

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**SCHEDULE 12: DETAILS OF QUALIFICATIONS AND EXPERIENCE OF STAFF**

Tenderers shall set out in the Schedule hereunder details of the listed staff's experience in work of a similar nature to that for which their Tender is submitted.

Important to note:

Contracts Manager: **Years verifiable experience in Contract Management related field**

CONTRACTS MANAGER				NAME: .....			
DETAILS OF CLIENT/EMPLOYER			CONTRACT	NATURE OF WORK	POSITION HELD	VALUE OF WORK	START DATE [MM/YEAR]- END DATE [MM/YEAR]
NAME	TEL. NO.	EMAIL					

Important to note:

**Site Agent: Years verifiable experience as a Site Agent for Trenchless Rehabilitation, which utilised CIPP Lining technology projects**

SITE AGENT				NAME: .....			
DETAILS OF CLIENT			CONTRACT	NATURE OF WORK	POSITION HELD	VALUE OF WORK	START DATE [MM/YEAR]- END DATE [MM/YEAR]
NAME	TEL. NO.	EMAIL					

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF THE TENDERER:** .....

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 13: SCHEDULE OF CONSTRUCTION EQUIPMENT**

The tenderer shall state below what construction equipment will be available for this Contract. The tenderer shall differentiate, if applicable, between construction equipment immediately available and construction equipment which will become available by virtue of outstanding orders, and indicate what further construction equipment will be acquired or hired for the work should he be awarded the Contract.

**CONSTRUCTION EQUIPMENT IMMEDIATELY AVAILABLE**

DESCRIPTION, SIZE, CAPACITY	NUMBER

**CONSTRUCTION EQUIPMENT ON ORDER**

(State details of arrangements made, with delivery dates)

DESCRIPTION, SIZE, CAPACITY	NUMBER

**CONSTRUCTION EQUIPMENT THAT WILL BE ACQUIRED OR HIRED**

(State details of delivery arrangements)

DESCRIPTION, SIZE, CAPACITY	NUMBER

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF TENDERER:** .....

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE**

**SCHEDULE 14: DETAILS OF TENDERER'S WORKSHOP FACILITIES**

Not applicable to this tender.

The tenderer shall state below what technical support centres and repair facilities for the tenderer and/or manufacturer will be available for this Contract and for post contract support.

Technical Support Centre: .....

.....  
.....

Repair facilities:.....

.....  
.....

Address.....

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

Number of Artisans Normally  
Employed by Firm .....

.....

Number of Technically Qualified  
Persons Employed .....

Spares held in stock:

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

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF TENDERER:** .....

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 15: SCHEDULE OF SUB-CONTRACTORS**

We notify you that it is our intention to employ the following sub-contractors for work (excluding work covered by provisional sums and contingencies) in this contract.

Acceptance of this tender shall not be construed as approval of all or any of the listed sub-contractors. Should any of the sub-contractors not be approved subsequent to acceptance of the tender, this shall in no way invalidate the contract, and the tendered unit rates for the various items making up the work activities shall remain final and binding.

<b>SUB-CONTRACTORS</b>		
<b>Sub-contractor's name</b>	<b>Work activities to be undertaken by the Sub-contractor</b>	<b>Estimated value of work (Rand)</b>

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF TENDERER:** .....

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE**

**SCHEDULE 16: HEALTH AND SAFETY PLAN**

Tenderers are referred to the requirements of Clause C.2.18.4 in Part T1.2 Tender Data and shall append the required draft Health and Safety Plan to this Schedule.

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF TENDERER:** .....

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**SCHEDULE 17: PROPOSED DEVIATIONS AND QUALIFICATIONS BY TENDERER**

The Tenderer should record any **proposed** deviations or qualifications he may wish to make to the tender documents in this Returnable Schedule. Alternatively, a tenderer may state such proposed deviations and qualifications in a covering letter attached to his tender and reference such letter in this schedule. Any proposed deviations or qualifications contained in a covering letter which is not referenced in this schedule will not be considered.

**The Tenderer's attention is drawn to clause C.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the Employer's handling of material deviations and qualifications.**

If no deviations or qualifications are proposed, the schedule hereunder is to be marked NIL and signed by the Tenderer.

PAGE	CLAUSE OR ITEM	PROPOSED DEVIATION OR QUALIFICATION

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF TENDERER:** .....

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LININGWIDE**

**SCHEDULE 18: FUNCTIONALITY CRITERIA**

The Tenderer shall provide information for the functionality criteria listed in this Returnable Schedule.

The Tenderer's attention is drawn to clause C.2.1.4.3 in the Tender Data for a more detailed explanation of the functionality criteria given in the table below and how the score will be calculated (with applicable values).

<b>Item No.</b>	<b>Description</b>		
2.	<b>Tendering entity has experience in the rehabilitation of gravity sewers by means of trenchless technology:</b>	<b>Required years</b>	<b>Scores</b>
1.1	Specifically the Cured In Place Pipe (CIPP) Lining method for various pipeline diameters up to 450 mm between two existing manholes at various spacing including 80m or more apart (Refer to Schedule 9)	More than 5 years	15
		More than 3 to 5 years	10
		1 to 3 years	5
		Less than 1 year	0
2	<b>Tenderer has the following key personnel in its permanent employment</b>	<b>Required years</b>	<b>Scores</b>
2.1	<b>Contract Manager:</b> Years verifiable experience in Contract Management related field, (Refer to Schedule 12)	More than 5 years	10
		More than 1 to 5 years	6
		Less than 1 year	0
2.2	<b>Site Agent:</b> Years verifiable experience as a Site Agent for Trenchless Rehabilitation, which utilised Cured In Place Pipe (CIPP) Lining technology projects (Refer to Schedule 12)	More than 5 years	15
		More than 3 to 5 years	10
		1 to 3 years	5
		Less than 1 year	0
<b>Maximum possible score for Functionality</b>		<b>40</b>	

The minimum score for functionality is **24**. Tenderers that fail to achieve the minimum score for functionality will be declared as non-responsive.

Only the personnel submitted on Schedule 12 will be evaluated for responsiveness. The Curriculum Vitae must be submitted, confirming experience required for this tender. The Contract Manager and the Site Agent cannot be the same person.

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF TENDERER:** .....

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**SCHEDULE 19: REGIONS OF PREFERENCE**

[Not Applicable]

**SIGNED ON BEHALF OF TENDERER: .....**

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE  
CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE**

**SCHEDULE 20 : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED  
SECTORS**

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).  
The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

Before completing this declaration, bidders must study the General Conditions, Definitions, Directives applicable in respect of Local Content as prescribed in the Preferential Procurement Regulations, 2017 and the South African Bureau of Standards (SABS) approved technical specification number SATS 1286:2011 (Edition 1) and the Guidance on the Calculation of Local Content together with the Local Content Declaration Templates [Annex C (Local Content Declaration: Summary Schedule), D (Imported Content Declaration: Supporting Schedule to Annex C) and E (Local Content Declaration: Supporting Schedule to Annex C)].

Documents listed herein are downloadable from the dti's official website, <http://www.thedti.gov.za>.

**This schedule must be completed by tenderers and returned with their tender at the closing date and time for this tender.**

**1. General Conditions**

- 1.1 Preferential Procurement Regulations, 2017 (Regulation 8) makes provision for the promotion of local production and content.
- 1.2 Regulation 8(2) prescribes that in the case of designated sectors, organs of state must advertise such bids with the specific bidding condition that only locally produced goods with a stipulated minimum threshold for local production and content will be considered.
- 1.3 Where necessary, for tenders referred to in paragraph 1.2 above, a two stage bidding process may be followed, where the first stage involves a minimum threshold for local production and content and the second stage price and B-BBEE.
- 1.4 A person awarded a contract in relation to a designated sector, may not 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.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

$$LC = [1 - x / y] * 100$$

Where

- x is the imported content in Rand
- y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by Nedbacnl at close of business on the date of advertisement of the bid as required in paragraph 3.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on [http://www.thedti.gov.za/industrial\\_development/ip.jsp](http://www.thedti.gov.za/industrial_development/ip.jsp) at no cost.

- 1.6 A bid may be disqualified/declared non-responsive if this Declaration Certificate and Annex C (Local Content Declaration: Summary Schedule) are not submitted as part of the bid documentation.



**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE  
CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 20 : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)**

**LOCAL CONTENT DECLARATION BY CHIEF FINANCIAL OFFICER OR OTHER LEGALLY RESPONSIBLE PERSON NOMINATED IN WRITING BY THE CHIEF EXECUTIVE OR SENIOR MEMBER/PERSON WITH MANAGEMENT RESPONSIBILITY (CLOSE CORPORATION, PARTNERSHIP OR INDIVIDUAL)**

**IN RESPECT OF BID NO. ....**

**ISSUED BY:** (Procurement Authority / Name of Municipality / Municipal Entity):  
.....

**NB**

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on [http://www.thedti.gov.za/industrial\\_development/ip.jsp](http://www.thedti.gov.za/industrial_development/ip.jsp). Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ..... (full names),  
do hereby declare, in my capacity as .....  
of .....(name of bidder entity), the following:

- (a) The facts contained herein are within my own personal knowledge.
- (b) I have satisfied myself that:
  - (i) the goods to be delivered in terms of the above-specified bid comply with the minimum local content requirements as specified in the bid, and as measured in terms of SATS 1286:2011;
- (c) The local content percentages (%) indicated below has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E which has been consolidated in Declaration C;

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 2 above)	
Local content %, as calculated in terms of SATS 1286:2011	

**If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 3.1 above and the information contained in Declaration D and E.**

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 14 of the Preferential Procurement Regulations, 2017 promulgated under the Preferential Policy Framework Act (PPPFA), 2000 (Act No. 5 of 2000).

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

WITNESS No. 1 \_\_\_\_\_ DATE: \_\_\_\_\_

WITNESS No. 2 \_\_\_\_\_ DATE: \_\_\_\_\_

## Annex C

## Local Content Declaration - Summary Schedule

**Note:** VAT to be excluded from all calculations

(C1)	Tender No.	104Q/2021/22					
(C2)	Tender description:	TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE					
(C3)	Designated product(s)	Plastic Pipes and Fittings					
(C4)	Tender Authority:	City of Cape Town					
(C5)	Tendering Entity name:						
(C6)	Tender Exchange Rate:	Pula		EU		GBP	
(C7)	Specified local content %	100%					

## Calculation of local content

Tender item no's	List of items	Tender price per UoM (excl VAT)	Exempted imported value	Tender value- net of exempted imported content	Imported value	Local value	Local content % (per item)
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)
E10	UPVC Sewer Pipes to SABS 791 (Class 34) – 100mm dia.						

## Tender summary

Anticipated Annual Tender Qty (m)	Total tender value	Total exempted imported content	Total Imported content
(C16)	(C17)	(C18)	(C19)

E20	UPVC Sewer Pipes to SABS 791 (Class 34) – 150mm dia.									
E30	UPVC Sewer Pipes to SABS 791 (Class 34) – 200mm dia.									
E40	UPVC Sewer Pipes to SABS 791 (Class 34) – 250mm dia.									
E50	UPVC Sewer Pipes to SABS 791 (Class 34) – 300mm dia.									
E110	(Class 34)Y-Junction (45 degree) – 110 x 110mm									
E130	(Class 34)Y-Junction (45 degree) – 160 x 110mm									
E140	(Class 34)Y-Junction (45 degree) – 160 x 160mm									
E140	(Class 34) Bends - 110 x 11.25 deg.									
E150	(Class 34) Bends - 110 x 22.5 deg.									
E160	(Class 34) Bends - 110 x 45 deg.									
E170	(Class 34) Endcap – 110mm									

<b>(C20) Total tender value</b>	R	
<b>(C21) Total Exempt imported content</b>	R	
<b>(C22) Total Tender value net of exempt imported content</b>	R	
<b>(C23) Total Imported content</b>		R
<b>(C24) Total local content</b>		R
<b>(C25) Average local content % of tender</b>		

**Signature of tenderer from Annex B**

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



	Sched ules of Quantities Item No.										
--	---	--	--	--	--	--	--	--	--	--	--

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**SCHEDULE 22: RECORD OF ADDENDA TO TENDER DOCUMENTS**

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:		
	Date	Title or Details
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

**SIGNED ON BEHALF OF TENDERER:** .....

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE

**SCHEDULE 23: PREFERENCE SCHEDULE TO BE USED IN TERMS OF THE AMENDED CODES FOR  
MEASURING BROAD-BASED BLACK ECONOMIC EMPOWERMENT IN THE CONSTRUCTION SECTOR (2017)**

## Preference Schedule where preferences are granted in respect of B-BBEE contribution

### 1 Definitions

The following definitions shall apply to this schedule:

**All applicable taxes:** Includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies.

**Applicable Code:** Shall be either the Amended Codes of Good Practise (published on 11 October 2013) or Sector Specific Codes as indicated in the tender conditions

**B-BBEE:** Broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act.

**B-BBEE status level of contributor:** The B-BBEE status of an entity 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.

**Bid (Tender):** A written offer in a prescribed or stipulated form in response to an invitation by an organ of state for the provision of services, works or goods, through price quotations, advertised competitive bidding processes or proposals.

**Black Designated Groups:** The meaning assigned to it in the codes of good practice issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act, 2003, (Act 53 of 2003).

**Black People:** The meaning assigned to it in section 1 of the Broad-Based Black Economic Empowerment Act.

**Broad-Based Black Economic Empowerment Act:** The Broad-Based Black Economic Empowerment Act, Act 53 of 2003.

**Consortium or Joint Venture:** An association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract.

**Contract** The agreement that results from the acceptance of a bid by an organ of state.

**Co-operative:** A co-operative registered in terms of section 7 of the Co-operatives Act, 2005 (Act no. 14 of 2005).

**Designated Group:** Black designated groups, black people, women, people with disabilities or small enterprises as defined in section 1 of the National Small Enterprises Act, 1996 (act no. 102 of 1996)

**Designated Sector:** A sector, sub-sector or industry or product that has been designated in terms of any relevant regulation of the Preferential Procurement Regulations, 2017.

**Exempted Micro Enterprise (EME):** 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.

**Firm Price:** The price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract.

**Functionality:** The ability of a tenderer to provide goods or services in accordance with specifications as set out in the tender documents.

**Military Veteran:** The meaning assigned to it in section 1 of the Military Veterans Act, 2011 (Act No. 18 of 2011).

**National Treasury:** The meaning assigned to it in section 1 of the Public Finance Management Act, 1999 (Act No. 18 of 1999).

**Non-firm prices:** All prices other than "firm" prices.

**Person:** Includes a juristic person.

**People with disabilities:** The meaning assigned to it in section 1 of the Employment Equity Act, 1998 (Act No. 55 of 1998).

**Price:** Includes all applicable taxes less unconditional discounts.

**Proof of B-BBEE status level of contributor:** The B-BBEE status level certificate issued by an authorised body or person, a sworn affidavit as prescribed by the B-BBEE Codes of good Practice or any other requirement prescribed in terms of the Broad-Based Black Economic Empowerment Act.

**Qualifying Small Enterprise (QSE):** A qualifying small 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.

**Rand Value:** means the total estimated value of a contract in Rand, calculated at the time of bid invitations.

**Rural Area:** A sparsely populated area in which people farm or depend on natural resources, including villages and small towns that are dispersed through the area or an area including a large settlement which depends on migratory labour and remittances and government social grants for survival, and may have a traditional land tenure system.

**Stipulated Minimum Threshold:** The minimum threshold stipulated in terms of any relevant regulation of the Preferential Procurement Regulations, 2017.

**Sub-contract:** The primary contractor's assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract.

**The Act:** The Preferential Procurement Policy Framework Act, 2000 (Act No 5 of 2000).

**Total Revenue:** Bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the *Government Gazette* on 9 February 2007.

**Township:** An urban living area that at any time from the late 19<sup>th</sup> century until 27 April 1994, was reserved for black people, including areas developed for historically disadvantaged individuals post 27 April 1994.

**Treasury:** The meaning assigned to it in section 1 of the Public Finance Management Act, 1999 (Act No. 18 of 1999).

**Trust:** The arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person.

**Trustee:** Any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

**Youth:** The meaning assigned to it in section 1 of the National Youth Development Agency Act, 2008 (Act No. 54 of 2008).

## 2 Conditions associated with the granting of preferences

A supplier that is granted a preference undertakes to:

- 1) accept that the number of preference points allocated will be based on the B-BBEE status level of contributor of the supplier as at the closing date for submission of quotation offers;
- 2) not sub-contract more than 25% of the value of the contract to sub-contractors that do not have an equal or higher B-BBEE status level of contributor than the supplier, unless the intended sub-contractors are exempted micro enterprises that have the capability and ability to execute the sub-contract works or unless otherwise declared in terms of Section 5 below;
- 3) accept that a contract may not be awarded if the price offered is not market related;
- 4) accept the sanctions set out in Section 3 below should Condition 2(2) be breached, or should the tenderer have submitted any false information regarding its B-BBEE status level of contributor, local production and content, or any other matter required in terms of this bid that will affect, or has affected the bid evaluation;
- 5) accept that, in order to qualify for preference points, it is the responsibility of the supplier to submit documentary proof of its BBEE level of contribution in accordance with the Codes of Good Practise, 2013, to the CCT at the Supplier Management Unit located within the Tender Distribution Office, 2<sup>nd</sup> Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5);
- 6) accept that, further to 5) above, Consortiums/Joint Ventures will qualify for preference points, provided that the entity submits the relevant certificate/scorecard in terms of the Preferential Procurement Regulations, 2017. Note that, in the case of unincorporated entities, a verified scorecard in the name of the consortium/Joint Venture must be submitted with the quotation (attached to this schedule);
- 7) accept that if it is found that, in the performance of the contract, the participation of the various partners in a Consortium/ Joint Venture differs substantially from that upon which the consolidated scorecard submitted in terms of 5) above was based, and the impact of which is that the Joint Venture would not have been awarded the contract in terms of the actual B-BBEE level of contribution achieved by the Joint Venture, then

a financial penalty shall be applied (in addition to any other remedies that the CCT may have) in accordance with Section 3 below;

- 8) accept that the CCT will verify the B-BBEE level of contributor of the supplier as at the closing date for submission of tender offers, to determine the number of preference points to be awarded to the supplier. In the case of Consortiums/Joint Ventures which tender as unincorporated entities, a verified scorecard submitted with the tender and valid as at the closing date will be used to determine the number of preference points to be awarded to the supplier;
- 9) accept that, notwithstanding 8) above, a supplier will **not** be awarded points for B-BBEE status level of contributor if he indicates in his tender that he intends sub-contracting more than 25% of the value of the contract to sub-contractors that do not qualify for at least the points that the supplier qualifies for unless the intended sub-contractors are exempted micro enterprises that have the capability and ability to execute the sub-contract works;
- 10) accept that any subcontracting arrangements after the award of the tender may only be entered into upon the prior approval of the City of Cape Town; and
- 11) immediately inform the City of Cape Town of any change that may affect the tenderer's B-BBEE level of contribution upon which preference points will be or have been allocated.

### **3 Sanctions relating to breaches of preference conditions**

The sanctions for breaching the conditions associated with the granting of preferences are:

- 1) disqualify the supplier from the quotation process;
- 2) recover costs, losses or damages the CCT has incurred or suffered as a result of the supplier's or contractor's conduct;
- 3) cancel the contract in whole or in part and claim any damages which the CCT has suffered as a result of having to make less favourable arrangements due to such cancellation;
- 4) restrict the supplier, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, from obtaining business from the CCT for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied and inform the National Treasury accordingly;
- 5) forward the matter for criminal prosecution; and/or
- 6) financial penalties payable to the CCT, as set out below.

#### **Financial penalty for breach of Condition 2 in Section 2 above:**

The penalty to be applied for sub-contracting more than 25% of the value of the contract to sub-contractors that do not qualify for at least the preference points that the supplier qualified for (unless so declared or proven to be beyond the control of the supplier, or the sub-contractors are EMEs that have the capability and ability to execute the sub-contract works) shall be as provided for in the following formula:

$$\text{Penalty} = 0.5 \times E(\%) \times P^*$$

where:

E = The value of work (excluding VAT) executed by sub-contractors that do not qualify for at least the preference points that the supplier qualified for, expressed as a percentage of P\*, less 25%

P\* = Value of the contract

#### **Financial penalty for breach in terms of condition 6 in Section 2 above:**

The penalty to be applied where, in the performance of the contract, the participation of the various partners in a Consortium/ Joint Venture differs substantially from that upon which the consolidated scorecard submitted in terms of 5) in Section 2 above was based, and the impact of which is that the Joint Venture would not have been awarded that contract in terms of the actual B-BBEE level of contribution achieved by the Joint Venture, shall be as provided for in the following formula:

$$\text{Penalty} = 5/100 \times (B-BBEE^a - B-BBEE^t) \times P^*$$

where:

B-BBEE<sup>a</sup> = The B-BBEE level of contribution that is achieved, determined in accordance with the actual participation of the Joint Venture partners in the performance of the contract

B-BBEE<sup>t</sup> = The B-BBEE level of contribution that was used to determine the number of preference points granted to the Joint Venture at the time of quotation evaluation

P\* = Value of the contract

#### **Financial penalty for breach in terms of condition 10 in Section 2 above:**

The penalty to be applied where the supplier fails to disclose subcontracting arrangement after the award of the tender is up to a maximum of 10% of the value of the contract.

**4 Level of Contribution in respect of enterprise status or structure of the tendering entity (the supplier)**

In the interest of transparency, suppliers are required to complete Table 1: Level of Contribution below applicable to the Code they wish to be evaluated against.

**Table 1: Level of Contribution: Amended Codes for Measuring Broad-Based Black Economic Empowerment in the Construction Sector.**

Type of B-BBEE Contributor	Status (tick box(es) below as applicable)
Exempted Micro Enterprise (EME), 100% black-owned	<input type="checkbox"/>
Exempted Micro Enterprise (EME), at least 51% but less than 100% black-owned	<input type="checkbox"/>
Exempted Micro Enterprise (EME), at least 30% but less than 51% black-owned	<input type="checkbox"/>
Exempted Micro Enterprise (EME), less than 30% black-owned	<input type="checkbox"/>
Exempted Micro Enterprise B-BBEE Status Level of Contributor <input type="checkbox"/>	<input type="checkbox"/>
Qualifying Small Enterprise B-BBEE Status Level of Contributor <input type="checkbox"/>	<input type="checkbox"/>
Qualifying Small Enterprise (QSE), 100% black-owned	<input type="checkbox"/>
Qualifying Small Enterprise (QSE), at least 51% but less than 100% black-owned	<input type="checkbox"/>
Qualifying Small Enterprise (QSE), less than 51% black-owned	<input type="checkbox"/>
Verified B-BBEE contributor B-BBEE Status Level of Contributor <sup>1</sup> <input type="checkbox"/>	<input type="checkbox"/>
Non-compliant contributor	<input type="checkbox"/>

<sup>1</sup> If it is indicated that the company/firm/entity is a verified B-BBEE contributor, then the verified status level of contributor must be inserted in the box provided (insert a number from 1 to 8 as applicable)

**5 Declarations**

1) With reference to Condition 8 in Section 2 above, the supplier declares that:

I/we hereby forfeit my preference points because I /we DO intend sub-contracting more than 25% of the value of the contract to sub-contractors that do not qualify for at least the points that I/we as supplier qualify for or are not exempted micro enterprises that have the capability and ability to execute the sub-contract works

**Note:**

**Tenderers who do not tick this box will be allocated preference points but the sanctions relating to breaches of preference conditions in Section 3 will be applicable if the tenderer contravenes the conditions in Section 2.**

2) The undersigned, who warrants that he/she is duly authorized to do so on behalf of the supplier, hereby certifies that the preference claimed based on the B-BBEE status level of contribution indicated in Table 1, qualifies the supplier, subject to condition 8 in Section 2 above, for such preference claimed, and acknowledges that:

- (i) the information furnished is true and correct;
- (ii) the preference claimed is in accordance with the conditions of this schedule;
- (iii) the supplier may be required to furnish documentary proof to the satisfaction of the CCT that the BBEE level of contributor as at the closing date is correct; and
- iv) he/she understands the conditions under which preferences are granted, and confirms that the supplier will satisfy the conditions pertaining to the granting of preferences.

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

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

\_\_\_\_\_  
**Name (PRINT)**  
 (For and on behalf of the Supplier (duly authorised))

<b>For official use.</b>		
<b>SIGNATURE OF CITY OFFICIALS AT TENDER OPENING</b>		
<b>1.</b>	<b>2.</b>	<b>3.</b>

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

**SCHEDULE 24: INFORMATION TO BE PROVIDED WITH THE TENDER**

The tenderer shall submit preliminary designs, installation and curing method statements for the cured-in-place pipe (CIPP) lining rehabilitation methods envisaged for the various pipe diameters up to 450mm in diameter, Citywide.

The design constraints are contained in Particular Specification TD.

**Details of the preliminary design and method statements shall be appended to this Schedule.**

Number of sheets appended by the tenderer to this Schedule ..... (If nil, enter NIL).

**SIGNED ON BEHALF OF TENDERER:** .....

# TENDER NO. 104Q/2021/22



CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD

SCM –  
516

Approved by Branch Manager: 03/04/2020

Version: 5

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## FRAMEWORK CONTRACT DOCUMENT (PANEL TYPE)

FOR THE

### TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**Framework Contract Period:** 36 Months from Commencement Date

**Works Projects:** Not Exceeding R9 000 000

## VOLUME 3: DRAFT CONTRACT

<b>ISSUED BY:</b>	<b>COMPILED BY:</b>	<b>For official use.</b>
<b>DIRECTOR: WATER AND SANITATION</b> Tower Block, Civic Centre 12 Hertzog Boulevard CAPE TOWN 8001	<b>VUYO JAMES</b> <b>WATER AND WASTE</b> 3 <sup>rd</sup> Floor Water and Sanitation Building 8 Voortrekker Road BELLVILLE 7535	<b>TENDER SERIAL No.:</b>
		<b>SIGNATURES OF CITY OFFICIALS AT TENDER OPENING</b>
		1.
		2.
		3.

October 2021

<b>NAME OF TENDERING ENTITY</b>	
<b>EMAIL ADDRESS OF TENDERING ENTITY</b>	
<b>FAX NUMBER OF TENDERING ENTI</b>	
<b>NATURE OF TENDER OFFER</b> (please indicate below)	
<b>Main Offer</b> (see clause F.2.12)	
<b>Alternative Offer</b> (see clause F.2.12)	

FILE REFERENCE NO:

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## Part C1: Agreements and Contract Data

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	<b>Pages</b>
<b>C1.2 Contract Data (data provided by the Employer).....</b>	<b>99 – 117</b>
<b>C1.3 Form of Performance Guarantee.....</b>	<b>118 – 121</b>
<b>C1.4 Form of Advance Payment Guarantee.....</b>	<b>122 – 123</b>
<b>C1.5 Occupational Health and Safety Agreement .....</b>	<b>124</b>
<b>C1.6 Protection of the Environment Declaration.....</b>	<b>125</b>
<b>C1.7 Insurance Broker’s Warranty .....</b>	<b>126</b>
<b>C1.8 Contract of Temporary Employment as Community Liaison Officer .....</b>	<b>127 – 129</b>
<b>C1.9 Works Project Acceptance/Refusal Notice .....</b>	<b>130</b>

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C1.2 Contract Data

### Part 1: Contract Data provided by the Employer

#### GENERAL CONDITIONS OF CONTRACT

The following standardised General Conditions of Contract:

#### **General Conditions of Contract for Construction Works, Third Edition, 2015**

prepared by the South African Institution of Civil Engineering (SAICE) shall apply to and form the General Conditions of Contract for this contract. Copies of these conditions of contract are obtainable from the South African Institution of Civil Engineering (SAICE), Private Bag X200, Halfway House 1685, Tel: (011) 805 5947, Fax: (011) 805 5971, e-mail: [civilinfo@saice.org.za](mailto:civilinfo@saice.org.za).

Copies of the General Conditions of Contract are available for inspection and scrutiny at the offices of the Employer.

The Pro-formas bound with the General Conditions of Contract 2015, on pages 96 to 113 shall not apply to this Contract and shall be replaced with the documentation bound into this Contract Document.

The General Conditions of Contract make several references to the Contract Data for specific data, which together with these conditions collectively describe the risks, liabilities and obligations of the contracting parties and the procedures for the administration of the Contract. The Contract Data shall have precedence in the interpretation of any ambiguity or inconsistency between it and the general conditions of contract.

The General Conditions of Contract shall be read in conjunction with the variations, amendments and additions set out in the Contract Specific Data below. Each item of data given below is cross-referenced to the clause in the General Conditions of Contract to which it mainly applies.

The documents forming the Contract are to be taken as mutually explanatory of one another. For the purposes of interpretation, the priority of the documents shall be in accordance with the following sequence.

- a) the Form of Offer and Acceptance,
- b) the Contract Specific Data within the Contract Data,
- c) the General Conditions of Contract for Construction Works, Third Edition, 2015,
- d) the Drawings,
- e) the Scope of Work,
- f) the Pricing Data, and
- g) the conditions of tender, the tender data and tender schedules.

If an ambiguity or discrepancy is found in the documents, the Employer's Agent shall issue any necessary clarification or instruction.

#### CONTRACT SPECIFIC DATA

The following contract specific data, referring to the General Conditions of Contract for Construction Works, Third Edition, 2015, are applicable to this Contract:

##### **Clause 1.1.1.2:**

*Add the following after "Bill of Quantities":*

, also referred to as Bills of Quantities,

##### **Clause 1.1.1.7:**

*Add the following after "Contract" and before "means":*

, also referred to as Framework Contract or term tender contract,

*Add the following after "Acceptance,":*

including, if applicable, the Form of Offer and Acceptance in a Works Project contract document, in which case "Contract" includes the Works Project contract,

**Clause 1.1.1.11:**

*Add the following after "Acceptance":*

... of a Works Project.

The Contract Sum for each Works Project shall not exceeding R9 million (including contingencies and VAT).

**Clause 1.1.1.13:**

The Defects Liability Period is **12** months per Works Project.

**Clause 1.1.1.14:**

*Delete "Commencement Date" and replace with:*

date specified in the Works Project contract for commencement with Works execution,

The time for achieving Practical Completion, inclusive of non-working days referred to in Clause 5.8.1 below, but exclusive of special non-working days (Clause 5.8.1), will be determined for each Works Project as specified in the Works Project contract document.

**Clause 1.1.1.15:**

The **Employer** is the CITY OF CAPE TOWN, represented by the Director : DISTRIBUTION SERVICES, or such other Director named in the Works Project contract document(s), and/or such other person or persons duly authorised thereto by the Employer in writing.

The name of the Employer is: CITY OF CAPE TOWN  
DIRECTORATE: WATER AND WASTE  
DEPARTMENT: DISTRIBUTION SERVICES

and is referred to in the Contract documents by the terms "Employer", "City of Cape Town" or "Council" as the context provides.

**Clause 1.1.1.16:**

*Add the following after "Contract Data":*

in the Works Project contract document,

The name of the Employer's Agent will be stated in the Works Project contract document(s) and who may be an employee of the Employer or, alternatively, may be an independent agent appointed by the Employer.

**Clause 1.1.1.20**

*Add the following after "Contract":*

and also includes the Form of Offer and Acceptance applicable in each Works Project contract document.

**Clause 1.1.1.26:**

The Pricing Strategy is a Re-measurement Contract.

**Clause 1.1.1.28:**

The Scope of Work in this Framework Contract document is applicable, as relevant, together with the project specific Scope of Work in each Works Project contract document.

**Clause 1.1.1.33:**

The "Works" applies to the Works Projects individually or as a whole, as the context provides.

Add the following Clauses after Clause 1.1.1.34:

1.1.1.35 "**Drawings**" means all drawings, calculations and technical information forming part of the Contract documents and any modifications thereof or additions thereto from time to time approved in writing by the Employer's Agent or delivered to the Contractor by the Employer's Agent.

1.1.1.36 "**Framework Contract**" means the Contract as defined in Clause 1.1.1.7; and "**Framework Contract Period**" means the period stated in the Contract Data, during which Works Projects may be allocated to the Contractor and for which Purchase Orders may be raised (issued) provided that such orders be completed prior to the expiry of the period; provided that the Framework Contract shall continue to remain in force after the expiration of the Framework Contract Period until the Final Approval Certificate has been issued by the Employer's Agent for the last outstanding Works Project at the expiration of the Defects Liability Period of that Works Project.

1.1.1.37 "**Framework Contract Manager**" means the person named as the Framework Contract Manager in the Contract Data or any other person appointed from time to time by the Employer and of whom the Contractor is notified, in writing, to act as Framework Contract Manager for the purposes of the Contract as substitute for the Framework Contractor Manager so named.

The function of the Framework Contract Manager is to administer the Framework Contract, and such functions as would normally fall to the Employer's Agent in accordance with the provisions of the Framework Contract, shall be undertaken by the Framework Contract Manager in this regard.

The Framework Contract Manager shall be an employee of the Employer, authorised as its representative to administer the Framework Contract, and all references to "Employer's Agent" in the Contract shall apply to the Framework Contract Manager in respect of his/her administering the Framework Contract.

The Framework Contract Manager is:

Name: Mr V James (Senior Professional Officer - WATER AND SANITATION SERVICES)  
Address: City of Cape Town  
3rd Floor, Water and Sanitation, Cnr of Mike Pienaar Boulevard & Voortrekker Road,  
Bellville, 7530  
Tel: 021 400 5731  
E-mail: [vuyo.james@capetown.gov.za](mailto:vuyo.james@capetown.gov.za)

1.1.1.38 "**Letter of Notification**" means the letters of formal notification, signed by the Employer, of the decision of the Supply Chain Management Bid Adjudication Committee sent to all tenderers. The notification of the decision does not form part of the Employer's Acceptance of a successful tenderer's Offer and no rights shall accrue.

1.1.1.39 "**Panel**" means a number of contractors, of which the Contractor is one, appointed by the Employer under the Framework Contract to be available to execute Works Projects as and when they arise.

1.1.1.40 "**Purchase Order**" means the official purchase order created and released on the City of Cape Town's SAP System.

1.1.1.41 "**Schedules of Rates**" means, in this Framework Contract document, the document so designated in the Pricing Data, and which will be used to compile Bills of Quantities in the Works Project contract document(s).

1.1.1.42 "**Works Project**" means a part of the Works to be performed (task) by a Contractor under the Contract, the specific terms, conditions and scope of the Works Project contract being specified in a Works Project contract document.

1.1.1.43 "**Works Project Acceptance/Refusal Notice**" means the formal notification, signed by the successful tenderer/prospective Contractor and sent to the Employer, of his decision to accept/refuse the opportunity afforded to participate further in the Contractor appointment procedure for a Works Project as specified in the Contract.

1.1.1.44 "**Intellectual Property**" means any and all intellectual property rights of any nature anywhere in the world whether registered, registerable or otherwise, including patents, trademarks, registered designs and domain names, applications for any of the foregoing, trade or business names,

copyright and rights in the nature of copyright, design rights, rights in databases, know-how, trade secrets and any other intellectual property rights which subsist in computer software, computer programs, websites, documents, information, techniques, business methods, drawings, logos, instruction manuals, lists and procedures and particulars of customers, marketing methods and procedures and advertising literature, including the "look and feel" of any websites

**Clause 1.2.1.2:**

The address of the Employer is:

Physical address: Tower Block, Civic Centre  
12 Hertzog Boulevard  
Cape Town  
8001

Postal address: P O Box 298  
Cape Town  
8000

E-mail address: [Mbali.Matiwane@capetown.gov.za](mailto:Mbali.Matiwane@capetown.gov.za)

The address of the Employer's Agent will be stated in the Works Project contract document(s).

**Clause 1.3:**

*Delete Clause 1.3.5 in its entirety and replace with the following:*

1.3.5 Intellectual Property

1.3.5.1 The Contractor acknowledges that it shall not acquire any right, title or interest in or to the Intellectual Property of the Employer.

1.3.5.2 The Contractor hereby assigns to the Employer, all Intellectual Property created, developed or otherwise brought into existence by it for the purposes of the contract, unless the Parties expressly agree otherwise in writing.

1.3.5.3 The Contractor shall be deemed to have given the Employer a non-terminable, transferable, non-exclusive, royalty-free licence to copy, use and communicate the Contractor's documents, including making and using modifications of such documents for further work required to the Works.

1.3.5.4 The Contractor shall, and warrants that it shall:

1.3.5.4.1 not be entitled to use the Employer's Intellectual Property for any purpose other than as contemplated in this contract;

1.3.5.4.2 not modify, add to, change or alter the Employer's Intellectual Property, or any information or data related thereto, nor may the Contractor produce any product as a result of, including and/or arising from any such information, data and Intellectual Property, and in the event that it does produce any such product, the product shall be, and be deemed in law to be, owned by the Employer;

1.3.5.4.3 not apply for or obtain registration of any domain name, trademark or design which is similar to any Intellectual Property of the Employer;

1.3.5.4.4 comply with all reasonable directions or instructions given to it by the Employer in relation to the form and manner of use of the Employer Intellectual Property, including without limitation, any brand guidelines which the Employer may provide to the contractor from time to time;

1.3.5.4.5 procure that its employees, directors, members and contractors comply strictly with the provisions of clauses 1.3.5.4.1 to 1.3.5.4.3 above;

unless the Employer expressly agrees thereto in writing after obtaining due internal authority.

1.3.5.5 The Contractor represents and warrants to the Employer that, in providing goods, services or both, as the case may be, for the duration of the contract, it will not infringe or make unauthorised use of the Intellectual Property rights of any third party and hereby indemnifies the Employer from any claims,

liability, loss, damages, costs, and expenses arising from the infringement or unauthorised use by the contractor of any third party's Intellectual Property rights.

- 1.3.5.6 In the event that the contract is cancelled, terminated, ended or is declared void, any and all of the Employer's Intellectual Property, and any and all information and data related thereto, shall be immediately handed over to the Employer by the contractor and no copies thereof shall be retained by the contractor unless the Employer expressly and in writing, after obtaining due internal authority, agrees otherwise.

*Add the following Clause after Clause 1.3.6:*

- 1.3.7 The parties agree that this contract shall also be subject to the Employer's Supply Chain Management Policy ('SCM Policy') that was applicable on the date the bid was advertised. Please refer to this document contained on the CCT's website.

- 1.3.8 Abuse of the supply chain management system is not permitted and may result in cancellation of the contract, restriction of the supplier, and/or the exercise by the Employer of any other rights and remedies available to it as described in the SCM Policy.

## **Clause 2:**

*Add the following Clause after Clause 2.5.1:*

### **2.6 Procedures for the allocation of Works Projects**

The Employer reserves the right to plan, allocate and effect individual Works Projects at its sole discretion and as described in this document.

The Employer will only order those quantities of work items which it actually requires for execution in a Works Project from time to time. The Employer reserves the right not to order any quantities at all depending on circumstances and subject to operational requirements.

The Works Projects shall be executed Citywide and outlined in clause C.1.6.1 in Part T1.2 Tender Data.

The Works Projects shall be identified subject to availability of funding.

The procedures for the allocation of Works Projects are described in detail at the end of this Part 1: Contract Data provided by the Employer.

## **Clause 3.1**

Delete clause

e

### **Clause 3.2.2**

Add the following at the end of the clause:

If, in exercising any discretion, the result of such decision would be to utilise the contingency allowance, increase the contract value or granting of time for practical completion, the Employer's Agent must obtain approval from the Employer that such funding or time is available and granted by the Employer to be awarded prior to finalising such a decision.

### **Clause 3.2.3:**

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

- a) Clause 3.3.1 Nomination of Employer's Agent's Representative
- b) Clause 3.3.4 Employer's Agent's authority to delegate
- c) Clause 5.8.1 Non-working times
- d) Clause 5.11.1 Suspension of the Works
- e) Clause 5.12.4 Acceleration instead of extension of time
- f) Clause 6. All actions in terms of the clause, subject to 3.2.2 of the Contract Data
- g) Clause 6.4.1 Approval of rates for new items
- h) Clause 6.10.10 Advance payment, for items not listed in the Advance Payment Schedule
- j) Clause 10.1.5 All actions in terms of the clause, subject to 3.2.2 of the Contract Data
- k) Other requirements.

**Clause 3.3.2.2.3:**

Delete the words "oral or" from the clause

**Clause 3.3.2.2.4:**

Delete the words "oral or" from the clause

**Clause 5:**

Add the following Clause after Clause 5.1.1.2:

5.1.2 Framework Contract Period

The Framework Contract Period is for a period of **three years** calculated from the Commencement Date.

**Clause 5.3:**

Delete Clauses 5.3.1 to 5.3.3 in their entirety and replace with the following:

5.3.1 Upon appointment to the Panel or Panels the Contractor shall submit the required documentation, for approval by the Framework Contract Manager, as set out below. If the documentation is not submitted with 14 days from the Commencement Date, or is found to be unacceptable, the Employer may terminate the Framework Contract in terms of Clause 9.2.

**The documentation required is:**

- a) Approved framework Health and Safety Plan (Refer to applicable clause in the Health and Safety Specification in Part C3.5 in the Scope of Work)
- b) Security (Refer to Clause 6.2)
- c) Evidence of Insurance (Refer to Clause 8.6)
- d) Occupational Health and Safety Agreement (Part C1.5 in Agreements and contract Data)
- e) Letter of Good Standing from the Compensation Commissioner (if not insured with a Licensed Compensation Insurer) (Refer to Clause 4.3)
- f) Protection of the Environment Declaration (Part C1.6 in Agreements and Contract Data)

5.3.2 The Contractor shall, save as may be otherwise provided in the Contract or be legally or physically impossible, commence executing the Works on the date specified in the Works Project contract; subject to the submission by the Contractor, and approval by the Employer's Agent, of any documentation required before commencement with Works execution, as set out in the Works Project contract.

The following documentation shall be submitted for **each Works Project** by the highest ranked contractor on a Panel as part of the Works Project submission:

- a) Approved site specific Health and Safety plan (Refer to Health and Safety Specification in Part C3.5 Management and any other specific requirements stated in the Works Project contract document)
- b) Initial Programme (Refer to Clause 5.6)
- c) Evidence of Insurance (Refer to Clause 8.6)
- d) Proof of Registration / Letter of Good Standing with the Bargaining Council for the Civil Engineering Industry (BCCCI) or any Other Relevant Bargaining Council

The time to submit any documentation required before commencement with Works execution of **each Works Project** shall be within the number of days from the Commencement Date of the Works Project as specified in the Works Project contract. Such documentation may include:

- e) Method Statement (Refer to Environmental Management Specification in Part C3.5 Management)

5.3.3 Notwithstanding the provisions of Clause 5.3.2, where a construction work permit from the Provincial Director of the Department of Labour is required for a Works Project, commencement of the Works Project shall not be deemed to take place until such construction work permit has been issued by the Provincial Director.

5.3.4 Application for Construction Work Permit

Where the Employer is required to apply to the Provincial Director of the Department of Labour for a construction work permit to perform the intended construction work for a Works Project, the employer shall do so as soon as the Contractor has been appointed to execute the Works for the specific Works Project in terms of the Framework Contract.

Should the issuing of a construction work permit delay the Employer's Agent's instruction to commence executing the Works Projects and this in turn causes a delay to Practical Completion of more than 60days, then the Contractor shall be entitled to make a claim in accordance with Clause 10.1. Should, however, the issuing of a construction work permit be delayed by the submission of a unacceptable draft Health and Safety Plan, in the opinion of either the Employer's Health and Safety Agent, or the Provincial Director of the Department of Labour, no claim for an extension of time will be entertained.

**Clause 5.4.2:**

Access to and possession of the Site shall not be exclusive to the Contractor insofar as the provisions of Clause 4.8 apply, and where ongoing use by the general public is required.

*Add the following Clause after Clause 5.4.3:*

5.4.4 The Contractor shall bear all costs and charges for special and temporary rights of way required by him in connection with access to the Site.

**Clause 5.6.2.3:**

*Insert the following after "...approvals,":*

... permits,

**Clause 5.8.1:**

The non-working days are Sundays.

The special non-working days are:

- a) All gazetted public holidays.
- b) Year-end break(s) not exceeding 15 working days in duration.

**Clause 5.12.1:**

*Add the following:*

The Contractor may not claim a delay on another Works Project as causing delay on the particular Works Project contract in question.

**Clause 5.12.2.2:**

No extension of time will be granted in respect of any delays attributed to normal climatic conditions. Normal climatic conditions shall be deemed to include normal rainfall and associated wet conditions and materials, strong winds and extremes of temperature. However, in the event that delays to critical activities exceed the number of working days listed below for each month, then abnormal climatic conditions shall be deemed to exist, and an extension of time may be claimed in accordance with the provisions of Clause 5.12.

The number of days quoted below shall be regarded as a fair estimate of the delays to be anticipated and allowed for under normal climatic conditions where inclement weather prevents or disrupts critical work.

January	2 days
February	2 days
March	2 days
April	2 days
May	2 days
June	4 days
July	4 days
August	4 days
September	4 days
October	2 days
November	2 days
December	2 days

Claims for delays for abnormal climatic conditions shall be accompanied by substantiating facts and evidence, which shall be submitted timeously as each day or half-day delay is experienced.

It shall be further noted that where the critical path is not affected, no extension of time for abnormal climatic conditions or for any other reason will be entertained.

**Clause 5.13.1:**

The penalty for failing to complete the Works of each Works Project within the time referred to in Clause 1.1.1.14 will vary in terms of works project value per day. See table below:

<b>CONTRACT VALUE (vat inclusive) (R)</b>	<b>PENALTY PER DAY (R)</b>
R0 – R2 000 000	R2500
R2 000 000 – R5 000 000	R4000
R5 000 000 – R9 000 000	R5000

*Insert the following after “actual date of Practical Completion”:*

... or, in the case of termination by the Employer in terms of Clause 9.2.1, the actual date of termination,

**Clause 5.16.3:**

The latent defects period is **10** years.

**Clause 6.2.1:**

The security to be provided by the Contractor shall be a blanket performance guarantee of **R1 350 000**. The performance guarantee shall contain the precise wording of the document included in Part C1.3 of the Contract Data: **Form of Performance Guarantee**, and it shall be issued by a financial institution approved by the Employer at the date when the guarantee is issued. The list of approved financial institutions current at the date of tender is attached to the **Form of Performance Guarantee**.

In the event of the guarantee being called up (in full or in part) the Contractor shall within 21 days of the issue of a first written demand by the Employer to the Guarantor, provide at his own cost a replacement performance guarantee of R1 350 000, and no work will be allocated to the Contractor until the replacement performance guarantee has been provided.

**Clause 6.2.2:**

*Delete Clause 6.2.2 in its entirety.*

**Clause 6.2.3:**

*Delete Clause 6.2.3 in its entirety and replace with the following:*

The Contractor shall ensure that the performance guarantee remains valid and enforceable until the last Certificate of Completion of the Works for the Works Projects is issued.

**Clause 6.5.1.2.3:**

The percentage allowance to cover overhead charges is **10%**

**Clause 6.8.2:**

*Add the following to Clause 6.8.2:*

The Contract Price shall be subject to contract price adjustment in accordance with Clause 6.8 of the General Conditions of Contract.

If special materials are specified in Part 2 of the Contract Data then the provisions of Clause 6.8.3 of the General Conditions of Contract shall apply to such special materials.

Where applicable, in terms of the foregoing, the value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:

The value of “x” is 0,10.

The values of the coefficients are:

a = 0,20                      b = 0,25                      c = 0,50                      d = 0,05

The base month is one month prior to the month in which the tender closed.

The Contract Price shall be subject to contract price adjustment in accordance with Clause 6.8 of the General Conditions of Contract.

If special materials are specified in Part 2 of the Contract Data then the provisions of Clause 6.8.3 of the General Conditions of Contract shall apply to such special materials.”

In addition, the paragraph above this Note to Compiler must be replaced with the following:

“The base month is one month prior to the month in which the tender closed.”

Furthermore, the Contract Price Adjustment Schedule shall be amended as follows:

“L” is the “Labour Index” and shall be the Consumer Price Index (CPI) for “All items (CPI Headline)”, as published in the Statistical News Release, P0141: Table A – Consumer Price Index: Main Indices of Statistics South Africa

“P” is the “Plant Index” and shall be the Construction Materials Price Index for “Plant and Equipment” as published in the Statistical News Release P0151.1, Table 4 – Mining and construction plant and equipment price index of Statistics South Africa.

“M” is the “Materials Index” and shall be the Construction Materials Price Index for selected materials, Materials for “Civil Engineering material – roads, general (**excluding bitumen**)”, as published in the Statistical News Release P0151.1, Table 6 – Civil engineering material price indices of Statistics South Africa

“F” is the “Fuel Index” and shall be the Producer Price Index (PPI) for “Coal and Petroleum Products - Diesel”, as published in the Statistical News Release P0142.1: Table 1 –PPI for final manufactured goods of Statistics South Africa

#### **Clause 6.8.3: Variation in the cost of special materials**

Price adjustment for variations in the cost of special materials is provided for in the Special Materials Schedule at the end of this Part 1: Contract Data provided by the Employer.

#### **Clause 4.2 of the Contract Price Adjustment Schedule**

*Delete the words “by the Contractor” that appear after “... entered in the Contract Data”*

#### **Clause 6.8.4:**

*Add the following to Clause 6.8.4:*

Notwithstanding the above, in the event that a public holiday is proclaimed after 7 days before the closing date for an offer on a Works Project, no costs other than those that can be claimed under Clause 5.12.3 shall be added to the Contract Price.

*Add the following after Clause 6.8.4:*

6.8.5. If price adjustment for variations in the cost of plant and materials imported from outside of South Africa is provided for in the contract data, such adjustment shall be based on the information contained on the schedule titled “**Price Basis for Imported Resources**” and as below. For the purposes of this clause the Rand value of imported Plant and Materials inserted on the schedule titled “**Price Basis for Imported Resources**” (column (F)) shall be the value in foreign currency (column (A)) converted to South African Rand (column (C)) by using the closing spot selling rate quoted by **Employer’s** main banker, NEDBANK, on the Base Date (seven calendar days before tender closing date) rounded to the second decimal place (column(B)), to which shall be added any Customs Surcharge and Customs Duty applicable at that date (columns (D) and (E)).

6.8.5.1 Adjustment for variations in rates of exchange:

- (a) The value in foreign currency inserted in column (A) shall be subject to clause (h) below when recalculating the Rand value.
- (b) The rate of exchange inserted in column (B) shall be the closing spot selling rate quoted by **Employer’s** main banker, NEDBANK, on the Base Date, rounded to the second decimal place, subject to sub-paragraph (c) below.
- (c) If the rate of exchange inserted by the Tenderer differs from the NEDBANK rate referred to above, then the NEDBANK rate shall apply and the Rand value in columns (C) and (F)

shall be recalculated accordingly, without altering the price in the Schedules of Quantities for the relevant items.

- (d) If a tender from a supplier or sub-contractor provides for variations in rates of exchange, the Contractor may **only** claim for variations in rates of exchange if he binds the supplier or sub-contractor to the same provision to take out forward cover as described in sub-paragraph (e) below.
- (e) The Contractor (or supplier or sub-contractor) shall within five working days from the date of placing a firm order on an overseas supplier, cover or recover forward by way of a contract with a bank which is an authorised foreign exchange dealer, the foreign exchange component of the cost of any imported Plant and Materials inserted by the Tenderer on the schedule titled "**Price Basis for Imported Resources**".
- (f) When the Contractor (or supplier or sub-contractor) so obtains forward cover, the Contractor shall immediately notify the Employer of the rate obtained and furnish the Employer with a copy of the foreign exchange contract note.
- (g) Based on the evidence provided in sub-paragraph (f) above, the value in Rand inserted in column (C) on the schedule titled "**Price Basis for Imported Resources**" shall be recalculated using the forward cover rate obtained, and any increase or decrease in the Rand value defined in this clause shall be adjusted accordingly, subject to sub-paragraph (h) below. Failure to provide such evidence shall result in no such recalculation shall be considered by the Employer.
- (h) The adjustments shall be calculated upon the value in foreign currency in the Contractor's (or supplier's or sub-contractor's) **forward cover contract**, provided that, should this value exceed the value in foreign currency inserted in column (A) of the schedule titled "**Price Basis for Imported Resources**", then the value in column (A) shall be used.

#### 6.8.5.2 Adjustment for variations in customs surcharge and customs duty

- (a) Any increase or decrease in the Rand value between the amounts of Customs Surcharge and Customs Duty inserted on the schedule titled "**Price Basis for Imported Resources**" and those amounts actually paid to the Customs and Excise Authorities, which are due to changes in the percentage rates applicable or to the foreign exchange rate used by the authorities, shall be adjusted accordingly.
- (b) The Tenderer shall state the Customs Duty Tariff Reference applicable to each item and the Contractor shall advise the Employer's Agent of any changes which occur.

#### 6.8.5.3 Adjustment for variation in labour and material Costs

If the prices for imported Plant and Materials are not fixed, the Contractor shall in his Tender specify the formula for calculating Contract Price Adjustments normally used in the country of manufacture and the indices and relative proportions of labour and material on which his Tender prices are based. Evidence of the indices applicable shall be provided with each claim. The indices applicable 42 days before contractual dispatch date from the factory will be used for the purposes of Contract Price Adjustment.

Failure to specify a formula in the Tender shall mean that the prices are fixed or shall be deemed to be fixed.

#### **Clause 6.10.1.5:**

*Delete Clause 6.10.1.5 in its entirety and replace with the following:*

#### 6.10.1.5 The value of Plant and materials:

- 6.10.1.5.1 up to a percentage limit of **80%** for the Plant and materials referred to in Clause 6.9.1.1 brought on to the Site but not yet built into the Permanent Works;

Provided that the Contractor has produced documentary evidence of ownership of such Plant and/or materials and has delivered to the Employer an indemnity, approved in writing by the Employer, against any claim to or in respect of such Plant and/or materials by reason of the Contractor's sequestration or liquidation, or of any defect in the Contractor's title to the Plant and/or materials;

- 6.10.1.5.2 which have been manufactured and are stored at places other than the Site, in respect of which the Employer has indicated, on the Advance Payment Schedule, that advance payment will be permitted;
- 6.10.1.5.3 for which a deposit with order is required from the Contractor by a manufacturer/supplier, only in respect of which the Employer has indicated, on the Advance Payment Schedule, that advance payment will be permitted;

The terms and conditions for advance payment are set out in Clause 6.10.10 and in the Advance Payment Schedule at the end of this Part 1: Contract Data provided by the Employer.

**Clause 6.10.1.7:**

*Add the following after the words "Clause 5.13":*

or any other fines or penalties that become due under the Contract.

**Clause 6.10.3:**

*Add the following to Clause 6.10.3:*

Notwithstanding the provision of a performance guarantee in terms of Clause 6.2.1, interim payments to the Contractor shall be subject to a retention by the Employer of an amount of **5%** of the said amounts due to the Contractor, with no limit per Works Project. A guarantee in lieu of retention is not permitted.

**Clause 6.10.4:**

*Add the following to the last sentence of Clause 6.10.4:*

..., dated as at the date of delivery of the Contractor's statement to the Employer's Agent.

*Add the following to Clause 6.10.4:*

Notwithstanding the above, the Employer's Agent shall be empowered to withhold the delivery of the payment certificate until the Contractor has complied with his obligations to report in terms of Clause 4.10.2 and as described in the Scope of Work.

The Contractor may submit a fully motivated application regarding more frequent payment to the Employer's Agent to be submitted to the Employer for consideration. Requests for more frequent payments will be considered at the sole discretion of the Employer and is not a right in terms of this contract.

**Clause 6.10.10:**

*Add the following Clause after Clause 6.10.9:*

**6.10.10 Advance payment**

Subject to Clauses 6.10.1.5.2 and 6.10.1.5.3, and the Advance Payment Schedule, the Employer shall make an advance payment for Plant and materials stored at places other than the Site, or in respect of which a deposit with order is required, only once the Contractor has submitted an advance payment guarantee in accordance with this Clause, the authenticity of which has been verified by the City's Treasury Department.

Unless and until the Employer receives this guarantee, the following paragraphs shall not apply.

The Employer's Agent shall issue an Interim Payment Certificate for, or including, advance payment after receiving a statement under Clause 6.10.1 and after the Employer has received a guarantee in an amount equal to the advance payment requested. This guarantee shall be issued by a financial institution approved by the Employer, as listed in the Annexure in Part C1.3 of the Contract Data, and shall be in the form of and shall contain the precise wording of the document included in Part C1.4: **Form of Advance Payment Guarantee** and shall come into force, be administered and expire in terms thereof.

The Employer shall return the guarantee to the Contractor within 14 days after the expiry date.

The provision of the Advanced Payment Guarantee shall be at the Contractor's cost.

The term "deposit" or "deposit with order" used in the context of this Clause and elsewhere by reference to this Clause, means a sum payable by the Contractor to a manufacturer/supplier prior to

the manufacture of an item of Plant or material, required at the time of placing an order, the balance of the value of the item being payable later.

**Clause 8.6.1:**

The insurances to be effected and maintained by the Contractor shall be in the form of a blanket/umbrella policy for this term tender contract. This policy shall be endorsed as and when required to reflect each Works Project that may be allocated to the Contractor.

**Clause 8.6.1.1.1:**

The Contract Price shall, for insurance purposes, include for individual Contract Sums of up to **R9 000 000** for each Works Project.

**Clause 8.6.1.1.2:**

The value of Plant and materials supplied by the Employer to be included in the insurance sum is **R 0.00 (Nil)**.

**Clause 8.6.1.1.3:**

The amount to cover professional fees for repairing damage and loss to be included in the insurance sum is **R0.00 (Nil)**.

**Clause 8.6.1.3:**

The limit of indemnity for liability insurance is R20 000 000.00 for any single claim – the number of claims to be unlimited during the construction and defects liability periods.

**Clause 8.6.1.5:**

In addition to the insurances required in terms of General Conditions of Contract Clauses 8.6.1.1 to 8.6.1.4 the following insurance is also required:

- a) Insurance of Construction Equipment (including tools, offices and other temporary structures and contents) and other things (except those intended for incorporation into the Works) brought onto the site for a sum sufficient to provide for their replacement.
- b) Insurance in terms of the provisions of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.
- c) Motor Vehicle Liability Insurance comprising (as a minimum) "Balance of Third Party" Risks including Passenger Liability Indemnity.
- d) Where the contract involves manufacturing and/or fabrication of the works or part thereof at premises other than the Site, the Contractor shall satisfy the Employer that all materials and equipment for incorporation in the works are adequately insured during manufacture and/or fabrication. In the event of the Employer having an insurable interest in such works during manufacture or fabrication then such interest shall be noted by endorsement to the Contractor's Policies of Insurance.

**Clause 8.6.5:**

*Delete the following from Clause 8.6.5:*

"and the terms thereof shall be subject to the approval of the Employer's Agent, which approval shall not be unreasonably withheld."

**Clause 8.6.6:**

*Replace clause 8.6.6 with the following:*

The evidence that the insurances have been effected in terms of Clause 8.6.1, shall be in the form of an insurance broker's warranty worded precisely as given in Part C1.7 Insurance Broker's Warranty.

In addition, an insurance broker's warranty will be required for every Works Project as and when the contractor submits an offer for a Works Project contract. This warranty shall, *inter alia*, confirm that the applicable blanket/umbrella policy for the term tender contract has been endorsed to reflect the Works Project contract and that all premiums have been paid.

**Clause 8.6.7:**

*Add the following to the end of this Clause:*

; and/or the Employer shall be entitled to exclude the Contractor from participating in any future Works Project processes until such time as satisfactory evidence has been provided.

**Clause 9.1:**

*In Clause 9.1.6 replace “and 9.1.3” with:*

, 9.1.3 and 9.1.7

*Add the following Clause after Clause 9.1.6:*

**9.1.7 Death of Sole Proprietor/Member**

Upon the death of the Contractor who was a Sole Proprietor, or a sole member of a Close Corporation, the Contract will terminate forthwith. The Employer shall pay to the Contractor's estate any money which it considers due under the Contract in terms of Clause 9.1.5, in full and final settlement thereof.

**9.1.8 Material Irregularity during procurement process**

The Employer may terminate the contract if a material irregularity vitiates the procurement process leading to the conclusion of the contract, rendering the procurement process and the conclusion of the resulting contract unfair, inequitable, non-transparent, uncompetitive or not cost-effective, provided the Employer follows the processes as described in its SCM Policy.

**9.1.9 Reputational risk or harm to the Employer**

The Employer, without prejudice to any other remedy for breach of contract, by written notice of default sent to the supplier, may terminate the contract if the implementation of the contract may result in reputational risk or harm to the City as a result of (inter alia):

- 9.1.9.1 reports of poor governance and/or unethical behaviour;
- 9.1.9.2 association with known family of notorious individuals;
- 9.1.9.3 poor performance issues, known to the Employer;
- 9.1.9.4 negative social media reports; or
- 9.1.9.5 adverse assurance (e.g. due diligence) report outcomes.

**Clause 9.2.1:**

*Delete “or” at the end of Clause 9.2.1.3.6 and add the following Clause after Clause 9.2.1.3.7:*

9.2.1.3.8 Has failed to provide the required insurances within the prescribed time,

*Add the following Clause after Clause 9.2.3:*

**9.2.4 Employer's Elections in case of Insolvency**

In addition to anything else contained in this contract, the Employer may make either of the following elections to ensure its rights are protected and any negative impact on service delivery is mitigated:

- 9.2.4.1 accept a contractor's proposal (via the trustee / liquidator) to render delivery utilising the appropriate contractual mechanisms; or
- 9.2.4.2 terminate the contract, as the liquidator proposed contractor is deemed unacceptable to the employer, at any time by giving written notice to the contractor (via the trustee / liquidator).

**Clause 10.5.3:**

The number of ad-hoc Adjudication Board Members to be appointed is 1(one).

**ADDITIONAL CONDITIONS OF CONTRACT**

*Add the following Clause after Clause 10:*

Clause 11 Details to be confidential

The Contractor shall treat the details of the Works comprised in this Contract as private and confidential (save in so far as may be necessary for the purposes hereof) and shall not publish or disclose the same or any particulars thereof in any trade or technical paper elsewhere without the prior written consent of the Employer's Agent.

## PROCEDURES FOR THE ALLOCATION OF WORKS PROJECTS

The procedures for the allocation of Works Projects, given below, are to be read in conjunction with Part T1.2 Tender Data and Clause 2.6 in the Contract Data. These procedures include the development of Works Project contract documents, applying the tendered rates in order to arrive at financial offers, calculating works project evaluation points, ranking the panel of contractors, and allocating the Works Project to the highest ranked contractor.

The procedures are summarised under the stages below, wherein the Employer (acting through his agent) shall

### **Stage 1: Employer prepares Works Project contract document, prices bills of quantities using each contractor's rates and prepares a works project evaluation ranking for all contractors in region**

- a) select a Work Area within a region for the execution of the Works Project;
- b) prepare a Works Project contract document, including Bills of Quantities and Scope Work therein;
- c) compile priced bills of quantities for all contractors appointed, using their respective framework contract rates.

### **Stage 2: Contractors collect copy of Works Project contract document and works project evaluation ranking, attend compulsory Works Project meeting and submit acceptance/refusal notices**

- e) make available to the contractors a copy of the Works Project contract document with the Bills of Quantities priced by the Employer;
- f) simultaneously, invite the contractors to attend a compulsory Works Project meeting;
- g) conduct the Works Project meeting, including discussing any issues the contractors may have (this may result in changes being made to the Works Project contract document and its being re-issued; and
- h) receive acceptance/refusal notices from contractors timeously after the meeting;

### **Stage 3: Contractors submit completed Works Project contract document and Employer allocates Works Project**

- i) request the contractors, who attended the Works Project meeting and accepted the work opportunity, to complete the Returnable Schedules, Form of Offer, Works Project Acceptance/Refusal Notice, etc. in the Works Project contract document and submit the completed document to the Employer; and
- j) test submissions for completeness and allocate the Works Project to the highest scoring responsive contractor.

Further details of the procedures under the above stages are given below.

#### **Stage 1**

As and when the Employer requires work to be executed in a Works Project under the framework contract, the Employer shall specify, *inter alia*, the nature, location(s), extent, scope of work, proposed programme and contract period for the work required, in a **Works Project contract document** comprising, as relevant, Work Allocation Procedures, Returnable Schedules, Agreements and Contract Data, Bills of Quantities and Scope of Work.

In the Bills of Quantities the Employer shall assign quantities to the work items relating to the specific Scope of Work in the Works Project. The assigned quantities shall be multiplied by the framework contract rates to constitute amounts that will be totalled to provide a **financial offer** for each contractor for this specific Works Project.

#### **Stage 2**

The Employer shall invite the contractors in the particular region to attend a compulsory **Works Project meeting** at a time and venue disclosed in writing by the Employer.

The Employer shall issue the invitation **seven (7)** days prior to the meeting date, and simultaneously make available to the contractors their individually priced Works Project contract documents.

The Employer shall conduct the compulsory Works Project meeting on the date specified. The purpose of this meeting is to inform the contractors of the Scope of Work required in the Works Project. The meeting shall furthermore serve to answer any queries the contractors may have in respect of the required work, billed items and quantities, etc. (this may result in changes being made to the Works Project contract document and its being re-issued). A contractor who **fails to attend the compulsory Works Project meeting** will be **excluded** from further participation in the Works Project allocation process.

Included in the Works Project contract document is a Works Project **Acceptance/Refusal Notice** (Form C1.9) requesting the contractor to state in writing whether he accepts/refuses the opportunity afforded to participate

further in the work allocation procedure (i.e. that he/she is willing/not willing to undertake the work specified in the Scope of Work and Bills of Quantities and has/has not the necessary resources, available to complete the work within the required Works Project contract period should he be allocated the work).

Contractors will be required to complete and return the Works Project Acceptance/Refusal Notice, either by fax or email, to the Employer prior to the closing date for receipt of Works Project Acceptance/Refusal Notices (non-submission will be regarded as a refusal), including, for those who accept, declaring whether their declarations in respect of sub-contractors made in the Preferencing Schedule in the Framework Contract document stand for the Works Project, or not - refer to Form C1.9 in this regard. The Employer will finalise the ranking of the contractors who accept, after taking their declarations into account.

### **Stage 3**

Upon request of the Employer, the Works Project contract document shall be completed, signed and returned by the contractors who has accepted to the Employer's agent's offices no later than the date stated in such request.

The Employer will specify the proposed **Works Project construction time period** (time from the date specified for commencement with Works execution to Due Completion Date) for completing the specified Works in the Scope of Work in the Works Project contract document.

The submission of a fully completed and signed Works Project contract document is mandatory for the contractors who has been requested by the Employer to submit offers, and the contractors may be requested by the Employer to complete and/or sign their submission, if necessary, should they have not already done so.

A contractor whose offer is non-responsive, or who failed to return the completed, signed Works Project contract document (the offer) by the date stated in the Employer's request, will be **excluded** from further participation in the Works Project allocation process.

Acceptance of the successful contractor's offer takes place on the date the contractor (now Contractor in terms of the Contract) receives the City of Cape Town's official **purchase order**, such date being the **Commencement Date** of the Works Project contract.

Each Works Project shall not exceed R9 000 000 (including contingencies and VAT, but excluding contract price adjustment, if applicable).

Working days for these procedures are Mondays to Fridays.

<b>SPECIAL MATERIALS SCHEDULE</b>		
<p>Each material dealt with as a special material in terms of Clause 4.1 of the Contract Price Adjustment Schedule of the General Conditions of Contract is stated in the list below. The provisions of Clause 6.8.3 of the General Conditions of Contract shall apply to such special materials. The base prices for the special materials (current at the time of tender) shall be as stated in the schedule below, or where required, shall be furnished by the tenderer/contractor. Only those materials listed by the Employer below shall be considered as special materials.</p>		
<b>Special Material</b>	<b>Unit</b>	<b>Base Price</b>
Bitumen		
<p><b>Conditions:</b></p> <ol style="list-style-type: none"> <li>1) When called upon to do so, the contractor shall substantiate the prices to be used to determine the adjustment in respect of the special materials listed above with acceptable documentary evidence.</li> <li>2) In the case of bituminous products, the Employer has provided, in the schedule above, a base rate for bitumen upon which the tendered rates will be deemed to be based, and which will be used for determining the adjustment in the price of such bituminous products.</li> <li>3) Where an adjustment for the variation in the price of bituminous products is claimed, the claim must be substantiated by a declaration from the manufacturer, confirming the source of bitumen used in such bituminous products at the time in question.</li> <li>4) Where the source of bitumen (the refinery) is located in the Western Cape Province, or where bitumen sourced from abroad is landed at a port in the Western Cape, the cost of transporting such bitumen within the boundaries of the Western Cape shall be included in the rate for bituminous products. Extra-over rates to cover the cost of transporting bitumen from beyond the borders of the Western Cape have been measured separately in the Bill of Quantities.</li> <li>5) Where imported bitumen used in bituminous products is landed at a port beyond the borders of the Western Cape, the importers must clearly state whether or not their price is inclusive of transport to the Western Cape, which will determine whether extra-over transport costs are applicable, or not. The price of the imported bitumen itself must be expressed as a landed price in ZAR.</li> </ol>		

ADVANCE PAYMENT SCHEDULE [Not Applicable]	
<p>This Advance Payment Schedule is to be read in conjunction with Clauses 6.10.1.5.2, 6.10.1.5.3 and 6.10.10 in the Contract Specific Data. The purpose of this schedule is to itemise specific Plant and materials not yet brought on to the Site for building into the Permanent Works and for which the Employer is prepared to make advance payments to the Contractor, subject to the conditions below.</p> <p>The items of Plant and materials which have been identified by the Employer as being suitable for advance payment in terms of the Contract are listed in the table below. Should an item or items be added to the list at tender stage by a tenderer, such item(s) will not be binding on the Employer.</p>	
<p><b>Plant and materials which have been manufactured and are stored at places other than the Site:</b></p>	<p><b>Plant and materials yet to be manufactured and for which a deposit with order is required from the Contractor by a manufacturer/supplier, and which may be stored at places other than the Site after manufacture:</b></p>
<p><b>Conditions:</b></p> <ol style="list-style-type: none"> <li>1) The Contractor can only rely on advance payment being permitted by the Employer in respect of the Plant and materials listed in the table above. The Employer may, however, permit advance payment for other Plant and materials in exceptional circumstances and at its sole discretion, during the course of the Contract, and upon reasonable request from the Contractor.</li> <li>2) Advance payment for the purposes of deposits will only be provided up to a limit of 50% of the value of any one item being claimed.</li> <li>3) The Contractor shall provide the Employer with documentary evidence of the terms and conditions for which a deposit with order is required by a manufacturer/supplier, together with the advance payment guarantee.</li> <li>4) The Contractor will also be permitted to obtain advance payment for the balance of the value of the Plant and materials in respect of which he has paid a deposit, for an item which after manufacture is stored at a place other than the Site. The Contractor shall, in respect of such payment, provide an advance payment guarantee, either for such balance or, if the advance payment guarantee in respect of the deposit is to be returned by the Employer upon request, for the whole value of the item.</li> </ol>	

**Part 2: Data provided by the Contractor**

**Clause 1.1.1.9:**

The name of the Contractor is .....

**Clause 1.2.1.2:**

The address of the Contractor is

Physical : ..... Postal : .....  
Address Address

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

Telephone : ..... Fax:  
.....

email : .....

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

## **C1.3 Form of Performance Guarantee**

### **PERFORMANCE GUARANTEE**

For use with the Conditions of Contract as described in C1.2 Contract Data Part 1: Contract Data provided by the Employer.

#### **GUARANTOR DETAILS AND DEFINITIONS**

"Guarantor" means: .....

"Physical address: .....

"Employer" means: The City of Cape Town, DIRECTORATE: WATER AND WASTE.

"Contractor" means: The Contractor named in an individual Works Project Contract.....

"Employer's Agent" means: The Employer's Agent named in an individual Works Project Contract.

"Works" means: Works Projects which may be allocated , individually or as a whole as the context provides, under Framework Contract No. 104Q/2021/22: TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE.....

"Site" means: The site as defined in the Contract Data.

"Contract" means: The Agreement made in terms of the Form of Offer and Acceptance and such amendments or additions to the Contract as may be agreed in writing between the parties, and includes the Works Project Agreement.

"Guaranteed Sum" means: The maximum aggregate amount of R1 350 000.00.

Amount in words: One million three hundred and fifty thousand Rand.

"Expiry Date" means: The date of issue by the Employer's Agent of the last Certificate of Completion of the Works for the Works Projects.

#### **CONTRACT DETAILS**

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificates and the Certificates of Completion of the Works, in respect of individual Works Projects, as defined in the Contract.

#### **PERFORMANCE GUARANTEE**

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum.
2. The Guarantor's period of liability shall be from and including the date of issue of this Performance Guarantee and up to and including the Expiry Date or the date of payment in full of the Guaranteed Sum, whichever occurs first. The Employer's Agent and/or the Employer shall advise the Guarantor in writing of the date on which the last Certificate of Completion of the Works for the Works Projects has been issued.
3. The Guarantor hereby acknowledges that:

- 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
- 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
- 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
- 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
- 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
- 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
- 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
- 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
10. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
11. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
12. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.

13. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at .....

Date .....

Guarantor's signatory (1) .....

Capacity .....

Guarantor's signatory (2) .....

Capacity .....

Witness signatory (1) .....

Witness signatory (2) .....

## **ANNEXURE**

### **LIST OF APPROVED FINANCIAL INSTITUTIONS**

The following financial institutions are currently (as at 07/02/2020) approved for issue of contract guarantees to the City:

#### **National Banks:**

ABSA Bank Ltd.  
FirstRand Bank Ltd.  
Investec Bank Ltd.  
Nedbank Ltd.  
Standard Bank of SA Ltd.

#### **International Banks (with branches in SA):**

Barclays Bank plc.  
Citibank n.a.  
Credit Agricole Corporate and Investment Bank  
HSBC Bank plc.  
JP Morgan Chase Bank  
Societe Generale  
Standard Chartered Bank

#### **Insurance companies:**

Bryte Insurance Co. (Previously Zurich Insurance Co.)  
Coface SA  
Compass Insurance Co.  
Constantia Insurance Co.  
Credit Guarantee Insurance Corporation of Africa  
Guardrisk Insurance Co.  
Hollard Insurance Company Ltd.  
Infiniti Insurance Limited  
Lombard Insurance  
New National Assurance Co.  
PSG Konsult Ltd (Previously Absa Insurance)  
Regent Insurance Co.  
Renasa Insurance Company Ltd.  
Santam Limited

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE**

## **C1.4 Form of Advance Payment Guarantee**

[not applicable]



CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

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TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C1.5 Occupational Health and Safety Agreement

### AGREEMENT MADE AND ENTERED INTO BETWEEN THE CITY OF CAPE TOWN (HEREINAFTER CALLED THE "EMPLOYER") AND

.....  
(Contractor/Mandatary/Company/CC Name)

**IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 85 OF 1993 AS AMENDED.**

I, ....., representing

....., as an employer in its own right, do hereby undertake to ensure, as far as is reasonably practicable, that all work will be performed, and all equipment, machinery or plant used in such a manner as to comply with the provisions of the Occupational Health and Safety Act (OHSA) and the Regulations promulgated thereunder.

I furthermore confirm that I am/we are registered with the Compensation Commissioner and that all registration and assessment monies due to the Compensation Commissioner have been fully paid or that I/We are insured with an approved licensed compensation insurer.

COID ACT Registration Number: .....

OR Compensation Insurer: ..... Policy No.: .....

I undertake to appoint, where required, suitable competent persons, in writing, in terms of the requirements of OHSA and the Regulations and to charge him/them with the duty of ensuring that the provisions of OHSA and Regulations as well as the Council's Special Conditions of Contract, Way Leave, Lock-Out and Work Permit Procedures are adhered to as far as reasonably practicable.

I further undertake to ensure that any subcontractors employed by me will enter into an occupational health and safety agreement separately, and that such subcontractors comply with the conditions set.

I hereby declare that I have read and understand the Occupational Health and Safety Specifications contained in this tender and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan submitted and approved in terms thereof.

Signed at .....on the.....day of.....20....

\_\_\_\_\_  
**Witness**

\_\_\_\_\_  
**Mandatary**

Signed at ..... on the.....day of.....20 ....

\_\_\_\_\_  
Witness

\_\_\_\_\_  
for and on behalf of  
City of Cape Town

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C1.6 Protection of the Environment Declaration

### PROTECTION OF THE ENVIRONMENT DECLARATION

The Contractor will not be given right of access to the Site until this form has been signed

CONTRACT NO.: 104Q/2021/22

CONTRACT TITLE: TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING

I/ we,.....{Contractor} record as follows:

1. I/ we, the undersigned, do hereby declare that I/ we am/ are aware of the increasing requirement by society that construction activities shall be carried out with due regard to their impact on the environment.
2. In view of this requirement of society and a corresponding requirement by the Employer with regard to this Contract, I/ we will, in addition to complying with the letter of the terms of the Contract dealing with protection of the environment, also take into consideration the spirit of such requirements and will, in selecting appropriate employees, plant, materials and methods of construction, in-so-far as I/ we have the choice, include in the analysis not only the technical and economic (both financial and with regard to time) aspects but also the impact on the environment of the options. In this regard, I/ we recognise and accept the need to abide by the "precautionary principle" which aims to ensure the protection of the environment by the adoption of the most environmentally sensitive construction approach in the face of uncertainty with regard to the environmental implications of construction.
3. I/ we declare that I/ we have read and understood the contents of the Environmental Management Programme (which is comprised of the Environmental Management Specification and its Annexures) for this Contract, and that I/ we understand my/our responsibilities in terms of enforcing and implementing the Environmental Management Programme. I/ we also declare that I/ we have made appropriate provision in my/ our pricing of the Schedules of Rates items for the Environmental Management Programme.
4. I/ we acknowledge and accept the right of the Employer to deduct, should he so wish, from any amounts due to me/ us, such amounts (hereinafter referred to as fines) as the Employer's Agent shall certify as being warranted in view of my/ our failure to comply with the terms of the Contract dealing with protection of the environment, subject to the following:
  - 4.1 The Employer's Agent, in determining the amount of such fine, shall take into account, *inter alia*, the nature of the offence, the seriousness of its impact on the environment, the degree of prior compliance/non-compliance, the extent of the Contractor's overall compliance with environmental protection requirements and, in particular, the extent to which he considers it necessary to impose a sanction in order to eliminate/reduce future occurrences
  - 4.2 The Employer's Agent shall, with respect to any fine imposed, provide me/ us with a written statement giving details of the offence, the facts on which the Employer's Agent has based his assessment and the terms of the Contract (by reference to the specific clause) which has been contravened.

Signed .....  
CONTRACTOR

Date.....

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C1.7 Insurance Broker's Warranty

Pro Forma



*Letterhead of Contractor's Insurance Broker*

Date \_\_\_\_\_

CITY OF CAPE TOWN  
City Manager  
Civic Centre  
12 Hertzog Boulevard  
Cape Town  
8001

Dear Sir

**CONTRACT NO.:** 104Q/2021/22

**CONTRACT TITLE:** TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

**NAME OF CONTRACTOR:** \_\_\_\_\_

I, the undersigned, do hereby confirm and warrant that all the insurances required in terms of the abovementioned term tender contract have been issued and, in the case of blanket/umbrella policies, will be endorsed to reflect the interests of the CITY OF CAPE TOWN with regard to each Works Project contract, and that all the insurances and endorsements, etc., are all in accordance with the requirements of the contract.

I furthermore confirm that all premiums in the above regard have been paid.

Yours faithfully

Signed: \_\_\_\_\_

For: \_\_\_\_\_

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C1.8 Contract of Temporary Employment as Community Liaison Officer

Construction Contract No.: .....

PROJECT .....

AGREEMENT made between the CONTRACTOR ..... and the Community Liaison Officer....., hereafter referred to as the CLO, for the appointment and employment of a CLO for the duration of the work in respect of the above named construction contract.

### 1. THE PARTIES HAVE AGREED THAT

The CLO will be employed by the CONTRACTOR on a temporary basis for the duration of the work from the date of signing this agreement to the date of practical completion as defined in the Contract, subject to all the conditions set out below.

### 2. THE DUTIES OF THE COMMUNITY LIAISON OFFICER SHALL BE:

1. .... to keep the community informed on the progress of the project;
2. .... to keep the Contractor informed on relevant Community affairs and possible grievances;
3. .... to manage the recruitment of workers from the Sub-Council Job-Seekers Database;
4. .... to assist the Contractor's supervisory staff in the management of the workers.

### 3. THE FOLLOWING CONDITIONS OF EMPLOYMENT SHALL APPLY:

The Conditions of Temporary Employment as applicable on this Contract for the workers recruited from the Community shall apply equally to the CLO, except that the rate of remuneration shall be **R450** per working day. These conditions that apply are listed below as they appear in the Contract of Temporary Employment:

- 3.1 If required to work on a statutory public holiday or Sunday the payment will be double the amount stated in the previous paragraph.
- 3.2 Maximum hours of work:
  - (i) 9¼ hours per day
  - (ii) 45 hours per week;
  - (iii) 5 days per week;
  - (iv) 5 hours without an interval, whereupon there shall be an interval of at least 30 minutes;
  - (v) A spread-over period of 12 hours.
- 3.3 The CLO shall be entitled to payment where he is prevented from working by reasons which are within the control of the Contractor.
- 3.4 On days when it is raining the Contractor may, before 9 a.m., decide not to open the site and there will be no pay.

If the Contractor closes the site between 9 a.m. and 1 p.m., the CLO will be paid half the daily wage.

If the site works later than 1 p.m., the CLO will be paid the full daily wage.

- 3.5 Workers and the CLO will not be permitted to work under conditions of:
- (i) undisciplined or unruly behaviour;
  - (ii) insubordination to Team Leader, Supervisors or Management;
  - (iii) abuse of intoxicating substances;
  - (iv) criminal actions by the employee;
  - (v) strike action or political stayaways.
- 3.6 Workers, including the CLO, may be dismissed after two official written warnings for the following behaviour:
- (i) undisciplined or unruly behaviour;
  - (ii) insubordination to Team Leader, Supervisors or Management;
  - (iii) abuse of intoxicating substances;
  - (iv) wilful or negligent damage to or loss of machines or equipment.
- The Contractor shall ensure that he has statements from at least two witnesses concerning any of the above situations.
- The Contractor shall inform the CLO within 24 hours of any warning issued to workers employed from the Job-Seekers Database.
- 3.7 The CLO will be paid on a Friday afternoon every two weeks, one week in arrears.
- 3.8 The CLO shall be given a statement with each payment on which is recorded:
- (i) the name of the Contractor;
  - (ii) the CLO's name;
  - (iii) the number of days worked by the CLO;
  - (iv) the rate per day;
  - (v) the details of any deductions made;
  - (vi) the actual amount paid to the CLO.
- 3.9 No deduction shall be made from the remuneration except where the CLO consents in writing or unless the Contractor is permitted or required to do so by law or the order of any competent court.
- 3.10 The CLO shall be supplied free of charge with all health and safety equipment required by the Occupation Health and Safety Act. The equipment shall remain the property of the Contractor.
- 3.11 The Contractor must give the CLO at least one week's notice of the termination of the Contract of Temporary Employment. If this is not done, the CLO must be paid earnings for five days. This condition does not apply if the CLO is dismissed.
- 3.12 At the end of the period of temporary employment, the Contractor shall provide a Certificate of Service recording the Contractor's name, the CLO's name and address, the period of service, the type of work on which the CLO was engaged and the rate of remuneration on termination.

#### 4. TERMINATION OF AGREEMENT

- 4.1 If the CLO can no longer perform and execute his/her duties as detailed in this agreement, this agreement will be terminated without prejudice to any rights under this agreement.

#### 5. THE CONDITIONS OF THIS AGREEMENT

- 5.1 The parties expressly declare that this agreement contains all the conditions negotiated between them, and no condition or stipulation not contained herein shall be binding upon the parties.

**6. THUS AGREED AND SIGNED BY THE PARTIES:**

Contractor: .....

Community Liaison officer: .....

Date: .....

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

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TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C1.9 Works Project Acceptance/Refusal Notice

This form must be returned to the offices of the Employer's agent by no later than the closing date and time for receipt of Works Project Acceptance/Refusal Notices stated in the Works Project contract document.

I/We herewith

Accept

Refuse

Tick applicable box

the opportunity afforded to me/us by the City of Cape Town to participate in the work allocation process as set out in the Work Allocation Procedures for the work specified in the Works Project contract document.

I/We accept that no contractor will be allocated work unless the contractor has demonstrated to the satisfaction of the Employer that he has the resources, including a site specific construction manager, required for this Works Project.

I/We agree to the construction time period specified in the Scope of Work.

### Declaration (to be completed by a contractor who accepts):

With reference to condition 8 in Section 2 in Schedule 19 Preferencing Schedule in Part 2.2 Returnable Schedules in the framework contract document, I/we **DO**  / **DO NOT**  (tick one box as applicable) intend sub-contracting more than 25% of the value of the Works Project contract to sub-contractors that do not qualify for at least the points that I/we as prime contractor qualified for in my/our framework contract.

CONTRACTOR'S NAME: .....

AUTHORISED CONTACT PERSON (NAME): .....

SIGNATURE: .....

DATE:.....

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**Part C2: Pricing Data**

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	<b>Pages</b>
<b>C2.1 Pricing Assumptions.....</b>	<b>132 – 133</b>

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

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## C2.1 Pricing Assumptions

Pricing Assumptions mean the criteria as set out below, read together with all Parts of this framework contract document, which it will be assumed in the contract, that the tenderer has taken into account when developing his prices (rates).

These Pricing Assumptions are applicable to the Schedules of Rates in this document. Pricing Assumptions applicable to the Bills of Quantities in Works Project contract documents are provided in such documents.

1. The method of measurement published by the South African Bureau of Standards in clause 8 of the Standardised Specifications for Civil Engineering Construction is applicable, subject to the variations and amendments contained in the section "Applicable SANS 1200 standardised specifications".
2. Descriptions in the Schedules of Rates are abbreviated and comply generally with those in the Standardised Specifications. The measurement and payment clauses of each Standardised Specification, read together with the relevant clauses of the Scope of Work, set out what ancillary or associated activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standardised Specification, or the Scope of Work, conflict with the terms of the Schedules of Rates, the requirements of the Standardised Specification or Scope of Work, as applicable, shall prevail.
3. The clauses in a specification in which further information regarding the schedule item appears under "Reference clause" in the Schedule. The reference clauses indicated are not necessarily the only sources of information in respect of scheduled items. Further information and specifications may be found elsewhere in the contract documents. Standardised Specifications are identified by the letter or letters which follow SANS in the SANS 1200 series of specifications, eg. G for SANS 1200 G.
4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
4. No quantities are set out in the Schedules of Rates and the Contractor will be required to undertake whatever quantities may be directed by the Employer's Agent from time to time in the relevant Works Project. The final Contract Price for each completed Works Project shall be computed from the actual quantities of work done, valued at the relevant rates (refer to Clause 10 in these Pricing Assumptions in this regard).
5. Rates inserted in the Schedules of Rates are deemed to be based on Acts, Ordinances, Regulations, By-laws, International Standards and National Standards that were published 28 days before the closing date for tenders. (Refer to [www.stanza.org.za](http://www.stanza.org.za) or [www.iso.org](http://www.iso.org) for information on standards).
6. The rates (excluding VAT) inserted in the Schedules of Rates shall be the full inclusive rates for the work described under the several items. Such 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 rates 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.

Where the Scope of Work requires detailed drawings and designs or other information to be provided, all costs associated therewith shall be provided for and included in the rates tendered for such items.

7. A rate is to be entered against each item in the Schedules of Rates. **An item against which no rate (or rates, in the case of rate categories if provided) is/are entered, or if anything other than a rate or a nil rate (for example, a zero, a dash or the word "included" or abbreviations thereof) is entered against an item, it will also be regarded as a nil rate having been entered against that item, i.e. that there is no charge for that item.** The Tenderer may be requested to clarify nil rates, or

items regarded as having nil rates; and the Employer may also perform a risk analysis with regard to the reasonableness of such rates.

8. The units of measurement described in the Schedules of Rates are metric units. Abbreviations which may be used in these Schedules of Rates are as follows:

mm	=	Millimetre	h	=	hour
m	=	Metre	kg	=	kilogram
km	=	Kilometre	t	=	ton (1000 kg)
km-pass	=	kilometre-pass	No.	=	number
m <sup>2</sup>	=	square metre	sum	=	lump sum
m <sup>2</sup> .pass	=	square metre-pass	MN	=	meganewton
ha	=	Hectare	MN.m	=	meganewton-metre
m <sup>3</sup>	=	cubic metre	P C sum	=	Prime Cost sum
m <sup>3</sup> .km	=	cubic metre-kilometre	Prov sum	=	Provisional sum
l	=	Litre	%	=	per cent
kl	=	Kilolitre	kW	=	kilowatt
MPa	=	Megapascal	day	=	Working day
kPa	=	Kilopascal			

9. Tenderers shall provide rates for the execution of items as specified in the Schedules of Rates. Unless otherwise described in the items in the Schedules of Rates, all rates (sums in particular) apply to individual Works Project contracts. Framework Contract pay items shall be initial one-off payments in the Framework Contract.

The rates provided in the Schedules of Rates shall be used in representative Works Projects for tender evaluation purposes in accordance with clause C.3.11.1 in Part T1.2 Tender Data, as well as in the allocation of individual Works Projects in accordance with Clause 2.6 in Part C1.2 Contract Data and the Procedures for the allocation of Works Projects referred to therein.

10. Tenderers shall provide rates (excluding VAT) for each required rate category (if provided) for each item specified in every schedule in the Schedules of Rates (refer to clause C.2.10.5 in Part T1.2 Tender Data). Prime Cost and Provisional Sums will be multiplied by a factor (quantity) to be provided by the Employer at Works Project stage only.

Rates submitted in the respective Schedules of Rates shall apply to Works Projects executed anywhere within City of Cape Town municipal area.

11. The Employer will only order those quantities of work items, which it actually requires for execution in a Works Project from time to time. The Employer reserves the right not to order any quantities at all depending on circumstances and subject to operational requirements.

12. The procedures for allocation of Works Projects are specified in Part C1.2 Contract Data (refer to Clause 2.6).

13. Clause C.2.13.11 c) in Part T1.2 Tender Data shall be applicable to the submission of Schedules of Rates which have been priced electronically, and which the Tenderer wishes to submit as a printed version with his tender in the place of handwritten priced Schedules of Rates.

If there is found to be any variance between the printed version and the original issued document, the original shall stand. However, where Addenda have been issued which amend the Schedules of Rates, then the printed Schedules of Rates shall take these into account.

The pages of the issued Schedules of Rates should not be removed from the tender document.

14. Tenderers are referred to Clause E8 Measurement and Payment in the Environmental Management (EM) Specification in Part C3.5 in the Scope of Work for the basic principles of measurement and pricing of the EM Specification.

15. Tenderers are referred to Clause 6.8.2 in Part C1.2 Contract Data regarding contract price adjustment.

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## Part C3: Scope of Work

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### **Status**

Should any requirement or provision in the parts of the Scope of Work conflict with any requirement of any Standardised Specification, particular specification or any drawings, the order of precedence, unless otherwise specified, is:

Drawings  
Scope of Work (Parts C3.1, C3.4, C3.5 and C3.6)  
Particular Specifications  
SANS Standardised Specifications

CITY OF CAPE TOWN

DIRECTORATE: WATER AND WASTE

CONTRACT NO. 104Q/2021/22

TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

## C3.1 Description of the Works

### CONTENTS

- 3.1.1 EMPLOYER'S OBJECTIVES
- 3.1.2 OVERVIEW OF THE WORKS
- 3.1.3 EXTENT OF THE WORKS
- 3.1.4 LOCATION OF THE WORKS
- 3.1.5 TEMPORARY WORKS

#### 3.1.1 EMPLOYER'S OBJECTIVES

The Employer's objectives are to execute the rehabilitation of the sewerage reticulation infrastructure using Cured in Place Pipe Lining method, Citywide.

#### 3.1.2. OVERVIEW OF THE WORKS

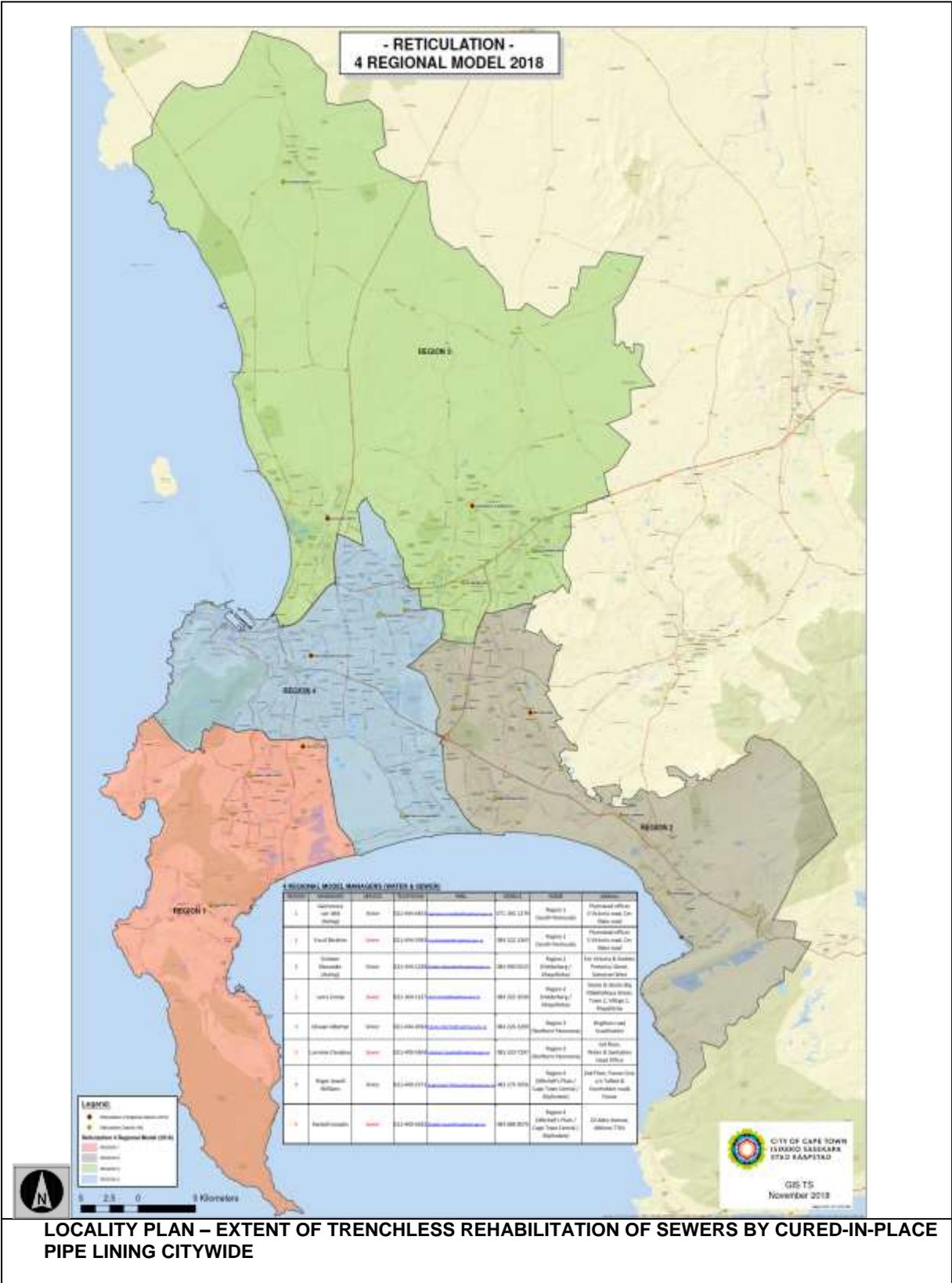
This tender covers the rehabilitation of sewers by cured in place pipe lining.

A Cured in Place Pipe Liner comprises a hollow cylinder containing a **woven** or **non-woven** material, or a **combination of woven and non-woven** material surrounded by a cured thermosetting resin. Interior and exterior plastic coatings or both may be included; this pipe is formed within, takes the shape of and fits tightly to the existing conduit

Work will be awarded as Works Projects as and when required by the Employer for the duration of the term tender and will be of varying quantities. Works Projects may be located anywhere within the City of Cape Town municipal area.

Work items under this tender shall include any one or more of the following:

1. Establishment on site
2. Accommodation of traffic during construction
3. Safety and security of his/her (contractor) personnel, materials and plant/equipments on site
4. Pre - CCTV Inspection and Assessment before rehabilitation
5. Point Repair Work
6. Replacement of manhole and/or cover and frames
7. Post CCTV Inspection after rehabilitation
8. Pipe Bulk Cleaning
9. Final Cleaning
10. Root Removal
11. Concrete Removal
12. Cleaning of cast iron pipeline
13. cutting of protruding laterals
14. Isolation of Pipelines
15. Over-pumping or Bypassing of Flows
16. Testing of Pipes.
17. Lining of Pipes using Cured-In-Place-Pipe (CIPP) liners.
18. Dewatering of excavations
19. Provision of accurate "As-built" records of all infrastructure installed or relocated during the works project
20. Locating and Working in various site of sewers, namely:
  - o In the road
  - o In the road reserve
  - o Mid-block sewers
  - o Open field



### 3.1.3. EXTENT OF THE WORKS

The work that is to be carried out under the contract is as provided for in the schedule of rates. The work to be undertaken by the Contractor shall include the following:

#### General

- (i) The establishment on site of the Contractor's campsite.(if required)
- (ii) The supply of plant, labour, tools, equipment and materials necessary to complete the work.
- (iii) Setting out of the works.
- (iv) Accommodation of traffic.
- (v) Providing "As Built" data on completion of the Works Project
- (vi) Compliance with the Environmental Management Plan
- (vii) Compliance with the Health and Safety Specifications

#### Sewer Rehabilitation

The extent and details of the cured-in-place-pipe lining work included in the" Works Project" will be provided.

The Works that are to be carried out will be specified in Works Project contract documents as and when required and as provided for in the Bills of Quantities therein. However, if during the course of construction conditions are found to differ from those anticipated, the Employer's Agent may modify the scope of the work to suit the prevailing conditions and circumstances.

### 3.1.4. LOCATION OF THE WORKS

Each Contractor will be required to work anywhere within the boundaries of the City of Cape Town municipal area, as shown on the locality map-A4 [area 1, 2, 3 and 4]; and drawings to be provided for each works project.

Where ambiguity exists as to the exact location of the boundary (i.e. the boundary is shown as being directly on the road), the boundary shall always be either to the north or east of the road in question.

Site conditions will vary and it is anticipated that most of the work assigned will be within an urban environment, which will range from industrial areas to residential areas.

The rates submitted in the Schedule of Rates shall apply for working anywhere within the City of Cape Town municipal area.

### 3.1.5 TEMPORARY WORKS

#### 3.1.5.1 SITE FACILITIES AVAILABLE

##### 3.1.5.1.1 Location of Camp Site

The Contractor shall establish his camp at a location approved by the Employer's Agent. The Contractor shall make his own arrangements concerning the provision of water, electricity and other services for his own office.

The Contractor shall submit to the Employer's Agent his proposed siting and layout of all camps, stores, offices etc. within seven (7) days after acceptance of his tender. Proposals for disposal sites for sewage, waste and refuse shall be submitted to the Employer's Agent's Representative for approval.

Should the Contractor wish to use any areas outside the site as defined above, he shall negotiate for the use of and rent for, such additional areas, with the affected landowners. Any damage to or desecration of land outside the site shall be made good to the satisfaction of the landowner and the Employer's Agent at the Contractor's expense.

##### 3.1.5.1.2 Source of Water Supply

The Contractor shall make his own arrangements for obtaining potable water for construction and domestic purposes. The reticulation in the existing infrastructure adjacent to the site is the nearest

available source of water. The Contractor shall pay for the water at the rates and tariffs determined by the City of Cape Town municipality, including the cost of supplying a temporary standpipe as required.

#### 3.1.5.1.3 Source of Power Supply

The Contractor shall make his own arrangements for obtaining power from the City of Cape Town municipality. If the Contractor chooses not to arrange a temporary electricity supply to the site he will have to provide alternative facilities to supply electricity for whatever purpose.

#### 3.1.5.1.4 Sewerage Connection

The Contractor shall make his own arrangements for a connection to the existing sewer main and he shall provide a sufficient number of toilets for his staff. Portable toilets will be acceptable.

### 3.1.5.2 SITE FACILITIES REQUIRED

No specific facilities are required on the site for the Employer's Agent or his representative, but the Contractor will make a desk and chair available for the Employer's Agent or his representative (in his office at no additional cost) if required.

### 3.1.5.3 FEATURES REQUIRING SPECIAL ATTENTION

#### 3.1.5.3.1 Existing Services

Prior to commencing work, the Contractor shall confer with all Authorities and Departments concerned and obtain the necessary wayleaves for both overhead and underground services affected by the Works and shall satisfy himself that he has obtained all the relevant information required to complete the Contract. The contractor must apply for wayleaves within one(1) day of signing the acceptance form to avoid delays to works projects. **Any planning wayleaves that the contractor may receive from the Council are not a transfer of rights.** The Contractor shall carry out the works with the minimum interference to existing services. He shall co-operate with all Authorities and Departments concerned and he shall be solely responsible for carrying out the following operations and checks:

(i) He shall inform all Authorities and Departments in good time before the correct stage of the construction is reached for the laying and/or relaying of any particular services.

(ii) He shall set out the lines and levels of kerbs, pipes, culverts and any other necessary features of the Contract in order that Authorities and Departments are able to lay and/or relay services correctly.

It shall be clearly understood that obtaining the necessary wayleaves and any extra work, such as the removal of any portion of the Works already executed either by the Contractor or other Authority or Department and its subsequent re execution, which is caused by the Contractor's failure to observe and carry out his responsibilities as specified, will be at his own cost.

If the Contractor considers that the progress of the works is being retarded by the failure of any Authority or Department to lay, remove or divert pipes, ducts, services, cables or poles within a reasonable time, he shall immediately notify the Employer's Agent in writing, stating clearly the number of days of delay claimed. The Employer's Agent will then decide whether such a claim is justifiable, and in the event of the claim being accepted he will hand to the Contractor a certificate stating clearly the number of days of delay sanctioned.

The cost of repairing any damage to services, due to miscalculations or negligence on the part of the Contractor or his failure to carry out the duties set out in this Clause, shall be borne by the Contractor.

#### (a) Protection of Overhead and Underground Services

Services and sub-surface obstructions likely to be affected by the work, based on available records and surveys, have been shown on the drawings. Although every care has been exercised in the presentation of the available data, the Employer cannot and does not vouch for the accuracy or completeness of the information shown. Whenever the Contractor deems it necessary to determine the exact location of an existing service or obstruction, he shall, at his own expense, make any examination that he may consider desirable in advance of the work, and the Employer does not accept any liability for loss, damage or delay to the Contractor as a result of the non-location or inaccurate location of services or obstructions.

Where no underground services are shown on the drawings or scheduled, but the possibility of their presence can be reasonably inferred, the Contractor shall in collaboration with the Employer's Agent, search for such services to establish their positions well in advance of the work. A full report shall then be submitted in good time to the Employer's Agent, to enable the necessary arrangements for the protection, removal or diversion of the services before work is commenced in their vicinity.

In the event of damage to existing services, the Contractor shall take such immediate action as is necessary to prevent further damage or danger to life or property and shall immediately notify the Employer's Agent who will issue instructions as to the necessary repairs or protective measures to be taken. The cost thereof shall be borne by the Contractor irrespective of whether the repairs or protective measures were carried out by him or by or on behalf of the service authority or department concerned.

As soon as an underground service not shown on the drawings is discovered, it shall be deemed to be a known service and the Contractor will be held responsible for any subsequent damage to it. If such service is damaged during the course of its discovery, the Contractor will be reimbursed for the cost of making good such damage, unless it is established by the Employer's Agent that the Contractor did not exercise reasonable diligence and care and that the damage was avoidable.

(b) Existing Services

"Existing service" shall include any service which has been temporarily taken out of service to allow for the execution of the works or which has been taken out of service as a result of an event which necessitated the execution of the works.

(c) Condition of Existing Services

The Contractor acknowledges that he has inspected and examined all known existing services and all existing services subsequently discovered, as contemplated in (a) above and is satisfied that all such services were in an acceptable and serviceable state at the commencement of the works, alternatively, upon discovery thereof as contemplated in (a) above.

In the event of a dispute as to the acceptability and/or serviceability of an existing service at the commencement of the works or upon the discovery of such service, the Contractor shall bear the onus of proving that the service in question was not in an acceptable and/or serviceable state at the commencement of the works.

(d) Maintenance, Protection and Relocation of Existing Services

During the course of the works, all existing services including traffic signals, watermains, sewers and stormwater reticulation, electricity transmission and telephone lines, cables, poles and conduits whether in service or not shall be protected, supported and maintained to the satisfaction of the service authority or department concerned and the Employer's Agent. The Contractor shall bear all costs in this regard.

Where a bank of underground ducts, cables, etc are crossed over a distance of less than 1.0m they shall be regarded as a single crossing. Hydrants under pressure, watermain valve covers and manholes shall be kept unobstructed and accessible at all times.

The covers and frames of service manholes, catchpits, watermains, valve boxes and sewers will have to be adjusted where they are affected by the roadworks.

(e) Work in Close Proximity to Existing Services

The Contractor shall note that no mechanical excavators or vibratory type compactors may be used within three (3) metres of any telecommunications or electrical services. No pegs or stakes shall be driven into the ground in the vicinity of underground services unless their exact positions have been determined.

The Contractor's attention is drawn to the following with regard to work done in the proximity of ESKOM and other electrical services:

**MACHINERY AND OCCUPATIONAL SAFETY ACT (Act No 6 of 1983) WITH REGULATIONS**

**D16 (7) Excavations**

"The builder or excavator shall ascertain as far as practicable the location and nature of underground services likely to be affected by the excavation and take such steps as may be necessary to prevent danger to persons."

**THE ELECTRICITY ACT (Act No 40 of 1958)**

**Section 51(3) : Offences and Penalties**

"Any person who without legal right (the proof of which shall be upon him) cuts or damages or interferes with any apparatus for generating, transmitting or distributing electricity, shall be guilty of an offence and

liable on conviction to a fine not exceeding R1 000,00 or to imprisonment for a period not exceeding twelve months."

The Contractor shall take the above into account in the drawing up of his construction programme and in the calculation of his tendered rates, and shall note that no additional payment or compensation will be allowed for any additional costs or delays incurred as a result of compliance with these regulations, except as measured and paid under the Items listed in the Schedule of Quantities.

The Contractor shall allow all reasonable access to the representatives of any Authority or Department for the purpose of maintaining, laying and/or relaying any services, cables or mains during the period of the Contract.

Permanent alterations to existing services ordered in writing by the Employer's Agent, and for which no separate provision has been made in the Schedule of Quantities, will be paid for under dayworks if required.

#### **3.1.5.3.2 SERVICES TO BE CONSTRUCTED / RELOCATED BY OTHERS**

Where applicable, details of proposed services which will have to be constructed / installed / relocated by others under the Works project will be provided.

#### **3.1.5.3.3 SURVEYS AND BEACONS**

The Contractor shall preserve, as far as is possible, any existing beacons and use them to place his own beacons for setting out and control of the work under this Contract. The setting-out co-ordinates on the drawings are based on the new WGS 84(X,Y,Z) co-ordinate system.

Should a Property or a Trigonometrical Survey beacon be buried or displaced by the Contractor, he shall bear the cost of searching for the beacon and, if so instructed, arrange for the checking of its position and/or replacement.

It may be that during the course of the construction of the Works certain pegs or beacons may be lost or disturbed due to unavoidable circumstances such as the close proximity to the works. Prior to commencing any operations in the vicinity of such pegs or beacons, the Contractor shall notify the Employer's Agent that loss or disturbance of such pegs or beacons appears unavoidable. The Employer's Agent may agree in writing that such beacons could not reasonably be preserved, and only those beacons so signed for will be replaced at the Employer's cost.

The cost of replacing pegs or beacons disturbed due to unavoidable circumstances as determined by the Employer's Agent shall be paid for under dayworks if required.

#### **3.1.5.4 SECURITY**

The Contractor shall take every precaution to ensure safety and to protect the Works from theft and vandalism. The Contractor shall be responsible for the safety and security of his personnel, materials on site and the Works in general at all times. The Contractor shall therefore acquaint himself with the current situation in the area with regard to safety and security (liaising with the local police as necessary) and shall provide all security measures, including the employment of accredited security services, as deemed necessary to comply with the requirements under this clause on the Contract.

No pay item is included in the Schedule of Rates / Bill of Quantities to cover the cost of taking these precautions, together with security guards, and any other incidental security measures, which the Contractor may require for the contract. The costs shall be included in the Preliminary and General items.

#### **3.1.5.5 STANDARD OF MATERIALS, WORKMANSHIP, TESTING AND PERFORMANCE**

The attention of Tenderers is particularly drawn to the high standard of materials, workmanship, testing and performance applicable to his Contract as a whole and he shall convey this requirement to his proposed Sub-Contractors.

The Contractor will carry out control testing of materials and workmanship as required in terms of the specifications. Where necessary, the Employer's Agent may carry out acceptance control testing. The Employer will not pay claims or grant extension of time for delays to the works resulting from the awaiting of test results. Testing as required by the Employer's Agent will be effected as promptly as possible but it is in the Contractors own interest to submit material samples and other components of workmanship for testing in good time to assist in avoiding or minimising delays.

#### **3.1.5.6 WEATHERPROOF PROTECTION FOR WORKERS**

All staff required to continue working during rain shall be provided with oilskins and rubber knee boots, or other approved protective clothing and footwear.

### **3.1.5.7 NIGHT WORK AND WORK ON PUBLIC HOLIDAYS**

Where the Contractor requires staff to work overtime, he shall make the necessary arrangements with the Employer's Agent and obtain written approval from the Employer's Agent. The Contractor shall bear the cost of his overtime work.

### **3.1.5.8 CONSTRUCTION IN CONFINED AREAS**

It will be necessary for the Contractor to work within confined and restricted areas. No additional payment will be made for work done in such areas, despite indications to the contrary in the Standard Specifications.

### **3.1.5.9 HEALTH AND SAFETY PLAN**

Prior to commencing work, the Contractor shall submit a revised Health and Safety Plan, compiled in accordance with the Health and Safety Specifications in C3.5: Management to the Employer's Agent for approval. The Contractor may not commence construction without the Employer's Agent's approval of the Health and Safety Plan.

### **3.1.5.10 ACCOMMODATION OF TRAFFIC**

(i) The safety and convenience of the travelling public is to be considered of utmost importance and every effort must be made to ensure that all temporary road signs, cones, flagmen and speed controls are maintained and effective, and that courtesy is extended to the public at all times.

(ii) It is important that the traffic accommodation requirements described in these specifications are adhered to and that all installations meet with the approval of the relevant traffic authority ie the Traffic Manager of the City of Cape Town.

(iii) Work, including the erection and removal of traffic control facilities, shall be executed between sunrise and sunset on Monday to Saturday, inclusive. Occupation of existing traffic lanes will only be allowed during daylight hours on normal working days, which are defined as Monday to Saturday, inclusive. The existing number of lanes for each traffic movement affected by construction shall not be reduced without the written authorization of the Employer's Agent.

(iv) It should be noted that Saturdays and Sundays are specified as "non-working days" in the Contract Data. In terms of Clause 5.8.1 of the General Conditions of Contract the Employer's Agent's permission has to be obtained for work to be carried out on special non-working days, for which permission shall be applied for at least 48 hours prior to the day.

(v) The travelling public has 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 public roads.

(vi) Failure to maintain road signs, warning signs or flicker lights, etc, in good condition shall constitute ample reason for the Employer's Agent to bring the works to a stop until the road signs, etc, have been repaired to his satisfaction.

(vii) The Contractor may not commence constructional activities before adequate provision has been made to accommodate traffic in accordance with the requirements of these specifications and Chapter 13 of Volume 2 of the South African Road Traffic Signs Manual (SARTSM).

(viii) The Contractor shall submit proposals in connection with all signs and accommodation of traffic to the Employer's Agent for approval.

The traffic shall be accommodated on the existing surfaced carriageway and shoulders. No bypasses or temporary deviations shall be constructed. Accommodation of traffic will generally be carried out by closing off one lane of traffic at a time and accommodating the traffic on the other lane(s). During non-working days and the period of the year end break (construction industry annual shut-down), the Contractor will be required to shut down normal construction activities and ensure that the total surfaced width is available to public traffic. Only emergency work will be allowed. The Contractor will be required to patrol during these non-working periods and ensure that all temporary traffic-control facilities are in place and functional and will have a team who will be required to be on standby for any situation that may arise.

Details of special traffic accommodation for the Works project will be provided.

Add the following: No blocking of the road without the approval from the Employer's Agent.

### **3.1.5.11 PROVISION OF “AS BUILT” DATA**

On completion of the “Works Project”, the Contractor will be required to submit accurate “As Built” information of the completed works to the Employer’s Agent.

### **3.1.5.12 ENVIRONMENTAL REQUIREMENTS**

The Contractor shall take particular note of the environmental requirements contained in the Environmental Specifications in Part C3.5: Management.

Personnel and plant shall not enter property beyond the road reserve boundary irrespective of whether or not the boundary is fenced.

The Contractor shall take every precaution to avoid damage to vegetation within that area of the road reserve which falls outside the designated work area is indicated on the drawings. Any damage caused is to be repaired at the Contractor’s expense.

Storage and stockpiling of materials within the road reserve will not be permitted without the written consent of the Employer’s Agent. Excess material from excavations and waste material shall be spoiled off site at suitable locations.

Details of special environmental requirements for the Works project will be provided.

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

## **C3.2 Engineering**

### **CONTENTS**

- 3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX
- 3.2.2 EMPLOYER'S DESIGN
- 3.2.3 DESIGN BRIEF
- 3.2.4 DRAWINGS
- 3.2.5 DESIGN PROCEDURES

#### **3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX**

- The Employer is responsible for the design of the permanent Works as reflected in the Contract documents unless otherwise stated.
- The Contractor is responsible for the design of the temporary Works, inclusive of shoring, traffic accommodation and temporary over-pumping of sewage, and their compatibility with the permanent Works.
- The Employer is responsible for specifying the required liner thickness.
- The Contractor shall supply the as-built drawings as detailed under the Contract Data

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

The permanent works included in this contract has been designed by the Employer. The detail of the works is indicated in the specifications and drawings which will be issued at "Works Project" stage.

#### **3.2.3 DESIGN BRIEF**

The contractor shall be responsible for the design of the temporary works as defined in C3.2.1 (b).

The contractor is responsible for the design of the Cured-in-Place Pipe System as detailed in Particular Specification PS-TD.

#### **3.2.4 DRAWINGS**

Construction drawings will, in terms of the Conditions of Contract, be issued to the Contractor by the Employer's Agent, as when appropriate, prior to the date for commencement with Works execution, and from time to time as required.

The Works shall be constructed in accordance with the issued design drawings, if any.

#### **3.2.5 DESIGN PROCEDURES**

The Contractor shall be responsible for the preparation of "as built" drawings and shall ensure that accurate as-built records are kept of all infrastructure installed or relocated during the contract. The position of pipe bends, junction boxes, duct ends and all other underground infrastructure shall be given by either co-ordinates, or stake value and offset. Levels must also be given. A marked-up set of drawings shall also be kept and updated by the Contractor. This information shall be supplied to the Employer's Agent's Representative on a regular basis.

Any information in the possession of the Contractor, which the Employer's Agent requires to complete his record drawings shall be supplied to the Employer's Agent's Representative before a certificate of completion will be issued.

The contractor must provide all As-built information in the format as detailed in the "**Protocols Regarding Civil As-built Plans and GIS Data**", which are attached in C3.6 Annexes

## C3.3 Procurement

### CONTENTS

- 3.3.1 PREFERENTIAL PROCUREMENT
- 3.3.2 SUB-CONTRACTING PROCEDURES

#### 3.3.1 PREFERENTIAL PROCUREMENT

The Works, and Works Projects, shall be executed in accordance with the conditions associated with the granting of preferences detailed in the **Preference Schedule** where preferences are granted in respect of B-BBEE contribution.

The declarations made in the **Preference Schedule** of the framework contract will be used in the evaluation of tender offers as described in clause C.3.11 in Part T1.2 Tender Data. Once appointed to a panel, Contractors will be required, as applicable, to complete the declaration in respect of sub-contractors in the Works Project Acceptance/Refusal Notice for the particular Works Project, in accordance with clauses P.2.1.4 and P.3.4 in Part A1.2 Work Allocation Procedures in the Works Project contract document.

Financial penalties, as described in the **Preference Schedule**, shall be applied in the event that the Contractor is found to have breached and of the conditions contained in the **Preference Schedule** (unless proven to be beyond the control of the Contractor)

Notwithstanding the application of penalties, the Contractor's attention is drawn to other sanctions that may be applied by the Employer (listed in the **Preference Schedule**) with due consideration to the circumstances.

#### 3.3.2 SUB-CONTRACTING PROCEDURES

##### 3.3.2.1 Monitoring the use of sub-contractors

Notwithstanding the restriction on sub-contracting as described on the **Preference Schedule**, it is recognised that sub-contracting is an integral part of construction, which the conditions of contract make provision for.

In order, however, to comply with the requirements of the **Preference Schedule**, the Contractor shall submit to the Employer's Agent, on a monthly basis, a **B-BBEE Sub-Contract Expenditure Report**. The format of this report is provided in Annex 2 attached.

The Contractor shall submit to the Employer's Agent documentary evidence in accordance with the applicable codes of good practise of the B-BBEE status level of every sub-contractor employed by the Contractor. Until such time as documentary evidence as described above has been submitted to the Employer's Agent, a sub-contractor shall be deemed to be a non-compliant contributor. The Contractor shall furthermore, on the written request of the Employer's Agent, provide documentary evidence showing the value of work sub-contracted to any or all of the sub-contractors employed by the Contractor.

##### 3.3.2.2 Procedure for the selection of sub-contractors/suppliers

Where monetary allowances for provisional sums or prime cost items have been provided in the Bills of Quantities in the Works Project contract document, and where the work or items to which the allowances relate are to be executed/supplied by sub-contractors/suppliers, then the following selection process shall be followed in respect of the required sub-contractors/suppliers:

Where the monetary allowance is less than or equal to R300 000, the Contractor shall invite three quotations from suitably qualified sub-contractors/suppliers for the required work or items. The selection of the three sub-contractors/suppliers shall be in consultation with, and to the approval of the Employer's

Agent. The evaluation of the quotations received must include a preference points system as described in C.3.11 of the Tender Data.

Where the monetary allowance is in excess of R300 000, an open competitive tender process shall be followed in respect of the selection of a sub-contractor/supplier for the required work or items. In such circumstances, tender documentation will be prepared by the Employer's Agent in consultation with and to the approval of the Contractor, invitations to tender will be advertised in the media by the Employer's Agent on behalf of the Contractor, and a sub-contractor/supplier will be selected from the responses received, by the Contractor and Employer's Agent in consultation. The evaluation of the offers received must include a preference points system as described in C.3.11 of the Tender Data. The Contractor must satisfy him/herself that the selected sub-contractor/supplier can meet the requirements of the sub-contract /supply agreement and may, on reasonable grounds, elect not to employ a particular sub-contractor/supplier.

In both instances above (less than or equal to R300 000 or in excess of R300 000), the contractual relationship between the Contractor and sub-contractor/supplier shall be as described in Clause 4.4.3 of the General Conditions of Contract.

## C3.4 Construction

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- 3.4.1 TRADE NAMES OR PROPRIETARY PRODUCTS
- 3.4.2 APPLICABLE STANDARDISED SPECIFICATIONS
- 3.4.3 PARTICULAR / PROJECT SPECIFIC SPECIFICATIONS
- 3.4.4 WAYLEAVES, PERMISSIONS AND PERMITS
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- 3.4.6 EMPLOYMENT OF SECURITY PERSONNEL
- 3.4.7 UNIVERSAL ACCESS

#### 3.4.1. TRADE NAMES OR PROPRIETARY PRODUCTS

Bid specifications may not make any reference to any particular trade mark, name, patent, design, type, specific origin or producer, unless there is no other sufficiently precise or intelligible way of describing the characteristics of the work, in which case such reference must be accompanied by the words "or equivalent".

**TENDERERS MUST NOTE THAT WHEREVER THIS DOCUMENT REFERS TO ANY PARTICULAR TRADE MARK, NAME, PATENT, DESIGN, TYPE, SPECIFIC ORIGIN OR PRODUCER, SUCH REFERENCE SHALL BE DEEMED TO BE ACCOMPANIED BY THE WORDS 'OR EQUIVALENT'**

#### 3.4.2 APPLICABLE STANDARDISED SPECIFICATIONS

The following latest SANS 1200 Standardized Specifications for civil engineering construction are applicable:

SANS 1200 A	:	General
SANS 1200 C	:	Site clearance
SANS 1200 D	:	Earthworks
SANS 1200 DB	:	Earthworks (pipe trenches)
SANS 1200 DK	:	Gabions & Pitching
SANS 1200 DM	:	Earthworks (Roads, Subgrade)
SANS 1200 G	:	Concrete (Structural)
SANS 1200 L	:	Medium-pressure pipelines
SANS 1200 LB	:	Bedding (pipes)
SANS 1200 LC	:	Cable Ducts
SANS 1200 LD	:	Sewers
SANS 1200 LE	:	Storm water Drainage
SANS 1200 LF	:	Erf connections (water)
SANS 1200 LG	:	Pipe Jacking
SANS 1200 ME	:	Sub base
SANS 1200 MF	:	Base
SANS 1200 MG	:	Bituminous Surface Treatment
SANS 1200 MH	:	Asphalt Base and Surfacing
SANS 1200 MJ	:	Segmented Paving
SANS 1200 MK	:	Kerbing and Channelling
SANS 1200 MM	:	Ancillary Roadwork

The standard specifications on which the sewer rehabilitation in this contract is based are as follows. Although not bound to in nor issued with this document, the following standards shall form part of this Contract:

ASTM F1216	:	Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
ASTM F2304	:	Standard Practice for Rehabilitation of Sewers using Chemical Grouting
ASTM D790	:	Test Methods for Flexural Properties of Reinforced Plastics and Electrical Insulating Materials

ASTM D3567 : Practice for Determining dimensions of "Fiberglass" (Glass-Fibre-Reinforced-Thermosetting Resin) Pipe and Fittings  
ASTM D5813 : Specification for Cured-In-Place Thermosetting Resin Sewer Piping systems  
WIS 4-34-02 : Specifications for Glass Fibre Reinforced Plastic (GRP) Sewer Linings  
WRC :Water research Centre, Sewerage Rehabilitation Manual

### 3.4.3 PARTICULAR / PROJECT SPECIFIC SPECIFICATIONS

#### 3.4.3.1. PROJECT SPECIFIC SPECIFICATIONS

The following variations and additions to the SABS 1200 Standardized Specifications referred to in clause 3.4.1 apply to this Contract. **The prefix PS indicates an amendment to SABS 1200.** The letters and numbers following these prefixes respectively indicate the relevant Standardized Specification and clause numbers in SABS 1200 to which the variation or addition thereunder applies.

### 3.4.2.2 PARTICULAR SPECIFICATIONS

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**PSA GENERAL**

**PSA 3 MATERIALS**

**PSA 3.1 Quality**

All pipes, fittings and materials used in the works, must bear the official standardisation mark of the SANS, where applicable. The mark on a pipe shall be visible from above after the pipe is laid.

The Employer's Agent's approval of all manufacturers' instructions with regard to installation of pipelines and sealing of joints between RC manhole rings is required.

**PSA 4.2 CONTRACTOR'S OFFICES, STORES AND SERVICES**

Add the following paragraph before the existing first paragraph in subclause 4.2:

"The Contractor's buildings, sheds and other facilities erected or utilised on the Site for the purposes of the Contract shall be fenced off and shall contain all offices, stores, workshops, testing laboratories, toilet facilities, etc. as may be and if required by the Contractor. The facilities shall always be kept in a neat and orderly condition.

**No personnel may reside on the Site. Only a night-watchman may be on the Site after hours"**

Delete "and first-aid services" in the second paragraph of subclause 4.2 and add the following:

"The Contractor shall provide on the Site and in close proximity to the actual locations where the work is being executed, **one toilet per 10 workmen**, which toilets shall be effectively screened from public view and their use enforced. Such toilets shall be relocated from time to time as the location of the work being executed changes, so as to ensure that easy access to the toilets is maintained.

The Contractor shall, where applicable, make all necessary arrangements and pay for the removal of night soil."

**PSA 5 CONSTRUCTION**

**Watching, Barricading, Lighting and Traffic Crossings**

The Contractor shall ensure that all roads adjacent to the site which may be affected by the works are kept in a safe condition for pedestrians and vehicular traffic.

Without limiting the Employer's Agent's right to request additional requirements in terms of the Specifications and the General Conditions of Contract, the following shall be regarded as the minimum requirements for security, temporary fencing and lighting.

**PSA 5.2.1 Security**

The Contractor shall take every precaution to ensure safety and to protect the Works from theft and vandalism. The Contractor shall be responsible for the safety and security of his personnel, materials on site and the Works in general at all times. The Contractor shall therefore acquaint himself with the current situation in the area with regard to safety and security (liaising with the local police as necessary) and shall provide all security measures, including the employment of accredited security services, as deemed necessary to comply with the requirements under this clause on the Contract.

A pay item is included in the Schedule of Rates / Bill of Quantities to cover the cost of taking these precautions, together with any fencing, security guards, and any other incidental security measures, which the Contractor may require for the contract.

**PSA 5.2.2 Temporary Fencing of Excavations**

The Contractor shall enclose all excavations with stout temporary orange barricade net fencing (1,8m). In addition he shall erect delineators alongside the road, adjacent to all open excavations, at 5 m intervals, and shall securely fix one line of red-and-white plastic warning tape of an approved design along the top of the fence for its full length.

The Contractor shall place New-Jersey barriers alongside the excavation/ trench to ensure that vehicles remain a safe distance away from the trench and to prevent that a vehicle crashes into the

trench. The Contractor shall at all times ensure the safety of the public, traffic, pedestrians and labour is kept at all times and that the safety takes precedence over the construction works.

The Contractor shall backfill and reinstate the pipeline on a daily basis before proceeding with pipe installation at another section. The contractor shall backfill and reinstate as the pipe is being installed to prevent open holes/ excavations. All open trenches during the day shall be temporarily barricaded with orange netting as described above when not working in the area. If no other option exist or due to unforeseen circumstances the contractor cannot backfill the excavation the contractor shall ensure that all excavation/ trenches left open after hours shall be barricaded with new jersey barriers as described above.

### **PSA 5.2.3 Lighting**

Open trenches which constitute a hazard to pedestrians or traffic shall be illuminated by red lights in the following manner:

At least two red lights shall be placed across the ends of open trenches, at a maximum spacing of 2 metres.

Red lights shall be placed along open trenches at 10 m intervals on the road side and at 3 m intervals along the pedestrian side, where applicable.

At least 1 red lamp shall be placed at each of the four corners of each pedestrian crossing and at least 2 red lamps at each of the four corners of each vehicular crossing.

All lamps shall be in position and burning between the hours of sunset and sunrise, and shall be provided with a chain and padlock and locked to suitable posts of prevent theft.

### **PSA 5.2.4 Accommodation of Traffic**

Accommodation of traffic will be required along entrance / exit roads, where the new works tie-in to existing roads. Traffic may have to be deviated onto a half-width roadway or single lane route past / through the construction work area.

#### **Accommodation of Traffic Specifications are in the Particular and Generic Specifications Section**

If required the Contractor shall submit drawings detailing the accommodation of traffic to the Employer's Agent for approval at least 14 days prior to construction. The deviation and signage shall be in accordance with the South African Road Traffic Signs Manual (SARTSM) and the details shown on the drawings.

The Contractor shall liaise and co-operate with the relevant traffic authorities regarding the accommodation of traffic on existing roads. The Contractor shall indemnify the Local Authority, as applicable, from all liabilities in respect of excavations and works on or adjacent to trafficked roads.

The Contractor shall provide and maintain in a proper condition all necessary barricades, lights, warning signals and all direction signs necessary to accommodate the traffic during these stages. The Contractor shall also provide for flagmen at all deviations and/or obstructions where necessary. Open trenches shall be kept to a minimum and shall at all times be adequately demarcated, to protect pedestrians. The Contractor shall also ensure that access to properties affected by the works is maintained at all times.

### **PSA 5.2.5 Public relations**

Prior to the commencement of the works, the Contractor shall on Council's letterhead at his own expense and with all relevant contact numbers, compile and distribute explanatory letters typed in English, Afrikaans and where necessary in Xhosa to each address likely to be affected by the works. These letters are to be vetted by the Employer's Agent prior to distribution. Complaints from members of the public are to be dealt with in a courteous and expedient manner to the entire satisfaction of the Employer's Agent.

## **PSA 5.4 PROTECTION OF OVERHEAD AND UNDERGROUND SERVICES**

Replace the heading and the contents of sub clause 5.4 with the following

### **"LOCATION AND PROTECTION OF EXISTING SERVICES"**

#### **PSA 5.4.1 Detection, Location and Exposure of existing services**

Before commencing with any work in an area, the Contractor shall ascertain the presence and actual position of all services which can reasonably be expected by an experienced and competent Contractor to be present on, under, over or within the Site.

Without in any way limiting his liability in terms of the Conditions of Contract in relation to damage to property and interference with services, the Contractor shall, in collaboration with the Employer's Agent, obtain the most up-to-date plans as are available, showing the positions of services existing in the area where he intends to work. Neither the Employer nor the Employer's Agent offers any warranty as to the accuracy or completeness of such plans and because services can often not be reliably located from plans, the Contractor shall ascertain the actual location of services depicted on such plans by means of careful inspection of the Site.

Thereafter, the Contractor shall, by the use of appropriate methodologies, carefully expose the services at such positions as are agreed to by the Employer's Agent, for the purposes of verifying the exact location and position of the services. Where the exposure of existing services involves excavation to expose underground services, the further requirements of sub clauses 4.4 and 5.1.2.2 of SANS 1200 D (as amended) shall apply.

The aforesaid procedure shall also be followed in respect of services not shown on the plans but which may reasonably be anticipated by an experienced Contractor to be present or potentially present on the site.

All services, the positions of which have been determined as aforesaid at the critical points, shall henceforth be designated as 'known services' and their positions shall be indicated by the Contractor on a separate set of drawings, a copy of which shall be furnished to the Employer's Agent without delay.

As soon as any service which has not been identified and located as described above is encountered on, under, over or within the site, it shall henceforth be deemed to be a known service and the aforesaid provisions pertaining to locating, verifying and recording its position on the balance of the site shall apply. The Contractor shall notify the Employer's Agent immediately when any such service is encountered or discovered on the Site.

Whilst he is in possession of the Site, the Contractor shall be liable for all loss of or damage as may occur to

- (a) known services, anywhere along the entire lengths of their routes, as may reasonably be deduced from the actual locations at which their positions were verified as aforesaid, due cognizance being taken of such deviations in line and level which may reasonably be anticipated, and
- (b) any other service which ought reasonably to have been a known service in accordance with the provisions of this clause.

The Contractor shall also be liable for consequential damage in regard to (a) and (b), whether caused directly by the Contractor's operations or by the lack of proper protection.

No separate payment will be made to the Contractor in respect of his costs of providing, holding available on the Site and utilising the said detecting and testing equipment, nor for any costs incurred in preparing and submitting to the Employer's Agent the Drawings as aforesaid. These costs shall be deemed included in the Contractor's other tendered rates and prices included in the Contract.

Payment to the Contractor in respect of exposing services at the positions agreed by the Employer's Agent and as described above will be made under the payment items (if any) as may be provided for in the respective sections of the specifications pertaining to the type of work involved.

#### **PSA 5.4.2 Protection during construction**

The Contractor shall take all reasonable precautions and arrange its operations in such a manner as to prevent damage occurring to all known services during the period which the Contractor has occupation and/or possession of the Site.

Services left exposed shall be suitably protected from damage and in such a manner as will eliminate any danger arising therefrom to the public and/or workmen, all in accordance with the requirements of the prevailing legislation and related regulations.

Unless otherwise instructed by the Employer's Agent, no services shall be left exposed after its exact position has been determined and all excavations carried out for the purpose of exposing

underground services shall be promptly backfilled and compacted. In roadways, the requirements of sub clause 5.9 of SANS 1200 DB should be observed. In other areas compaction is to be to 90% modified AASHTO density.

#### **PSA 5.4.3 Alterations and repairs to existing services**

Unless the contrary is clearly specified in the Contract or ordered by the Employer's Agent, the Contractor shall not carry out alterations to existing services. When any such alterations become necessary, the Contractor shall promptly inform the Employer's Agent, who will either make arrangements for such work to be executed by the owner of the service, or instruct the Contractor to make such arrangements himself.

Should damage occur to any existing services, the Contractor shall immediately inform the Employer's Agent, or when this is not possible, the relevant authority, and obtain instructions as to who should carry out repairs. In urgent cases, the Contractor shall take appropriate steps to minimise damage to and interruption of the service. No repairs of telecommunication cables or electric power lines and cables shall be attempted by the Contractor.

No liability for damages arising from any delay in having such alterations or repairs undertaken will be accepted by the Employer. The Contractor shall provide all reasonable opportunity, access and assistance to persons doing alterations or repairs to existing services.

#### **PSA 5.4.4 Liability for Damage and Insurance**

The Contractor's attention is drawn to the relevant clauses of the General Conditions of Contract and Contract Specific Data regarding liability for damage to the Works, or property, or injury to persons arising from the construction of the Works. His attention is also drawn to the General Conditions of Contract regarding insurance to be effected by the Contractor. Special attention is drawn to the exclusions in this insurance policy and particularly to the exclusions regarding consequential damage.

#### **PSA 5.4.5 Access to Services**

The Contractor shall allow all reasonable access to any Authority for the purpose of repairing, maintaining, laying and/or relaying any service, cables or mains during the period of this Contract.

The Contractor shall co-operate with other Contractors or Authorities responsible for the installation of water reticulation, electricity cables and communication cables and shall arrange his programme accordingly.

#### **PSA 5.4.6 Public relations**

Prior to the commencement of the works, the Contractor shall on Council's letterhead at his own expense and with all relevant contact numbers, compile and distribute explanatory letters typed in English, Afrikaans and where necessary in Xhosa to each address likely to be affected by the works. These letters are to be vetted by the Employer's Agent prior to distribution. Complaints from members of the public are to be dealt with in a courteous and expedient manner to the entire satisfaction of the Employer's Agent.

### **PSA 5.5 Dealing with Water on Works**

All water, whether from rain, pipeline failures, or subsurface water and infiltration shall be dealt with in such a way as to ensure the safety of the works.

It is required that adequate preventive measures are taken and maintained to ensure that the works are protected from damage due to water from any source.

The Contractor shall design, construct and maintain all drains and other temporary works necessary for the dewatering and flood protection of the permanent works. All methods of dewatering and flood protection shall be submitted to the Employer's Agent for approval.

In the event of these measures failing to protect the works, action shall be taken immediately to protect the works from further damage, the cost of which shall be carried by the Contractor. The damage caused by the water shall be made good by those responsible for the work damaged, or as directed by the Employer's Agent.

The Contractor shall be responsible for and shall repair at his expense any damage to the foundations, structures or any part of the works caused by floods, water or failure of any part of the dewatering and flood protection works.

Having served their purpose, all temporary works shall be removed, backfilled or levelled such that the operation of the works shall not be affected in any way.

## **PSA 5.7 SAFETY**

### **PSA 5.7.1 Occupational Health and Safety Act**

The Contractor is to observe the provisions of the Occupational Health and Safety Act 85 of 1993. Working on underground pipelines presents hazardous conditions and the Contractor's attention is drawn to the Occupational Health and Safety Act - General Safety Regulations and in particular Regulation No. 5 – Work in Confined Spaces. The Contractor shall, in terms of the Occupational Health and Safety Act Construction Regulations 2014, address these hazards in his Health and Safety Plan.

The Contractor shall give notice to the Provincial Director, in terms of Clause 3 of the Occupational Health and Safety Act Construction Regulations 2014, prior to the commencement of work on site.

The Contractor must appoint a full time Construction Health & Safety Officer (CSHO) to monitor all works construction sites for compliance.

### **PSA 5.7.2 Construction hazards**

The possibility of dangerous gases being present in pipelines cannot be excluded and the Contractor must therefore ensure adequate ventilation at all times. Generally a series of open manholes will be sufficient but it may be necessary initially to provide forced ventilation. Approved gas testing equipment and breathing apparatus must be available on site at all times and regular tests are to be made to check for the presence of gases. Unattended open manholes must be protected by at least three traffic cones and the opening is to be covered with an extruded mesh grid or similar.

**Some of the existing pipelines to be repaired and/or rehabilitated are of asbestos cement. Working with asbestos cement can present hazardous conditions and the Asbestos Regulation 2001 shall apply.**

The safety of the public and all workers and the provision of all necessary safety equipment for the protection of workmen shall be the Contractor's sole responsibility.

*Add the following sub-clauses to clause 5:*

## **PSA 5.8 Environmental Protection**

Construction will take place within an urban area and every precaution must be taken to protect the established vegetation and roadside facilities. It is therefore essential that the Employer's Agent be continually consulted throughout the construction period to ensure that environmental considerations are satisfied.

Failure to show adequate consideration for the environmental aspects of this contract will be sufficient for the Employer's Agent to have the Contractor's representative or any other Contractor's employee(s) removed from the site in terms of the General Conditions of Contract.

The following conditions have been imposed and shall be strictly complied with:

- (a) Personnel and plant shall not enter property beyond the boundaries of approved working areas, camp sites and stockpile sites without written authorization by the Employer's Agent irrespective of whether the approved areas are fenced off or not.
- (b) The Contractor shall, to the satisfaction of the Employer's Agent, take every necessary precaution to prevent the contamination and pollution of the environment.

The Contractor shall plan his activities such that materials, in so far as is possible, can be transported direct to and placed at the point where they are to be used. However, where utilising materials in this manner is impracticable, it shall be temporarily stockpiled for later loading and transportation to where it will be used. Compensation for stockpiling materials will not be payable

directly, but full compensation therefore shall be included in the rates for the various items of work in which the stockpiled material is used.

Stockpiling areas shall be indicated to and approved by the Employer's Agent. Before any stockpiling of material may be done, the site shall be cleaned, and all loose stones or any plant or other material which may cause pollution shall be removed. After the stockpiled material has been removed, the site shall be reinstated as closely as possible to its original condition.

- (c) The Contractor shall be responsible for the establishment of a refuse control system for the collection and removal of refuse from the camp site and working areas.

The Contractor shall ensure that waste and surplus food, food packaging plastic and organic waste is not deposited by his employees anywhere on the site except in refuse bins for removal. If his employees are to eat elsewhere on site and not within the camp site, the Contractor shall designate restricted places for eating in his working areas, shall provide adequate refuse containers in all these places and shall remove the refuse and clean up any remaining food containers immediately after mealtimes.

- (d) Trees, shrubs or any other existing vegetation on the site may not be removed without approval of the Employer's Agent. Such trees, shrubs or any other vegetation, shall remain the property of the employer.

- (e) No bituminous material or waste material shall be dumped, even if only as a temporary measure, on the site, but provision shall be made to remove such excess material directly off the site of works

- (f) The Contractor shall ensure adequate provision of latrine facilities for his employees.

All costs incurred by the Contractor in complying with PSA 5.6 shall be deemed to be included in the Contractor's general obligations and no separate payment shall be made in this regard.

#### **PSA 5.9 Interruption of service**

The maximum time permitted for consumers to be without water, sewerage or stormwater drainage services is six hours. The use of bypass or temporary connections shall be permitted. Notice must be given to affected residents 24 hours prior to shutdown.

The Contractor shall provide a 24 hour standby service for the maintenance and repair of any section of work covered by the works contract. He shall provide the Employer's Agent with an effective means of contacting the standby staff on a 24 hour basis. All repairs necessary to maintain services to residents shall be carried out without delay.

All costs incurred by the Contractor in complying with PSA 5.7 shall be deemed to be included in his rates and no separate payment shall be made in this regard.

#### **PSA 7 TESTING**

##### **PSA 7.1.1 Checking**

Every completed layer or section of the Works shall be subject to check testing by the Contractor, at his own cost. Once the Contractor has satisfied himself with the standard of his works, he shall provide the Employer's Agent with the results of his check testing indicating that the work is to specification. In order to minimise delays due to testing, the Contractor shall give the Employer's Agent at least 24 hours notice of when any portion of the works will be completed to his satisfaction so that the Employer's Agent can arrange for his acceptance control testing to be done.

Failure by the Contractor to notify the Employer's Agent or to provide the required information or, where specified, to perform the required test, will be grounds to exempt the Employer from payment for the associated work and for all subsequent work which would be affected by the failure of the work to be tested.

New sewers will be tested as per SANS 1200 specifications. Where portions of a sewer are rehabilitated, only such portions will be required to be tested,

The Employer's Agent will be under no obligation to the Contractor to perform acceptance tests. If the Employer's Agent elects not to perform a particular test after notification by the Contractor, he will issue the Contractor with a written instruction to proceed with the relevant works without the acceptance test being performed.

Nothing contained in this Clause will relieve the Contractor of his responsibilities under the specification or in any way limit the tests which the Employer's Agent may call for or perform in terms of the specification.

#### **PSA 7.1.2 Standard of Finished Work not to Specification**

In addition to the provisions of Subclause 7.1.2, the costs of check testing by the Employer's Agent including tests carried out by commercial laboratories after remedial work by the Contractor shall be borne by the Contractor.

#### **PSA 7.2 Approved Laboratories**

If required, the Employer's Agent will employ the services of a commercial laboratory in order to carry out acceptance testing. All acceptance testing carried out by a commercial laboratory shall be paid for by the Contractor. The costs of such tests which meet the specification requirements will be reimbursed to the Contractor in the monthly payment certificate.

The Contractor shall make due allowance for testing procedures in his construction programme.

#### **PSA 7.3 Testing for Engineering Services**

##### **(i) PSA 7.3.1 Pipe Trenches**

The Employer's Agent may perform acceptance density tests on pipe trenches in bedding layers and at 500 mm backfill intervals. The Contractor shall notify the Employer's Agent when the bedding layer and each 500 mm increment layer has been completed.

##### **(ii) PSA 7.3.2 Sewer Pipes**

The Employer's Agent may perform pressure tests and visual inspections on sewer pipes and manholes after completion of any pipework. Tests for pipework under roads in such a position that repairs could affect the roadworks must be completed before the Contractor may proceed with any layerworks..

Pressure tests may be performed after the bedding layer is placed and compacted, and again when backfilling is complete. The pipework shall only be accepted when the second test has passed.

Sewer manholes shall be visually inspected for ingress of water and shall be watertight.

New installations will be tested against the specified testing pressure as per SANS 1200 L.

The Contractor shall provide all plugs and testing apparatus.

##### **(iii) PSA 7.3.3 Control of Levels (In General)**

Invert levels shall be controlled by laser beams or sight rails.

The Contractor shall check the invert level of the laid pipe at each manhole position prior to the construction of the manhole. The onus is on the Contractor to arrange and verify the check levelling but any deviation from the specified tolerance remains the responsibility of the Contractor.

#### **PSA 7.5 As-built Information**

As the works are progressing, the Contractor shall mark on a separate set of drawings, after checking the information, all "As-Built" details and submit them to the Employer's Agent's Representative for approval on a weekly basis.

Where services have been disturbed, all services shall be surveyed, ends of all ducts or banks of ducts, all pipe bends and the cover and invert levels of all manholes and catchpits shall be surveyed prior to being backfilled.

The Contractor shall supply this co-ordinate and level information on clearly marked-up drawings at the completion of the contract. This information will be required in both hard copy and in electronic format..The format of as-built electronic information shall be obtained from the Employer's Agent. Payment for this work shall be included in the rates for the work.

The Certificate of Completion shall only be issued once the required information has been submitted and approved.

## **PSA 8.7 DAYWORK**

### **Scope**

This section covers the evaluation and method of measurement and payment for work, **ordered by the Employer's Agent in writing**, carried out on a daywork basis, all in accordance with Subclause 6.5 of the General Conditions of Contract and Contract Specific Data.

### **General Requirements**

Work will be classified as daywork only if the Employer's Agent considers **no other rate** in the schedule of quantities **appropriate for payment** purposes.

Only work ordered in writing by the Employer's Agent to be executed as daywork shall be measured and paid for at the rates tendered in the Schedule of Quantities.

The Contractor shall keep and submit records of the work performed in accordance with the requirements of Subclause 6.5.3 of the General Conditions of Contract or Contract Specific Data.

### **Labour**

The tendered rates for labour to be included as daywork charges shall include the salaries and wages of gangers or charge hands working with their gangs but shall exclude the costs of the time of the foremen or supervisors which will be deemed to have been included in the sums tendered for the relevant items in the schedule of quantities.

Gross remuneration, as specified in Subclause 6.5.1 of the General Conditions of Contract and Contract Specific Data, will be deemed to include the following:

- (a) Basic salary/wage
- (b) Overhead charges such as fringe benefits not reflected in basic salary and wages which may include:

- normal annual bonus
- employer's contribution to medical aid
- group life assurance premiums
- employer's contribution to pension/provident fund
- all other costs as per letter of appointment

and costs payable due to statutory requirements, which may include:

- Workmen's Compensation Fund contribution
- Unemployment Insurance Fund contributions
- District Council levies or the equivalent thereof

The rates tendered for labour shall include for the actual cost of salaries and wages, all overhead charges, profit, liabilities, obligations, risks and incidentals for all workmen to execute work by dayworks.

### **Materials**

The nett cost price of materials (exclusive of VAT) actually delivered to the site to be included as daywork charges shall include the costs of delivery to the usual points at which materials are received on the site.

Before ordering any material, the Contractor shall submit quotations to the Employer's Agent for his approval, and shall submit such receipts or vouchers to the Employer's Agent as may be necessary for proving the amount claimed.

The percentage tendered as an on-cost on the net cost price of materials shall include for all handling, overheads, profit, liabilities, obligations, risks, incidentals and other on-costs for the supply, delivery and distribution of material for daywork to the individual site(s) where daywork is in progress.

### **Plant**

The full inclusive hourly cost of operational plant which is available on site or which has been removed without written authorization of the Employer's Agent, to be included as daywork charges will be taken to be the tendered rate which, in the opinion of the Contractor, will be applicable in all respects to the situation and terms of the contract.

The hourly rate tendered or agreed shall constitute the daywork rate for the plant and will be deemed to include all costs for plant operators, consumable stores, fuel maintenance, depreciation, ground-engaging tools and all other incidentals necessary to operate the plant for the purposes for which it was designed.

Failure on the part of the Contractor to state in the schedule of quantities the plant on which his tender is based, shall be considered as a firm agreement on the part of the Contractor that he waives all rights to distinguish between the different types and capacities of plant falling within the description and/or category given, and the Employer's Agent shall have the right to call upon the Contractor to supply any such plant to the site and perform the work as directed by him at the particular tendered rate.

Sixty percent (60 %) of the hourly rate tendered or agreed will be paid in respect of plant which is being employed for daywork, but standing idle on the specific instructions of the Employer's Agent, as full compensation for idle costs of daywork plant.

For plant not on site, the costs of establishing items of plant on the site for daywork on specific instruction of the Employer's Agent will be negotiated with the Contractor at the time that such daywork is contemplated.

**PSA 8 MEASUREMENT AND PAYMENT**

**PSA 8.3.1 CONTRACTUAL REQUIREMENTS**

(a) Security (Performance Guarantee)..... Sum

The unit of measurement shall be for the entire contract period and payment thereof will be made once-off after commencement of the contract.

The tendered rate shall include for all costs involved to comply with the requirements as stipulated.

(b) Insurance (Blanket / Umbrella Policy)..... Sum

The unit of measurement shall be for the entire contract period and payment thereof will be made once-off after commencement of the contract.

The tendered rate shall include for all costs involved to comply with the requirements as stipulated.

(c) COVID-19 requirements..... Sum

The unit of measurement shall be for the entire contract period and payment thereof will be made once-off after commencement of the contract.

The tendered rate shall include for all costs involved to comply with the requirements as stipulated.

**PSA 8.4 SCHEDULED TIME-RELATED ITEMS**

*Wherever the words " The sum " occurs in Subclause 8.4 replace with the words "The sum per day " .*

*Wherever the Unit " Sum " occurs in Subclause 8.4 replace with the Unit "day " .*

**PSA 8.4.2.1 Facilities for the Employer (Engineer)**

*ADD THE FOLLOWING ADDITIONAL SUB-ITEMS:*

(c) Project Nameboards..... Sum

The tendered rate shall cover all costs as specified in this subclause of SANS 1200 A, as well as its maintainance."

**PSA 8.4.2.2 Facilities for the Contractor**

The sums tendered for in Items 8.3.2.2 and 8.4.2.2 for the Contractor's fixed and time related charges shall include for all the requirements described.

Contractor's Fixed Charges: The camp site will only be established if warranted. It is envisaged that the Contractor will not establish a camp site for every Works project.

Should the Contractor wish to use any areas outside the site as defined above, he shall negotiate for the use of and rent for, such additional areas, with the affected landowners. Any damage to or desecration of land outside the site shall be made good to the satisfaction of the landowner and the Employer's Agents Representative at the Contractor's expense

#### **PSA 8.7 Daywork**

##### (a) Labour charges

- |      |   |                |
|------|---|----------------|
| (i)  | (description of employee/designation/skill indicated) | Unit: hour (h) |
| (ii) | (etc, for other designations/skills)                  | Unit: hour (h) |

The unit of measurement shall be the hour of time worked by the particular employee on the designated work on instruction by the Employer's Agent.

The daywork rates submitted for labour in the schedule of quantities shall be the cost of labour for each skill level and shall apply only to the number of workers approved in writing by the Employer's Agent.

The rates shall be for normal working hours and shall be increased pro rata for overtime at the standard rate applicable if the work performed outside working hours is approved in writing by the Employer's Agent.

The tendered rates shall include full compensation for all costs for salaries and wages, use and maintenance of tools and equipment, holidays with pay and financial charges of any description incurred by the Contractor and his subcontractors as well as for all insurance, accommodation, travelling, travelling time, supervision, overheads, profit, obligations, risks and any other emoluments and incidentals necessary for labour to execute work as daywork.

##### (b) Material charges

- |      |  |                       |
|------|--|-----------------------|
| (i)  | Actual cost of material (excluding VAT)    | Unit: Provisional Sum |
| (ii) | Handling cost in respect of subitem (b)(i) | Percentage (%)        |

Expenditure under this item shall be made in accordance with Clause 6.5 of the General Conditions of Contract. The provisional sum allowed shall include for the actual cost incurred for materials used in authorised daywork. The actual costs for materials shall not be subject to contract price adjustment.

The tendered percentage is a percentage of the amount actually spent under subitem (b)(i) and shall include full compensation for the handling costs of the Contractor, profit, overheads and incidentals in connection with materials used for daywork on the instructions of the Employer's Agent.

Payment for expenditure under this item will be made in full as and when the money is expended subject to written proof by the Contractor of payment of invoiced amounts.

##### (c) Plant charges

- |      |                                  |                |
|------|----------------------------------|----------------|
| (i)  | (description of plant indicated) | Unit: hour (h) |
| (ii) | (etc for other plant)            | Unit: hour (h) |

The unit of measurement shall be the hour actually worked by each item of plant (vehicle, machine or equipment) on the designated work on instruction by the Employer's Agent.

The Contractor and the Employer's Agent will agree on the method of recording the working hours prior to the commencement of work. Any long period of idling at any one time which in the opinion of the Employer's Agent is beyond that required for normal operating conditions will not be paid for as working time. Non-working hours for any reason shall not be measured for payment.

The tendered rates include full compensation for furnishing and using the plant, including the cost of plant operators, consumable stores, fuel, ground-engaging tools, maintenance and for all other incidentals necessary to execute the authorised daywork as specified.

Where there is ambiguity between the power developed at the flywheel and mass of machine, the power shall govern the measurement category.

(d) Other plant not specified above Unit: Provisional Sum

The provisional sum provided to cover the cost of other plant shall be expended in accordance with Clause 6.5 of the General Conditions of Contract.

#### **PSA 8.8.2 Dealing with traffic**

*Add the following:*

Work relating to dealing with traffic (or accommodation of traffic) is to be carried out in accordance with Accommodation of Traffic included in the Particular and Generic Specifications section. No separate measurement and payments for dealing with traffic is done in the Accommodation of Traffic Section.

*Replace item 8.8.3 with the following:*

#### **PSA 8.8.3 Watching, lighting, Security and temporary fencing**

This item will be all inclusive of the following:

a) Establishment Unit: Sum  
b) Daily Maintenance Cost Unit: Day or m

**Security:** Unit: Day

This item shall include for provision of security services and any other security measures which the Contractor may wish to employ during the contract as specified in PSA 5.2.1.

In known highly volatile areas, an extra over allowance was made in the schedule of quantities for additional security as the contractor deems necessary to execute the work.

**Temporary fencing of excavations:** Unit: m

This shall include for supplying all delineators, poles and warning tape and fencing where required, providing all labour necessary for the operation, supervising the work, interim removal and re-erection and any other incidentals necessary to satisfactorily complete construction.

**Lighting:** Unit: Day

This shall include for supplying all the lighting units, chains, padlocks and poles, providing all labour necessary for the operation, all maintenance of the lighting system, supplying all cables and electrical power as required, supervising the work, the interim removal and re-erection of the lighting units, and any other incidentals necessary from the satisfactory operation of the lighting.

*Replace item 8.8.4 with the following:*

#### **PSA 8.8.4 LOCATION AND PROTECTION OF EXISTING SERVICES**

Where particular items are provided in other sections of the schedules the costs of detection, exposure, protection and alterations shall be covered by such particular items. Where no such particular items are provided and where there is reason to expect the presence of such a service or services, the following items will apply:

##### **PSA 8.8.4.1 Provision of detecting devices:**

(a) Water and sewer pipes Unit: Sum  
(b) Electrical and other cables Unit: Sum  
(c) Other Unit: Sum

The tendered sums shall cover the cost of providing and operating suitable equipment for as long as is necessary in order to locate all existing services likely to be affected by the construction activities. Alternatively an approved specialist firm may be employed to carry out the work.

**PSA 8.8.4.3 Hand excavation necessary for locating and exposing existing services in all materials:**

- |                        |                      |
|------------------------|----------------------|
| (a) In all roadways    | Unit: m <sup>3</sup> |
| (b) In paved areas     | Unit: m <sup>3</sup> |
| (c) In concrete areas  | Unit: m <sup>3</sup> |
| (d) In all other areas | Unit: m <sup>3</sup> |

The rates shall cover the cost of excavating by means of hand tools within authorised dimensions, for all precautionary measures necessary to protect the services from damage during excavation and backfilling and for subsequent backfilling and compacting. Compaction of material in all areas except in roadways shall be to 93% of modified AASHTO density.

The rate for hand excavation in roadways shall also include compensation for compacting excavated or selected backfill material to 100% of modified AASHTO density. Reinstating layerworks and surfacing shall be measured and paid for under SANS 1200 DB.

The tendered rates shall also include for keeping excavations safe, for dealing with surface and subsurface water and for removal of surplus excavated material from the site.

*Add the following item:*

**PSA 8.8.6 Dealing with water:**

- |                                    |           |
|------------------------------------|-----------|
| (a) Dealing with subsurface water  | Unit: Sum |
| (b) Dealing with surface water     | Unit: Sum |
| (c) Extra-over for item (a) above: |           |
| i) Installation of well points     | Unit: m   |
| ii) Operate and maintain           | Unit: day |

The sum shall cover the cost for the provision, operation, maintaining and removal of all plant and materials required to deal with any water anywhere on the Site as required in terms of Sub-clause 5.1.3 of SANS 1200 D and Sub-clause 5.1.2 of SANS 1200 DB. No additional payment will be made for "Special water hazards".

The sum shall cover the cost of providing the necessary plant or materials, or both, fully erected and operative on the Site, the cost of operating and maintaining pumps, well points, sheeting, close timbering, and other equipment, as applicable, for 24 hours a day, 7 days a week, throughout the period during which the facilities are required, and the cost of removing such goods and restoring the Site to its original condition on completion of that part of the project for which the temporary works were erected.

*Add the following item:*

**PSA 8.8.7 Liaison with Services Authorities** Unit: Sum

The tendered sum shall include full compensation for liaising and interacting with all the relevant Service Authorities per Works Project, for obtaining the necessary wayleaves for services affected by the Works, allowing them onto the site and accommodating them for any service protection, relocation or supervision which may be required.

**PSA 8.9 HEALTH AND SAFETY**

**PSA 8.9.1 Complying with Health and Safety requirements** Unit: day

The tendered sum shall include full compensation to the Contractor for compliance with all the requirements of the OHS Act and Regulations (including the Construction Regulations 2014 and OHS Specification, the Professional Indemnity (PI) insurance, other statutory requirements and provision of qualified OHS officer) at all times for the full duration of the Contract.

**PSA 8.9.2 Asbestos Specialist Services:**

- (a) Approved Asbestos Inspection Authority (AIA) to assist the Contractor with the approval of the asbestos plan of work, in accordance with the latest asbestos legislation. Unit: Sum
- (b) Administrative cost and profit in respect of above item (a) Unit: %
- (c) Handling and disposal of asbestos containing waste from site to the permitted Vissershok Landfill site, in accordance with legislation Unit: Sum
- (d) Transport of asbestos-containing waste to the licensed privately owned operated hazardous waste disposal facilities (rated H:h) at Vissershok for waste with classification ratings of 1 (extreme risk), in accordance with Asbestos Regulation. Unit: ton.km
- (e) Cost of dumping at privately owned, permitted Vissershok landfill site (Original tipping slips are required for audit purposes) Unit: ton

Payment for this item shall include all the statutory requirements and recordkeeping as stated in Section 9 and 16 of the Asbestos Regulation GNR.155

**PSA 8.10.1 Complying with Environmental Management requirements** Unit: day

The amount tendered for this item shall allow for full compensation for all costs, of whatever nature, for adhering to the Environmental Management Plan, including provision of the ECO Officer, as set out in C3.1 Description of works, Particular Specification E of this document.

**PSA 8.10.2 Noise Exemption Permit** Unit: Sum

The tendered rate must include all costs incurred for obtaining a Noise Exemption Permit for each "Works Project" prior to construction. This permit is required for all works, including CCTV.

**PSC SITE CLEARANCE**

**PSC 1 SCOPE**

The site is situated in a developed urban environment. The contract will require the demolition and removal or storage of existing materials on the site prior to commencement of the works.

**PSC 3 MATERIALS**

**PSC 2 .1 Disposal of Material**

No material shall be spoiled on the site. The Contractor shall make his own arrangements for the provision of a suitable spoil area off the site.

The Contractor will be held solely responsible for observing the by-laws and regulations of the relevant local authorities with regard to fire and for any injury to persons and damage to property. The Contractor shall indemnify the Employer against all claims for damages arising from this source.

**PSC 5 CONSTRUCTION**

**PSC 5.1 Areas to be cleared and grubbed**

*Add the following items:*

"Pipeline routes shall be cleared to a distance of 1,5m on both sides of the pipeline centre line. Route pegs or markers shall not be destroyed or damaged during clearing operations."

*Add the following items:*

"The following applies to clearing widths:

- (a) The width to be cleared for the road shall not exceed 6,0m.
- (b) The area to be cleared for parking zones shall not exceed the specified dimensions by a margin of 0,5m measured from the perimeter.

**PSC 5.9 Removal and storage of Kerbing, Channelling and Edging**

Where indicated by the Employer's Agent, the Contractor shall remove existing kerbing, channelling and edging and store all such kerbing, channeling and edging for re-use and reinstatement on the site of the works.

Where existing kerbs are to be removed and the existing channels are to remain, the Contractor shall carefully remove the kerbs without disturbing the channels. Any channels which are disturbed or damaged during this operation shall be replaced at the Contractor's expense.

**PSC 8 MEASUREMENT AND PAYMENT (Clause 8)**

**PSC 8.2 PAYMENT**

**PSC 8.2.1 Clear and grub**

*Replace the first line with the following:*

"The area designated by the Employer's Agent to be cleared and grubbed will be measured in square meter to the nearest square meter or,"

**PSC 8.2.7 Dismantle and remove**

This item also applies to underground structures.

*Replace the second paragraph with the following:*

"The tendered rates shall include full compensation for the detection, disconnection, removal, disposal, including all necessary excavation and backfilling.

In the event of the Contractor damaging any of the services he will replace it at his own cost."

- a) Pipelines

- i) Up to 150mm diameter Unit: m
- ii) Over 150mm diameter Unit: m

The rate shall cover the cost of the dismantling, removal and disposal of existing pipe to a site provided by Contractor.

- b) Manholes (Fibre cement or Concrete)  
Unit : No

The rate shall cover the cost of the demolishing, removal and disposal of existing fibre cement or concrete manholes to a site provided by Contractor. Payments shall be made according to the depth increments as listed in the bill of quantities.

- c) Manholes (Brick) Unit : No

The rate shall cover the cost of the demolishing, removal and disposal of existing brick manholes to a site provided by Contractor. Payments shall be made according to the depth increments as listed in the bill of quantities.

- d) Kerbs, edging and channels Unit : m

The rate shall cover the cost of the removal and disposal of existing kerbs, including all necessary excavation to site provided by Contractor.

- e) Asphalt
  - i) 0mm to 50mm thick Unit: m
  - ii) Over 50mm thick Unit: m

The rate shall cover the cost of the removal and disposal of existing asphalt sidewalks to a site provided by Contractor.

- f) Road signs Unit : No

The rate shall cover the cost of the removal and disposal of existing road signs to a site provided by Contractor.

- g) Trees and Plants / Shrubs Unit : No

The rate shall cover the cost of the removal and disposal of existing small trees and plants/ shrubs to a site provided by Contractor.

- h) Grass and lawns Unit : m<sup>2</sup>

The rate shall cover the cost of the removal and disposal of existing grass and lawns to a site provided by Contractor.

- i) Concrete in roads, driveways or walkways
  - i) Up to 100mm thick concrete Unit: m<sup>2</sup>
  - ii) Over 100mm and up to 200mm thick concrete Unit: m<sup>2</sup>
  - iii) Over 200mm thick concrete Unit: m<sup>2</sup>

The rate shall cover the cost of the cut, removal and disposal of existing concrete roads, driveways or walkways to a site provided by Contractor.

- j) Brick Paving in roads, driveways or walkways Unit: m<sup>2</sup>

The rate shall cover the cost of the removal and disposal of existing brick paved roads driveways or walkways to a site provided by Contractor.

- k) Manholes cover and frame Unit : No

The rate shall cover the cost of the demolishing, removal and disposal of existing manhole cover and frame to a site provided by Contractor.

**PSC 8.2.9 Remove rubble from site, transport and dispose of at waste disposal facility**

The rate shall cover the cost of dismantling of all structures and foundations where needed, the additional costs for precautions required during the demolition and loading operations, all

excavations and backfilling as required and the cost of loading, transporting and dumping of the material at a dump site to be identified by the Contractor. Unit : m3.km

**PSC 8.2.10 Remove topsoil to a nominal depth of 150mm, stockpile and reinstate.....** Unit: m<sup>3</sup>

The tendered rate shall include full compensation for removing topsoil to a depth of 150 mm, temporary storing of material, transporting and reinstating.

*Add the following item in subclause 8.2:*

**PSC 8.2.11 Remove and stockpile material for later reinstatement**

a) Kerbs, edging and channels Unit: m

The tendered rates shall include full compensation for the careful removal of kerbs or edging, the temporary stockpiling and cleaning thereof and the reinstatement once the work has been completed, including all necessary excavation, backfilling and concrete bedding and backing with 15 MPa concrete. In the event of the Contractor damaging any of the kerbs, he will replace it at his own cost.

b) Brick paved / Interlocking Bricks in roads, driveways or walkways Unit: m<sup>2</sup>

The rate shall include full compensation for the careful removal of bricks/ pavers, the temporary storing and cleaning thereof and the reinstatement once the work has been completed, including all necessary excavation, backfilling and backing with 25 Mpa concrete. In the event of the contractor damaging any of the bricks/ pavers, he will replace at his own cost.

c) Grass and lawns Unit: m<sup>2</sup>

The rate tendered shall include for carefully dismantling, loading, taking to storage, keeping grass sods moist, transporting again to area of reinstatement and including for all labour, plant and tools needed to complete the work.

d) Trees and Plants / Shrubs Unit: No

The rate tendered shall include for carefully dismantling, loading, taking to storage, keeping the plants moist, transporting again to area of reinstatement and including for all labour, plant and tools needed to complete the work.

e) Road signs Unit: No

The tendered rate shall include full compensation for the careful removal of road signs, including for both single and double pole road signs, the temporary storing and cleaning thereof and the reinstatement once the work has been completed, including all necessary excavation, backfilling and backing with 25 MPa concrete. In the event of the Contractor damaging any of the road signs, he will replace it at his own cost.

f) Fence

- i) All wire type fencing Unit: m
- ii) All palisade type fencing Unit: m
- iii) Vibracrete walls Unit: m

The rate shall cover the cost of taking down the vibracrete walls and fences (palisade and wire type), coiling wire, sorting and stacking all material at sites indicated by the Employer's Agent. The rate shall cover the cost of loading, transporting, offloading all material and reinstallation of vibracrete walls and fences to previous position and condition. Any materials damaged by the Contractor must be replaced by the Contractor.

**PSC 8.2.12 Saw cutting of existing surfaces** Unit: m

This will only apply when existing asphalt, concrete, paving and other hard surfaces was cut for removal and the edge of surface not to be excavated was damaged and needs to be replaced. The tendered rate shall include full compensation for neatly saw cutting the existing asphalt, concrete, paving and other hard surfaces.

**PSC 8.2.11 Overhaul**

No payment shall be made for overhaul. All haulage shall be considered freehaul.

## **PSDB EARTHWORKS (PIPE TRENCHES)**

### **PSDB 3.6 MATERIALS FOR REINSTATEMENT OF ROADS**

#### **PSDB 3.6.1 Base**

Existing road layers shall be reinstated with type G4 base (compacted to 98% Modified ASSHTO density) 300 mm thick after compaction, in two layers each 150mm minimum thick.

The two base layers shall be benched so that each layer overlaps the underlying layer by at least 150 mm on either side of the trench excavation.

#### **PSDB 3.6.4 Asphalt Surfacing**

The surfacing shall consist of a medium continuously graded asphalt surfacing as specified in SANS 1200 MH Asphalt Base and Surfacing of the specifications. The edges of the surfacing / seal shall overlap the base by at least 150 mm on both sides of the trench excavation. A tack coat shall be applied to the finished surface of the base course layer.

## **PSDB 4 PLANT**

### **PSDB 4.2 Control of Water**

It can be expected that the existing pipelines may lie below the water table. These conditions will necessitate that the Contractor will have to adopt appropriate techniques as set out in subclause 4.2 to control the water. The Contractor's attention is drawn to subclause 5.1.2 in connection with the control of water.

## **PSDB 5 CONSTRUCTION**

### **PSDB 5.1 General**

The proposed method of work is to expose the existing pipe for the purposes of making repairs.

The trench excavation shall be such that the base width includes sufficient working space.

The existing pipeline may be corroded or damaged and excavation in close proximity to it will have to be performed with care to avoid collapsing the pipe. The excavation around the existing pipe from 0,5 m above its crown shall be by hand.

#### **PSDB 5.1 PRECAUTIONS**

##### **PSDB 5.1.1 General**

Trench excavation for new pipelines will be generally by machine after existing services have been exposed by hand.

Trench excavation for pipe repairs will be generally by hand after existing services have been exposed.

The trench excavation shall be such that the base width includes sufficient working space.

The existing pipeline may be corroded or damaged and excavation in close proximity to it will have to be performed with care to avoiding collapsing the pipe. The excavation around the existing pipe from 0.5m above its crown shall be by hand.

##### **PSDB 5.1.2 Stormwater, Seepage and Dewatering of Excavations**

In addition to the Contractor's responsibilities for dealing with water, the Employer's Agent may order the Contractor to place a crushed stone bedding layer (minimum thickness 150mm) on the trench bottom.

Prior to the provision of the stone layer, Grade 3 geofabric filter material of minimum mass of 150g/m<sup>2</sup>, must be installed on the trench bottom. After the placement of the stone bedding, the geofabric filter material shall be folded over the stone with a minimum overlap of 300mm to form an enclosed drain. The specified bedding material shall then be used to bed the pipe.

The Contractor will only be paid for providing and laying the stone bedding layer and the geofabric filter material after receipt of a written order to do so from the Employer's Agent.

*Add the following items:*

#### **PSDB 5.1.5 Protection of Existing Services**

The Contractor shall exercise all the necessary care to prevent damage to known services during construction operations. Major excavating equipment and other plant shall not be operated in dangerously close proximity to these services. Where necessary, excavation in close proximity to these services shall be carefully carried out by means of suitable hand tools, excluding picks wherever their use could cause damage to the services. No additional payment will apply to such more difficult work.

Services left exposed shall be suitably protected from damage and/or theft.

#### **PSDB 5.1.6 Liability for Damage and Insurance**

The Contractor's attention is drawn to the relevant clauses of the General Conditions of Contract and Contract Specific Data regarding liability for damage to the Works, or property, or injury to persons arising from the construction of the Works. His attention is also drawn to the General Conditions of Contract regarding insurance to be effected by the Contractor. Special attention is drawn to the exclusions in this insurance policy and particularly to the exclusions regarding consequential damage.

#### **PSDB 5.1.7 Alterations and Repairs to Existing Services**

Unless the contrary is clearly specified or ordered, the Contractor shall not carry out any alterations to existing services. Where this may be necessary, the Contractor shall inform the Employer's Agent, who will either make arrangements for such work to be executed by the owner of the service, or instruct the Contractor to make such arrangements himself.

Where existing services are damaged by the Contractor, he shall immediately inform the Employer's Agent, or when this is not possible, the relevant authority, and shall obtain instructions as to who should carry out repairs. In urgent cases, the Contractor shall take all necessary steps to minimize damage to and the interruption of the service. No repairs shall be attempted to telecommunication cables, or electric power lines and cables.

No liability for damages arising from any delay in having such alterations or repairs effected will be accepted by the Employer. The Contractor shall provide all reasonable opportunity, access and assistance to persons doing alterations or repairs to existing services.

#### **PSDB 5.1.8 Access to Services**

The Contractor shall allow all reasonable access to any Authority for the purpose of maintaining, laying and/or relaying any service, cables or mains during the period of this Contract.

The Contractor shall co-operate with other Contractors or Authorities responsible for the installation of water reticulation, electricity cables and telephone cables and shall arrange his programme accordingly.

#### **PSDB 5.3 Site Clearance**

*Delete the first sentence and replace with the following:*

"The Contractor shall clear an area along the pipe route as designated by the Employer's Agent."

#### **PSDB 5.4 Excavation**

All excavated material shall be placed in such a way and in such positions as not to endanger or interfere with the works, pedestrians, traffic or property and the Employer's Agent may order the Contractor to remove any material that is considered liable to endanger or interfere with the works, pedestrians, property or traffic and to place such material in another position as indicated by the Employer's Agent.

*Add the following:*

#### **PSDB 5.4.1 Shoring of Pipe Trenches**

The Contractor shall take full responsibility for the safety of excavation, and shall carry out all measures necessary to make secure, by timbering and strutting or sheet piling, the excavated face. All timbering and strutting must be of sufficient strength and capable of being removed readily as the work proceeds.

The Contractor shall further take all precautions to safeguard existing services and structures next or next to excavations carried out by him and shall provide and erect any shoring or underpinning that may be necessary.

The timbering, strutting and sheet piling of the pipe trenches shall not relieve the Contractor of any responsibility and all claims for the compensation for damages or injury caused or aggregated by the Contractor not taking all precautions to safeguard persons or property, shall be met entirely by the Contractor.

#### **PSDB 5.5 Trench Bottom**

Where waterlogged trench bottom conditions exist after the Contractor has, in the Employer's Agent's opinion, carried out all possible dewatering operations, the Employer's Agent may order that unsuitable material be excavated and replaced with crushed stone. A layer of 19 mm crushed stone shall be placed over the full width of the trench bottom, in increments of 200 mm thick or such other thickness as may be ordered by the Employer's Agent. The crushed stone shall be placed and rammed into the trench bottom to create a firm platform and shall be finished off to the required trench formation level.

As an alternative, the Employer's Agent may order that a suitable selected fill material, obtained from the site, be placed in the trench bottom to the same dimensions as specified for the crushed stone. The selected fill material shall be compacted to the specified density for trench bottoms.

Where the Contractor's method of working results in quagmire conditions in the trench bottom, the Contractor shall excavate and stabilize the trench at his own cost.

#### **PSDB 5.6 BACKFILLING**

##### **PSDB 5.6.3 Disposal of Soft Excavation Material**

Surplus excavated material shall be taken off the Site and disposed of at a site arranged by the Contractor, and approved by the Employer's Agent. No payment for overhaul will be made.

##### **PSDB 5.6.4 Disposal of Intermediate and Hard Rock Material**

Surplus excavated material shall be taken off the Site and disposed of at a site arranged by the Contractor, and approved by the Employer's Agent. No payment for overhaul will be made.

#### **PSDB 5.7 COMPACTION**

##### **PSDB 5.7.1 Areas Not Subject to Traffic Loads**

*Add the following sentence:*

"All non-cohesive material shall be compacted to 100% Modified AASHTO maximum density."

##### **PSDB 5.7.2 Areas Subject to Traffic Loads**

All trenches backfilled under this contract shall be backfilled with a suitable material (G7 or better) or sand, where instructed by the Employer's Agent, placed in layers a maximum of 200 mm thick and compacted to 95 percent Modified AASHTO (100% for sand) maximum density. All pipe trenches that fall within the road reserves shall be regarded as areas subject to traffic loads.

#### **PSDB 5.4 Excavation**

All excavated material shall be placed in such a way and in such positions as not to endanger or interfere with the works, pedestrians, traffic or property and the Employer's Agent may order the Contractor to remove any material that is considered liable to endanger or interfere with the works, pedestrians, property or traffic and to place such material in another position as indicated by the Employer's Agent.

#### **PSDB 5.5 Trench Bottom**

Where waterlogged trench bottom conditions exist after the Contractor has, in the Employer's Agent's opinion, carried out all possible dewatering operations, the Employer's Agent may order that unsuitable material be excavated and replaced with crushed stone. A layer of 13 mm crushed stone shall be placed over the full width of the trench bottom, in increments of 200 mm thick or such other thickness as may be ordered by the Employer's Agent. The crushed stone shall be placed and rammed into the trench bottom to create a firm platform and shall be finished off to the required trench formation level.

As an alternative, the Employer's Agent may order that a suitable selected fill material, obtained from the site, be placed in the trench bottom to the same dimensions as specified for the crushed stone. The selected fill material shall be compacted to the specified density for trench bottoms.

Where the Contractor's method of working results in quagmire conditions in the trench bottom, the Contractor shall excavate and stabilize the trench at his own cost.

### **PSDB 5.6.3 DISPOSAL OF SURPLUS MATERIAL**

#### **PSDB 5.6.1 Description**

Surplus excavated material shall be taken off the Site and disposed of at a site arranged by the Contractor, and approved by the Employer's Agent. No payment for overhaul will be made.

### **PSDB 5.7 COMPACTION**

#### **PSDB 5.7.2 Areas Subject to Traffic Loads**

All trenches backfilled under this contract shall be backfilled with sand or cohesive material placed in layers a maximum of 200 mm thick and compacted to 100 percent Modified AASHTO maximum density.

### **PSDB 5.9.5 REINSTATEMENT OF BITUMEN SURFACE**

Trench excavations crossing existing roads must be completed, reinstated and reopened to traffic outside of peak-hours.

### **PSDB 5.1.5 DETECTION, LOCATION AND EXPOSURE OF EXISTING SERVICES**

The Contractor shall ascertain the presence and position of all services likely to be damaged or interfered with by his activities. For this purpose he shall obtain from the Employer's Agent up-to-date plans showing the position of services in the area where he intends to work.

As the location of services can often not be reliably determined from such plans, he shall further determine the exact position of such services by means of suitable detecting equipment and afterwards by careful hand excavation, where necessary, in order to expose the service at the positions of possible interference by his activities. The latter procedure shall also be followed in respect of any service not shown on plans, but believed to be present.

All such services, the positions of which have been located at the critical points, shall be designated as "known" services and their positions shall be indicated on a separate set of Drawings by the Contractor, a copy of which shall be furnished to the Employer's Agent.

While he is in occupation of the Site, the Contractor shall be liable for all damage caused by him to known services as well as for consequential damage arising therefrom, whether caused directly by his operations or by lack of proper protection.

#### **PSDB 5.1.5.1 Protection of Existing Services**

The Contractor shall exercise all the necessary care to prevent damage to known services during construction operations. Major excavating equipment and other plant shall not be operated in dangerously close proximity to these services. Where necessary, excavation in close proximity to these services shall be carefully carried out by means of suitable hand tools, excluding picks wherever their use could cause damage to the services. No additional payment will apply to such more difficult work.

Services left exposed shall be suitably protected from damage and/or theft.

#### **PSDB 5.1.5.2 Liability for Damage and Insurance**

The Contractor's attention is drawn to the relevant clauses of the General Conditions of Contract and Contract Specific Data regarding liability for damage to the Works, or property, or injury to persons arising from the construction of the Works. His attention is also drawn to the General Conditions of Contract regarding insurance to be effected by the Contractor. Special attention is drawn to the exclusions in this insurance policy and particularly to the exclusions regarding consequential damage.

#### **PSDB 5.1.5.3 Alterations and Repairs to Existing Services**

Unless the contrary is clearly specified or ordered, the Contractor shall not carry out any alterations to existing services. Where this may be necessary, the Contractor shall inform the Employer's Agent, who

will either make arrangements for such work to be executed by the owner of the service, or instruct the Contractor to make such arrangements himself.

Where existing services are damaged by the Contractor, he shall immediately inform the Employer's Agent, or when this is not possible, the relevant authority, and shall obtain instructions as to who should carry out repairs. In urgent cases, the Contractor shall take all necessary steps to minimize damage to and the interruption of the service. No repairs shall be attempted to telecommunication cables, or electric power lines and cables.

No liability for damages arising from any delay in having such alterations or repairs effected will be accepted by the Employer. The Contractor shall provide all reasonable opportunity, access and assistance to persons doing alterations or repairs to existing services.

#### **PSDB 5.1.5.4 Access to Services**

The Contractor shall allow all reasonable access to any Authority for the purpose of maintaining, laying and/or relaying any service, cables or mains during the period of this Contract.

The Contractor shall co-operate with other Contractors or Authorities responsible for the installation of water reticulation, electricity cables and telephone cables and shall arrange his programme accordingly.

### **PSDB 8 MEASUREMENT AND PAYMENT**

#### **PSDB 8.3 SCHEDULED ITEMS**

##### **PSDB 8.3.2 Excavation**

- a) Excavate in all materials for trenches, backfill, compact and dispose of surplus material  
Unit: m<sup>3</sup>

Payment for pipeline excavations will be measured in cubic meters to a depth of between 0.0 to 1.5 meters thereafter in steps of 1.0 meters.

- b) Excavate and dispose of unsuitable material from trench bottom  
No payment for overhaul will be made. Unit: m<sup>3</sup>

c) Excavations for point repairs and manhole or sand/grit traps installation  
The depth shall be measured to the actual bottom of the trench. Payment for the excavations will be measured in cubic meters to a depth of between 0.0 to 1.0 meters (one meter) thereafter in steps of 1.0 meters. The rates are not accumulative. Unit: m<sup>3</sup>

Any deviation in this regard must be approved by the Employer's Agent.

##### **PSDB 8.3.3 Excavation Ancillaries**

###### **PSDB 8.3.3.1 Make up Deficiency in Backfill Material** Unit:m<sup>3</sup>

The rate for placing and compacting bedding and blanket material shall be included in the items for excavation and backfilling. No additional payment will be made for placing and compacting bedding and blanket using material from trench excavations.

Where material excavated from trenches is unsuitable for backfill, bedding or blanket material and cannot be reasonably selected from adjacent trench excavations, the Employer's Agent will order the use of material from commercial sources.

###### **PSDB 8.3.3.3: Compaction in road reserves** Unit :m3

*Add the following to DB 8.3.3.3:*

This item is only applicable to the backfill above the bedding and fill blanket. The volume measured for payment under this item will be determined from the final finished level. No payment will be made where sand, compacted to 100% of Mod AASHTO is used for backfill. All type A3 sands will

qualify as sand. This item is only payable if the compaction effort requirement is greater than that specified in PSDB 8.3.2. This item is applicable only to the pipe trenches that cross the roads.

#### PSDB 8.3.4 Particular Items

a) Shoring trench Unit: m<sup>2</sup>

Shoring shall be measured per square meter of the face of the excavation. Should the Contractor elect to use sheet piling it shall be cut off 1,0 m below ground level and the remainder left in-situ. The use of shoring however, does not in any way relieve the Contractor of his responsibilities in terms of the Machinery and Occupational Safety Act.

Where shoring is specified or ordered, it shall be measured per square metre of actual pit face shored. Payment will be categorised in depth increments of 1,0 meters. The tendered sum shall include full compensation for shoring of the trench as specified.

Payment will be categorized into the following classes:

- |                                |                      |
|--------------------------------|----------------------|
| i) Shoring for depths 1 – 2m   | Unit: m <sup>2</sup> |
| ii) Shoring for depths 2 – 3m  | Unit: m <sup>2</sup> |
| iii) Shoring for depths 3 – 4m | Unit: m <sup>2</sup> |
| iv) Shoring for depths 4 – 5m  | Unit: m <sup>2</sup> |
| v) Shoring for depths 5 – 6m   | Unit: m <sup>2</sup> |
| vi) Shoring for depths 6 – 7m  | Unit: m <sup>2</sup> |
| vii) Shoring for depths 7 – 8m | Unit: m <sup>2</sup> |

The rates are not accumulative

b) Temporary Works: Control of Water

Where specialist dewatering measures are required for a project and are to be undertaken by the Contractor, the payment will be in terms of the items provided in the Schedule of Rates.

#### PSDB 8.3.6 Reinstatement of surfaces Unit: m<sup>2</sup>

All inclusive of the following layers:

Roads:

Asphalt surfacing (medium continuously graded) 40mm thick  
Tack coat  
G4 Base in 300 mm thick in two 150 mm thick layers, to roadways  
G5 Subbase 150mm thick, to roadways

Sidewalks:

G5 Subbase 100 mm thick, to sidewalks and footways  
Existing paving to sidewalks and footways  
20mm Thick premix to sidewalks

Concrete : 25 MPa strength, 75mm thick

Brick Paving and Interlocking: To match existing or similar approved by the Employer's Agent. Minimum compressive strength of 25MPa.

Grass and lawns: The affected areas shall be re-instated with sods of similar grass as approved by the Employer's Agent.

Kerb and channel: Precast kerbs and channels shall comply with the requirements of SABS 927 for quality and shape, shall be of the same type and figure as the existing and shall be of nominal length not greater than 1 m. Short lengths that are required as closures shall be specially cast or saw-cut to the required length

The area and volume will be computed from the authorised dimensions measured for each layer after compaction.

The tendered rate shall cover all the cost involved as specified in Subclause 8.3.6.1.

The tendered rate must also cover the cost of cutting back of existing layers to provide stepped joints

**PSDB 8.3.10 Excavate by hand to expose existing services**

**Unit: m<sup>3</sup>**

The tendered sums shall cover the cost of carefully excavating by hand to locate the service, clearing around the service, backfilling, compacting and clearing up in accordance with Subclause PSDB 5.1.5.

**PSLD SEWERS**

**PSLD 3 MATERIALS**

**PSLD 3.1 PIPES, FITTINGS AND PIPE JOINTS**

**PSLD 3.1.5 uPVC Pipes**

uPVC Class 34 heavy duty pipes and couplings to SANS 791 shall be used for the new sewer pipes to be laid.

**PSLD 3.5 MANHOLES, CHAMBERS, ETC.**

**PSLD 3.5.1 Bricks**

Bricks shall be obtained from an approved manufacturer and shall be special grade Class NFX (Non-facing Extra) clay bricks to SANS 227 with a nominal compressive strength of 21 MPa and a water absorption of not more than 10%. In addition, perforated bricks with cavities not exceeding 25% are acceptable. The Contractor shall submit to the Employer's Agent samples of the bricks that he intends using in the construction of the Works (see subclause 3.1 of SANS 1200 A or SANS 1200 AA, as applicable). The samples of bricks that are approved will be retained by the Employer's Agent.

**PSLD 3.5.2 Precast concrete sections**

The concrete used to manufacture the precast concrete sections shall conform to clause PSLD 1.2.4. Where precast concrete manholes are specified, the joints between rings shall be watertight. The precast manhole sections shall comply with SANS 1294. The Contractor shall submit a method statement to the Employer's Agent for approval prior to construction.

**PSLD 3.5.4 Concrete**

Concrete shall be strength concrete in accordance with SANS 1200G as applicable and only uncontaminated dolomitic aggregate and free from organic material and hard burnt lime shall be used in any concrete that may be exposed to sewerage or sewer gases. The insolubility content of the completed concrete may not exceed 25%.

**PSLD 3.5.5 Sand and aggregate**

Uncontaminated dolomitic aggregate and dolomitic sand shall be used in the manufacture of all precast concrete manhole units and in the manufacture of all concrete or mortar in direct or indirect contact with sewage and/ or sewer gases.

**PSLD 3.5.7 Step Irons**

Step irons shall be installed in all manholes with a depth exceeding 1,0m. Step irons shall be manufactured from a polypropylene copolymer and shall have anti-slip blocks on the stepping surface. Step irons manufactured from other material shall be approved by the Employer's Agent. The step irons shall be position on the downstream end (manhole exit point) of the manhole. Step irons to be staggered 300mm centre to centre.

**PSLD 3.5.8 Manhole Covers and Frames**

Covers and frames of manholes in roadways shall be finished flush with the final road level. Where manholes are not in the roadway, the final cover level shall be constructed to 150mm above the natural ground level unless otherwise indicated. Covers and frames for manholes shall be as approved by the Employer's Agent.

**PSLD 3.5.9 Cement**

Portland Slag Cement CEM II/B-S 42,5 or any other similar approved cement shall be used for all mortar and concrete work.

**PSLD SEWERS**

**PSLD 3 MANHOLE AND POINT REPAIRS**

**PSLD 3.5.1 Bricks**

Bricks shall be obtained from an approved manufacturer and shall be special grade Class NFX (Non-facing Extra) clay bricks to SANS 227 with a nominal compressive strength of 21 MPa and a water absorption of not more than 10%. In addition, perforated bricks with cavities not exceeding 25% are acceptable. The Contractor shall submit to the Employer's Agent samples of the bricks that he intends using in the construction of the Works (see subclause 3.1 of SANS 1200 A or SANS 1200 AA, as applicable). The samples of bricks that are approved will be retained by the Employer's Agent.

#### **PSLD 3.5.2 Prefabricated Chambers and Shafts**

Precast dolomitic concrete ring manholes or fibre-cement shafts may be used as an alternative to brick manholes.

#### **PSLD 3.5.7 Step Irons**

Step irons shall be manufactured from mild steel, encapsulated with polypropylene and shall have anti-slip blocks on the stepping surface.

#### **PSLD 3.5.8 Manholes Covers**

Covers and frames for manholes shall be cast iron SANS 558 Heavy Duty Modified Type 2A with a frame rim having a square edge and vertical face for surfacing against or any alternative which the Employer's Agent may approve.

#### **PSLD 3.5.9 Cement**

SureBuild Portland Slag Cement CEM II/B-S 42,5 or any other similar approved cement shall be used for all mortar and concrete work on foul sewers.

#### **PSLD 3.5.10 Aggregate**

Dolomitic aggregate and dolomitic sand shall be used for all mortar and concrete work on foul sewers.

#### **PSLD 3.5.11 Watertightness of Repairs**

Repairs shall be visually inspected for ingress or egress of water. All repairs shall be watertight.

### **PSLD 5 CONSTRUCTION**

#### **PSLD 5.6 MANHOLES, INSPECTION CHAMBERS, ETC.**

##### **PSLD 5.6.2 Benching**

Concrete for benching (and manhole floors) shall be Class 20 MPa/13mm strength concrete and shall be cast in-situ. The concrete shall conform to SANS 1200G.

##### **PSLD 5.11 Watertightness of Repairs**

Repairs shall be visually inspected for ingress or egress of water. All repairs shall be watertight.

##### **PSLD 5.12 Plasterwork and Grouting**

All internal faces to repairs shall be plastered using Lafarge Aluminate's Corrosion Protection (CP4) Grout, or any Employer's Agent approved similar product being a ready mixed calcium aluminate and dolomitic sand mix suitable for plastering with a maximum setting time of 4 hours. The plaster shall be 13mm thick. Prior to using any product for plastering purposes, technical recommendations shall be obtained from the supplier for mixing, placing and curing.

An Employer's Agent approved ready mixed calcium aluminate and dolomitic sand mix, approved by the Employer's Agent, suitable for grouting with a maximum 2 hour setting time shall be used to repair areas subject to severe corrosion. Prior to using the material, technical recommendations for mixing, placing and curing shall be obtained from the supplier and provided to the Employer's Agent.

### **PSLD 8 MEASUREMENT AND PAYMENT**

#### **PSLD 8.2 SCHEDULED ITEMS**

##### **PSLD 8.2.1 Supply, lay, joint, bed (Class C), and test pipeline**

Unit: m

*In the heading:*

Change "Supply, lay, joint bed (Class C), and test pipeline" to "Supply, handle, lay, bed (for flexible or rigid pipes), joint and test pipes complete (waste and cut lengths to be allowed for in these rates)".

The rate shall also cover all costs related to using an internal pulling system for jointing and backfilling the pipes.

**PSLD 8.2.3 Manholes**

Unit: No

Add the following:

The depth increment for manholes will be per each 1,0m.

For the purposes of measurement and payment, the depth of a manhole is defined as the depth from the top of the natural ground/ finish surface level to the lowest invert level of the manhole (the downstream invert)

The rate shall cover the cost of construction, manufacturing, supplying, handling and transport of the manholes complete with short pipes and all flexible couplings.

**PSLD 8.2.11 Connection to sewer at existing manholes**

Add the following:

- a) Break into existing sewer manhole and connection of new sewer

Unit: No

The unit of measurement shall be the number of connections of the new sewer into existing live manholes indicated on the relevant drawings.

The tendered rate per connection shall include full compensation for all necessary material, labour, plant and tools required to excavate and expose the existing manhole, which the new sewer is to connect into, and for all additional excavations which may be required to satisfactorily complete the connection to break into the existing sewer manhole and connect the new sewer including flexible joint, make good any damage caused during the breaking in process, and deal with the flow in the existing sewer.

The rate shall also include the provision and reconstruction of the channel in the existing manhole, including all benching, etc, the taking of all necessary preventative and precautionary measures whilst making the connection, blocking off the ends of any sewer pipe which is to be abandoned, and to liaise with and abide by the requirements, if any, of the Employer before and during construction of the connection.

**PSLD 8.2.13 Reinstatement of manholes**

Unit: No

The tendered rate shall include full compensation for all material, labour, plant and tools to excavate and expose the existing sewer and to construct the new manhole to City standard drawing S1, including flexible joint, to break into the live sewer and temporarily accommodate the sewage flow, to provide and construct the channel and benching in the new manhole, and to block-off and seal any sewer line which is to be abandoned. The depth increment for manholes will be per each 1,5m.

## **PSMK KERBING AND CHANNELLING**

### **PSMK 3 MATERIAL**

#### **PSMK 3.9 Bedding Material**

*Replace Subclause 3.9 with the following:*

Bedding and backing for precast kerbs and channels shall be 15MPa / 13 mm concrete to SANS 1200 GA, to the dimensions indicated on the Drawings.

#### **PSMK 3.3 Cast-In-Situ Concrete**

Cast-in-situ concrete for curves less than 1 m and for transitions shall be 25 MPa / 19 mm.

#### **PSMK 3.2.2 Nominal Lengths of Precast Units**

Units laid to a radius of 1,0 m or greater shall be precast and shall have the following nominal lengths:

<b>Radius in Plan</b>	<b>Nominal Length</b>
1,0 m to 20,0 m	0,3 m
Greater than 20 m and straight	1,0 m

## **PSMK 5 CONSTRUCTION**

### **PSMK 5.13 Re-use of salvaged kerbs, channeling and edging**

Where instructed by the Employer's Agent, the Contractor shall make re-use of salvaged kerbs, channeling and edgings.

### **PSMK 5.14 Expansion Joints in Kerbs and Channels**

Provision shall be made in kerbs and channels for expansion joints of width at least 12 mm at intervals not exceeding 20 m. The concrete surfaces shall be primed and the joints filled with an approved sealant. Sealant for expansion joints in kerbing shall comply with the relevant requirements of SANS 110. Sealant for expansion joints in channels shall comply with the relevant requirements of BS 2499.

## **PS-TA CLEANING OF PIPELINES**

### **PSTA-1 SCOPE**

This particular specification covers the general requirements regarding the cleaning of pipelines in preparation for their rehabilitation by trenchless methods such as CIPP- relining.

### **PS-TA-2 GENERAL**

The thorough cleaning of pipelines is an essential prerequisite for the successful lining of pipelines. This specification is aimed at those pipelines that preclude manhole entry.

Prior to installing the lining material, the pipeline shall be thoroughly cleaned, ensuring that the pipeline is free of all debris and obstacles, including intruding roots.

It is expected that the cleaning will be performed in conjunction with the simultaneous CCTV camera inspections to monitor the performance and progress.

### **PS-TA-3 SUPPORTING SPECIFICATIONS**

Sewer Jetting Code of Practice WRc 1<sup>st</sup> Edition April 1997.

### **PS-TA-4 PLANT**

The contractor may use any of the following cleaning methods, to suit the particular conditions of the section of pipe:

- High velocity jet sewer cleaning equipment shall have a selection of two or more high velocity nozzles capable of producing a scouring action from 15 to 45 degrees.
- Mechanically powered equipment shall be used for cleaning of debris, incrustations and obstacles that cannot be removed by any other above methods

### **PS-TA-5 PROTRUDING HOUSE CONNECTIONS**

Cutting of protruding house connections shall be carried out by a robotic cutter. Where protruding laterals or any other obstacles or defects cannot be removed internally by mechanically powered equipment, the Contractor shall make a point repair excavation to uncover the obstacle/defect and take any required corrective measures to enable the safe installation of the relining system. In this case, the Contractor shall submit a detailed work method statement with associated cost for approval by the Employers Agent.

### **PS-TA-6 BULK CLEANING**

#### **PS-TA-6.1 Cleaning Operation**

The following criteria should be met at all times when the cleaning of the pipelines is done:

- All silt and debris must be removed completely.
- Care to be taken when high pressure jetting cleaning is used to avoid further deterioration of the pipeline(s), creation of sink holes or pipe collapses.
- All foreign material such as rags, fats, bacteriological slimes, roots, soft encrustations and grease shall be removed.
- Encrustations such as calcium carbonate, the residual crust of corroded pipe wall and other hard deposits should be removed by mechanical or high pressure water cutter equipment.
- All loose fragments of pipe that may foul the insertion of the lining shall be removed.
- The Contractor shall implement all the necessary safety measures.
- The Contractor shall implement any necessary over-pumping of flows.

#### **PS-TA-6.2 Disposal of Material**

All debris shall be collected by means of a sand trap, weir or dam in the downstream manhole and the debris shall be removed from the pipeline. The contractor shall remove and dispose of all solid waste generated as part of the pipe preparation at the private "Vissershok Waste Management Facility (Pty) Ltd", Frankdale Road, Milnerton which is situated off the N7 on the Frankdale Road. Any contaminated liquid wastes shall be disposed of in accordance with the approved construction environmental management plan. The contractor shall implement any necessary over-pumping.

**PS-TA-6.3 Point Repairs (Open Trench)**

If an obstruction or defect is encountered which cannot be removed using trenchless technologies and would preclude the proper installation and/or compromise the long term performance of the relining-system, it shall be pointed out to the Employer’s Agent. The Employer’s Agent may instruct the Contractor to excavate down from the surface and remove the obstruction and repair the pipe. After the repair the trench shall be backfilled and the road reinstated according to the specification given by the Employer’s Agent in this document. The Contractor shall provide all equipment and labour required for the dewatering of the excavation and the temporary diversion of sewage flows in accordance with Section PS-TB of this specification. The work involved with the point repair shall be in accordance with the SANS 1200 specifications and will be measured and paid separately.

**PS-TA-6.4 Water for Cleaning Operation**

**Only non-potable water will be allowed for cleaning of the sewer lines.**

The City’s Water Demand and Management Branch has made available “take –off” points where treated effluent can be obtained. The contractor shall arrange with the Water Demand and Management Branch regarding the procedures and costs involved.

The current “take–off” points are located at the following positions. Further take-off points may become available.

- Sipres Avenue – Athlone
- Sacks Circle – Bellville
- Corner Woodlands Close and Jonkershoek Road – Richwood
- Coast Road – Strand

The costs of obtaining non-potable water shall be included in the rate for Bulk Cleaning.

**PS-TA-7 INSPECTION**

After the line has been cleaned and prior to the pipe being lined, a CCTV inspection shall be made in the presence of the Employer’s Agent and the video recording thereof shall be handed to the Employer’s Agent. The acceptance of the pipe cleaning will be based on the CCTV inspection. The Employer’s Agent may request the Contractor to redo the entire or portions of the pipeline if the CCTV footage illustrates non- compliance with any of the criteria under PS-TA-6.1 at no additional cost. The cleaning of the pipeline and CCTV inspection would be repeated till the Employer’s Agent is satisfied that the pipe has met all criteria under PS-TA-6.1.

**PS-TA-8 MEASUREMENT AND PAYMENT**

The bulk cleaning of pipelines shall be measured and paid separately. Payment for the final cleaning of pipelines immediately prior to lining shall be included in the rates for joint sealing, lining or repair. Bulk Cleaning of pipes, where required, may be undertaken by the Contractor at the rates tendered, which must include the removal of cleaned material and for transporting and disposal according to the Environmental Management plan.

**PS-TA-8.1 BULK CLEANING**

<u>Item</u>	<u>Unit</u>
Bulk Cleaning .....	m

The unit measured shall be linear meters of the pipeline cleaned. Separate items have been scheduled for different ranges of pipe diameters.

The rate tendered shall include full compensation for the establishment, de-establishment, bulk cleaning of pipelines, including associated CCTV inspections and the removal of debris and transporting and disposal according to the Environmental Management plan.

**PSTA-8.2 ROOT REMOVAL**

Cleaning of some sewer pipes may require removal of roots. The Contractor must have and use suitable root cutting/ removal equipment. It must be anticipated that both root cutting equipment and high pressure jetting will be required. In certain circumstances, with the Employer’s Agent approval, it may be more economical to remove the roots by open excavation. Any root cutting must be reported to the Employer’s Agent prior to commencement.

The root cutting and removal operation has been measured for differing pipe diameters. The rates are to include for transport and disposal in accordance with the Environmental Management plan.

<u>Item</u>	<u>Unit</u>
Root Removal .....	m

The unit measured shall be linear meters of the pipeline cleaned. Separate items have been scheduled for different ranges of pipe diameters.

The rate tendered shall include full compensation for the establishment, de-establishment, cleaning of pipelines and the removal of cleaned material and or transporting and disposal according to the Environmental Management plan.

**PS-TA-8.3 CUTTING OF PROTRUDING LATERALS**

Cleaning of some sewer pipes may require the cutting of protruding pipes. Cutting of the protruding lateral must be done with a robotic cutter. Any cutting must be reported to the Employer’s Agent prior to cutting and no payment will be made for cutting unless approval was granted by the Employer’s Agent.

The cutting and removal operation has been measured per number for differing pipe diameters. The rates are to include for transport and disposal in accordance with the Environmental Management plan.

<u>Item</u>	<u>Unit</u>
Cutting of protruding laterals.....	No.

The unit measured per number of protruding laterals. Separate items have been scheduled for different ranges of pipe diameters.

The rate tendered shall include full compensation for the establishment, providing the necessary equipment, de-establishment, cleaning of pipelines, including associated CCTV inspections and the removal of cleaned material and or transporting and disposal according to the Environmental Management plan.

**PS-TB OVERPUMPING**

**PS-TB-1 SCOPE**

This Particular specification covers the over-pumping of flows that may be required to facilitate pipeline cleaning, CCTV inspections and pipe rehabilitation.

**PSTB-2 GENERAL**

The flow in the pipe can only be stopped without over pumping of sewer flows for short periods. This has to be taken into account by the Contractor to ensure that sufficient time is available for the resin/felt tube composite to be installed in the section being bypassed to be fully cured/ cooled down and the ends sealed before over-pumping is stopped and the section is put back in service. Pumps and pipes MUST have the necessary capacity to drain the existing sewer without the upstream lines surcharging. Under no circumstances would overland flow of sewer be accepted and penalties will apply according to the Environmental specification in this document.

Odour control will have to be incorporated at all open sewer sections and temporary storage of material removed from the sewers, through micro-misting and deodorizing. During construction, the Contractor will take all precautions to avoid damage to sewer lines that may be caused by surcharging. Further precautions must be taken to ensure that the flow control operations do not cause flooding or damage to public or private property being served by the sewers involved.

The Contractors shall be solely responsible for the clean-up, repair, property damage costs, environmental damage costs and claims resulting from failure of the over-pumping system(s). If the downstream side of the portion of the line being lined and where over-pumping system discharges into a manhole/ sump, becomes surcharged, an emergency link to the nearest storm water system shall be provided. This measure is only intended for the event of an unforeseen emergency, during of which a catastrophic failure of the Contractors primary and standby over pumping system occurs. Under no other circumstances will sewerage be allowed to discharge into the Storm water system or to flow in the open on the road sidewalk or verge systems.

Any accidental discharges must immediately be treated with an approved disinfectant and the affected area cleaned up in the manner approved by the Employer's Agent. All over-pumping activities shall adhere to the Construction Environmental Management Plan.

**PS-TB-3 OVER PUMPING SYSTEMS:**

The Contractor shall submit an official over-pumping plan and method statement to the Employer's Agent / Client for approval before any work may commence. The Contractor shall be held responsible for all Over-pumping and related activities. The Contractor shall also submit a detailed plan for the over-pumping of flows for each relining location. The plan shall include:

- Commencement and completion times
- Proposed location of pumping equipment, including plugs.
- All personnel responsible for over-pumping activities.
- The flow elevations to be monitored.
- Flow rates, pump sizes, delivery pipe routes and delivery pipe capacities
- Pump type, brand, model and performance curves
- Traffic accommodation and noise suppression
- Public notification program

**PLANT:**

The Contractor shall design an over-pumping plan for each section and obtain approval from the Employer's Agent prior to commencement. The over-pumping plan should consist of the following plant located in or around the diversion manhole/sump, including pumps, piping, isolating valves, non-return valves, screens, electrical power generators, electrical starting equipment, level controls, flow meters, flow data loggers, lifting equipment, plugs and any other equipment that may be required. The Contractor's plan for each sewer section shall conform to the following requirements:

- Have sufficient capacity to handle full flow conditions of the incoming pipe(s)
- Have a back-up pump and generator ready (if applicable) available on site
- Silent pack Generators to be used or Alternative measures to reduce noise pollution
- Have adequate pump control and protection
- Pumps shall have a solid passing's capacity of not less than 75mm, with suitable protection against larger items (e.g strainer on the inlet pipe)
- Incorporate a flow control/ monitoring system able to measure and keep history log of the pump flows, levels of the effluent in the manholes/ sumps that are connected to the main line (Upstream and Downstream) and house connection chambers (Erf chambers).
- Pumps should super silent pumps.
- Sufficient fuel shall be available on site for the pump(s) or other equipment or as agreed with the Employer's Agent. All pipes and equipment to be leak proof, under no circumstances shall leaking equipment be accepted.

**PS-TB-5****CONSTRUCTION:**

For each of the above applications where over-pumping is required, the sewer sections shall be temporarily plugged or blocked upstream and downstream and the flow diverted by over-pumping without upstream surcharge of the sewer. The Contractor shall be responsible to isolate the rehabilitation/ work area from both upstream and downstream surcharge conditions.

The pumps, their related power supply and controlling systems (Including standby systems) shall be planned, designed and installed in such a way as to be easily maintained in order to mitigate the risk of power supply, structural, operational or mechanical failure in such a way that the risk of surcharging of the sewer system or over-flow and pollution is mitigated. All additional infrastructure, plant, material and labour required to effectively accommodate this functionality and accessibility of the over-pump system, shall be included in the tendered rates and designed/ signed off by a Professional Engineer/Technologist.

The by-pass pipeline(s) for over-pumping shall be fully watertight. The Contractor's design and Method statements shall address contingencies in the event of equipment malfunction. Compensation for the design of the over-pumping system and all associated plans and approvals shall be included in the tendered rate and shall include all cost pertaining to labour, equipment and materials.

The over-pumping during sewer rehabilitation will require pressure pipelines to be laid above ground. Where road closures are not permitted the contractor shall construct a ramp and obtain approval from the Employer's Agent and from the local Authority in order to protect the pipe at road crossings for the duration of the CIPP installation. The design, sizing, configuration, operating and maintaining of the over – pumping activities are the sole responsibility of the contractor. A detailed Traffic accommodation plan shall be submitted and approved by the Employer's Agent and local Authority before construction commences.

A responsible person shall be nominated to attend to the over-pumping operation and shall be in attendance for the duration of the over-pumping. A Second responsible person shall continually monitor and record the flow levels at the upstream and downstream manholes as well as all connections and house connections chambers.

Warning must be given immediately should the pumps not cope with the inflow or malfunction of any equipment. The Contractor must notify the Employer's Agent and report the steps to control the incoming sewer flow.

**PS-TB-6 MEASUREMENT AND PAYMENT**

**PS-TB-6.1 OVER-PUMPING OR BYPASSING OF FLOWS**

The Contractor shall perform over-pumping, bypassing or diverting of the sewerage flow. The sewerage shall be over-pumped directly to another part of the sewerage system. No open channel flow or overland flow or discharging into the Storm water system is allowed. Over-pumping shall be paid for the actual hours of over-pumping as agreed with the Council Representative prior to over-pumping taking place

<u>Item</u>	<u>Unit</u>
Over-pumping .....	hr

The tendered rate shall cover overhead charges and profit, plant operators, consumable stores, fuel and maintenance of equipment and the provision of site security for the equipment. The tendered rates shall also cover travelling allowances or travelling costs, lodging allowances and any other emoluments and allowances payable to plant operators and security personnel. The tendered rate shall include for the provision of the contractor's over-pumping, bypassing or flow diversion plan for each section of sewer, as well as the procurement, transport and delivery of the required equipment to the site of works, including maintenance of insurance cover of the equipment and the removal thereof on completion of the task. The Contractor will be paid per hour of operation of the required over-pumping equipment. Separate items have been scheduled for different ranges of pipe diameters.

**PS-TC                    CCTV INSPECTION OF PIPELINES**

**PS-TC-1                SCOPE**

This particular specification covers the inspection of pipelines using closed-circuit television (CCTV). These inspections and subsequent assessments are necessary when planning to rehabilitate pipelines by means of by trenchless methods such as CIPP-relining.

**PS-TC-2                GENERAL**

The CCTV shall be used for:

- The Monitoring of the pipeline cleaning
- Recording inspection of the cleaned pipeline prior to lining.
- Recording inspection of the pipeline after lining; and
- Any other reason as instructed by the Employer's Agent.

**PS-TC-3                INSPECTION**

The CCTV System shall comprise at least of:

- A Remote controlled robotic camera, with the following minimum requirements:
  - High resolution colour monitor with minimum of 470TVL.
  - Ability to pan and tilt 360°
  - DVD recorder
  - Integral distance recording on the image
  - Minimum 10x optical zoom.
  - Sufficient lighting to illuminate the pipeline being surveyed to produce a good clear image.

The camera should be mounted on a self-propelled tractor with an adjustable carriage to set the height of the camera to the centre of the pipe.

The equipment that enters the manhole and pipelines shall be waterproof and comply with the safety requirements concerning the presence of explosive gasses.

The system shall be able to provide a live, high resolution colour image that can be viewed and recorded at a nearby location. The DVD recordings shall be accompanied by a log giving all relevant details of the inspection. The Contractor shall implement all the necessary safety measures and isolation of pipelines or over-pumping of pipe flows.

The log shall identify:

- Cracks and fractures
- Deformed, collapsed and broken pipes
- Dropped inverts
- Displaced and open joints
- Internal surface damage
- Defective/protruding service connections
- Debris and silt
- Obstructions
- Infiltrations
- Roots
- Encrustations and scale
- Lining wrinkles, dry spots, bubbles, cracks or delamination
- Lining manhole termination seals

**PS-TC-4 ACCEPTANCE**

After the section of sewer has been cleaned and prior to the pipe being lined a CCTV camera inspection shall be made in the presence of the Employer's Agent and the DVD recording/ CCTV footage and the log thereof shall be handed to the Employer's Agent for his approval. The contractor shall be responsible for the safekeeping of the original footage. If the quality of the CCTV footage(DVD quality and /or the log) is deemed unacceptable by the Employer's Agent, the contractor would be required to repeat the CCTV inspection of the section of sewer.

**PS-TC-5 MEASUREMENT AND PAYMENT**

The initial CCTV inspection to assess the condition of the pipeline shall be paid separately. Payment for the CCTV inspections undertaken for the lining operation shall be included in the related pipe rehabilitation pay items. Payment for the final CCTV inspection shall be included in the rates for joint sealing, lining or repair. Any necessary isolation of the pipeline and necessary over-pumping activities shall be paid for separately if this deemed necessary by the Employer's Agent due to unforeseen circumstances.

CCTV camera work is usually an integral part of CIPP lining, cleaning, root cuttings and minor repair work and is deemed to be included in the rates for such work. The Contractor is to make a final CCTV inspection of the pipeline and provide a report and recording containing computer generated text stating location, pipe size, distance etc.

**PS-TC-5.1 CCTV INSPECTION AND ASSESSMENT**

Pipes shall be inspected using CCTV camera inspections to assess their condition prior to rehabilitation being undertaken. The Contractor shall provide a copy of the recording of the CCTV inspection DVD in video format and the condition of the pipes are to be assessed and reports produced using the WinCan or similar approved system.

The Employer's Agent may require the Contractor to undertake CCTV Inspections of other pipes.

The CCTV inspections shall be performed in accordance with Particular Specification TC.

**Measurement and Payment**

<u>Item</u>	<u>Unit</u>
CCTV Inspection and Assessment .....	m

The unit of measurement shall be linear meter of pipeline being measured Centre to Centre of adjacent manholes or to the stopping point whichever is applicable. Separate items have been scheduled for different ranges of pipe diameters.

The rate shall include full compensation for CCTV establishment, de-establishment, inspection and assessment as well as profiling of the existing host pipe including camerawork, provision of inspection reports and recordings.

**PS-TD CURED-IN-PLACE-PIPES (CIPP) RESIN IMPREGNATED FELT TUBE INVERSION**

**PS-TD-1 SCOPE**

This particular specification covers the general construction requirements for the rehabilitation of pipelines by the installation of a resin impregnated flexible tube, which is pressurized and cured to form a tight fit against the existing pipe.

The lining shall provide a continuous smooth surface throughout the entire length of pipeline between manholes, with a neat fit to the internal wall of the host pipe.

The lining material shall have adequate abrasion and chemical resistance for the conveyance of raw sewage and shall be sufficiently strong to withstand the operation of cleaning equipment and high pressure water jetting during routine maintenance of the pipeline. The finished lining shall be free of wrinkles and other defects resulting from the release of thermal and/or mechanical stresses applied as part of the proprietary installation procedure.

**PS-TD-2 SUPPORTING SPECIFICATIONS**

This specification including but not limiting to references the following specifications:

UK Water Industry Specification

- WIS 4-34-04: Specification for Renovation of Gravity Sewers by Lining with Cured-in-Place Pipes of March 1995.
- WIS 4-34-02: Specifications for Glass Fiber Reinforced Plastic (GRP) Sewer Linings
- WRc: Water research Centre, Sewerage Rehabilitation Manual, Volume 2, Edition 4

American Society for Testing and Materials

- ASTM F1216-09: Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
- ASTM D790: Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
- ASTM D5813: Standard Specification for Cured-In-Place Thermosetting Resin Sewer Piping systems
- ASTM D638: Standard Test Method for Tensile Strength of Plastics

**PS-TD-3 INTRODUCTION**

The rehabilitation shall be carried out using the Cured in Place Pipe (CIPP) – Inversion Lining technology, consisting of the installation of a resin-impregnated flexible tube shaped tightly to the original internal surface of the concrete pipe, followed by a curing process based on hot water, steam or ultraviolet light, in accordance with the technical requirements stipulated hereinafter. The final product shall extend the entire length of sections from manhole to manhole providing a continuous, tight-fitted, water-tight, corrosion resistant and structurally safe pipe.

**PS-TD-4 GENERAL APPROACH OF THE REHABILITATION OF THE SEWER MAIN**

**PS-TD-4.1 Proprietary System**

This particular specification is a general specification for the Cured-in-Place-Pipe lining of pipelines. Cured-in-Place-Pipe systems are normally proprietary systems that have been developed by specialist manufacturers and installers. The Contractor shall use an approved system in accordance with this specification and in accordance with the approved Standards, Specifications, Codes and/or Method Statements of the manufacturer and installer. The specified lining system shall meet the specified structural and hydraulic performance specification. The Contractor shall be required to furnish written confirmation of compliance of the materials, manufacture, methods or installation

Given that the sewers to be rehabilitated is in service, the cleaning, pipe preparation and relining works will have to be carried out in a sequential basis, one section of pipeline at a time comprised between manholes. It is envisaged that in order to enable the satisfactory execution of the impregnated tube inversion procedure, some sections of the pipeline subjected to continuous excessive and sometimes localized infiltration will require sealing of leaking pipe joints and/or installation of a pre-liner which is installed within the host pipe, before inverting the impregnated liner tube to prevent contamination of the uncured resin by excessive groundwater infiltration.

**PS-TD-4.2 Work Sequence**

- Applying and obtaining construction wayleaves. Refer to list provided by the Employer's Agent / Client.
- Liaison with Employer's Agent for diversions of each section of sewer.
- Coordination with the Employer's Agent to notify the residents with house connections in the section of pipeline to be rehabilitated to stop discharging wastewater until such a time as that section of sewer has been relined and the house connections have been repaired and reconnected.
- Implementation of traffic control measures for the work area and road crossings where required.
- Implementation of temporary by-pass around the section of pipeline to be rehabilitated.
- Plugging of pipe inlet(s) of upstream manhole and installation of pumping equipment and temporary sewage diversion main and starting of by-pass pumping.
- Cleaning of section of pipeline.
- Procuring and supplying the correct material for the CIPP (pre-liner and main structural line)
- Procuring all plant
- Installation of step irons and manhole restoration as stated in the contract.
- Cleaning of section of pipeline and removal of obstructions, including cutting of protruding house connections
- Removal from site of liquid and solid wastes from cleaning operations in accordance with the approved environment management plan
- CCTV inspection of the cleaned and prepared pipe sewer under over-pumping conditions
- Installation of the cured in place relining system in accordance with this specification
- Collection of CIPP sample(s) for testing and CCTV inspection
- Reinstatement of connections and lateral branches in accordance with this specification
- Acceptance of finished section or implementation of remedial actions if required.
- Removal of plug at upstream manhole, removal of by-pass pumping equipment and pipes and restoration of service to house connections.

The restorations of manholes to be completed before CIPP installation commences and damages to manholes to be repaired upon completion. Further specifications are given in the project specifications PS-TD.

**PS-TD-5 MATERIALS**

**PS-TD-5.1 The Tube**

The tube shall consist of one or more layers of flexible needled felt or an equivalent non-woven or woven material or combination thereof, compatible with the resin to be used and capable of withstanding the installation pressures and curing temperatures inherent to the proprietary procedure, as well as the long-term loading requirements. The tube shall be capable to fit irregularities and out-of-roundness of the existing pipeline. To ensure close fit of the finished

product to the host pipe wall, the Contractor shall make allowance for circumferential stretching during the inversion process. The wet out tube shall have a relatively uniform thickness so that when compressed at installation pressures will not be less than the calculated minimum design wall thickness.

The fabric tube shall have an impermeable and flexible membrane that will contain the resin and facilitate vacuum impregnation and monitoring of the resin saturation during the wetting-out procedure and that will become the interior wall of the finished CIPP after inversion. The wall colour of the internal finished surface of the CIPP shall be a relatively light reflective colour, so that a clear examination via a CCTV inspection may be carried out effectively. The lining tube shall be manufactured to a size that when installed will fit the internal circumference and length of the host pipe. The seams in the lining tube shall be stronger than the un-seamed tube.

The tube must be calibrated per metre and the meterage numerals must be visible at or about the crown of the new pipe once installed into the host pipe.

**PS-TD-5.2 Resin**

The resin system shall be a thermoset corrosion resistant polyester or vinyl ester system including all required catalysts, or an epoxy resin and hardener that is compatible with the inversion process so that when cured within the tube create a composite that satisfies the requirements of ASTM F1216 and ASTM D5813, the physical and chemical properties specified herein, and those which are to be utilized in the submitted and approved design of the CIPP as described in a subsequent section of this specification. The cured resin shall form a hard impermeable material. The Resin may be thermal setting or ambient curing, to be cured in the presence of water or steam.

**PS-TD-5.3 Calcium Aluminate Mortar (Manhole Rehabilitation)**

The mortar for manhole rehabilitation must be 100% calcium aluminate mortar and be able to withstand biogenic corrosion.

**PS-TD-6 DESIGN**

The CIPP Liner shall be fabricated from materials which, when cured, shall be able to withstand internal exposure to and the corrosive effects of normal sewerage effluent liquids and gasses containing hydrogen sulphide, carbon monoxide, carbon dioxide, methane, dilute sulphuric acid, and exposure to soil bacteria and chemical attack which may be due to materials in the surrounding ground or sewerage within it.

The lining shall be designed to meet the specified structural and hydraulic performance requirements of the lining. Forms stating the relevant parameters and design methods are provided with this specification and the contractor shall provide the required parameters and design. Should the Contractor find that any part of the design parameters differ on site to those stated in the tender (e.g. host pipe diameters), he shall report it immediately to the Employer's Agent. The Employer's Agent shall review the implications and may instruct the Contractor to submit revised design calculations based on revised design parameters. The Employer's Agent shall check the revised design calculations and may approve any dimensional changes to the liner prior to ordering. The performance of the installed lining shall be measured against the tendered designs for compliance.

**PS-TD-7 STRUCTURAL DESIGN REQUIREMENTS**

**PS-TD-7.1 Overview**

The Cured-in-Place-Pipe liner shall conform to the following minimum initial structural properties.

**PS-TD-7.3 Liners**

Alternative pay items have been included for reinforced and un-reinforced liners.

The liner shall comprise one or more layers of absorbent woven or non-woven glass fibre. The lining tube un-reinforced liners shall comprise one or more layers of absorbent woven or non-woven polyester fabric or felt. Reinforced and un-reinforced liners shall comply with Particular Specification TD.

Since reinforced liners are generally stronger than un-reinforced liners, reinforced liners have been scheduled with thinner wall thicknesses than un-reinforced liners. For this reason the

minimum structural properties for reinforced and un-reinforced CIPP liners are stipulated as follows:

<u>Structural Property</u>	<u>Minimum Values</u>	
	<u>Un-reinforced Liner</u>	<u>Reinforced Liner</u>
Short Term Modulus of Elasticity	1 724 MPa (ASTM F1216)	7 000 MPa
Short Term Flexural Strength	31 MPa (ASTM F1216)	100 MPa

**It must be noted that the liners scheduled in the Schedule of Rates are designed according to the following criteria and can withstand the following parameters**

**Table A**

<b>STRUCTURAL DESIGN</b>									
The Wall Thicknesses of the liners have been designed in accordance with ASTM Standard F1216 - Appendix X1 for a Partially Deteriorated Gravity Pipe Condition.									
The Wall Thicknesses of the liner is to be designed to withstand the hydrostatic load, which shall be assumed be to that acting at the invert with the water table at the surface.									
The Modulus of Elasticity used shall be the long term value (50years), which if not known shall be assumed to be 50% of the short term value.									
The following shall apply: The structural properties stated above for reinforced and un-reinforced CIPP liners.									
Diameter of host pipeline (mm)	150	200	225	250	300	375		450	
Enhancement Factor	7	7	7	7	7	7	7	7	7
Assumed Ovality	4 %	4 %	4 %	4 %	4 %	4 %	4 %	4 %	4 %
Ovality Factor	0,7	0,7	0,7	0,7	0,7				
Safety Factor	2	2	2	2	2	2	2	2	2
<b>REINFORCED LINER</b>									
<b>Scheduled Wall Thickness</b>	3,5mm	3,5mm	3,5mm	5,0mm	5,0m m				
<b>Allowable Groundwater Head</b>	26m	10m	7m	16m	9m				
<b>UN-REINFORCED LINER</b>									
<b>Scheduled Wall Thickness</b>	5,0mm	5,0mm	5,0mm	7,5mm	7,5m m	> 9mm but ≥12mm	> 12mm but ≥15mm	> 9mm but ≥12mm	> 12mm but ≥15mm
<b>Allowable Groundwater Head</b>	19m	8m	5m	11m	6m	At natural Ground Table			

**PS-TD-8 PRE-CONSTRUCTION/ PREPARATION AND CONSTRUCTION**

**PS-TD-8.1 Pre-Construction**

The Contractor shall clean the pipeline with jetting equipment to remove silt, debris and loose pipe material, in accordance with PS-TA. Care shall be exercised that excessive pressures do not damage the pipework.

The pipeline shall also be inspected by CCTV camera to confirm all debris has been removed. The Contractor shall use a pipe scraper, cutter, borer or pig to ream the pipe to remove excessive hard deposits on the pipe wall and ensure the bore of the pipe is of adequate size to accommodate the lining

**PS-TD-8.2 Preparation**

The Contractor shall verify all lengths and host pipe internal diameters on site prior to the ordering of the lining tube. Individual installations runs may be made through one or more manholes as determined on site by the Contractor and approved by the Employer's Agent. The impregnation or wetting-out of the liner with resin shall take place in controlled factory conditions.

The volume of resin used shall be sufficient to fill all voids in the tube material and the volume shall be adjusted for the change in resin volume due to polymerization, to allow for any migration of resin into the cracks and joints in the host pipe (in sections not protected with a pre-liner) and attain the Design Thickness specified. The lining shall be transported and stored in a manner to ensure that there is no damage or premature curing of the lining. The

Contractor to submit all the planned preparatory arrangements to the Employer's Agent for approval at least 7 days prior to commencing any lining.

The Contractor shall:

- Ensure all wayleaves obtained, maintained and adhered to
- Traffic accommodation plans have been submitted and approved by the Employer's Agent and local authorities.
- Public has been notified and kept up-to-date with the construction proses
- Ensure that all manholes, insertion and winching pits are adequately sized and conditioned to accommodate the necessary operations.
- Have confirmed arrangements with the relevant authorities for road closures, traffic deviations and traffic control
- Confirm that all necessary safety equipment, safety measures and personnel are in place.
- Confirm that all flow deviations measures and over-pumping equipment are ready. The contractor shall confirm that all service connections have been identified, plugs provided and tested and owners forewarned.
- All service connections have been identified, plugs provided and tested and owners forewarned
- Provide the Employer's Agent with an detailed programme for the lining operation, including cleaning, CCTV inspections, profiling inspections of existing host pipe, over-pumping and the lining process itself and showing time of commencement and time of completion
- Provide details to the Employer's Agent of the curing schedule including the planned times. Temperatures, pressures and rates of application of the curing medium. Curing equipment and temperature monitoring system details.
- Make all necessary arrangement to obtain access to high residential buildings to install the liner

Prior to the installation of the lining system in a given section of the pipeline, all preliminary preparation works shall have been completed including rectification of protruding service connections, sealing of major leaks, trenchless and excavated point repairs and preliner installation where required

**PS-TD-8.3 Construction**

**PSA-TD-8.3.1 Lining**

The Contractor shall install the approved lining system in accordance with this specification and in accordance with the approved Standards, Specifications, Codes and/ or Method Statements of the manufacturer and installer. This would include the insertion of the liner, its pressurization using a hydrostatic head, air pressure or other approved method and curing. This shall include any necessary over-pumping of flows and all work necessary to fit and trim the linings through manholes. Care shall be taken to avoid over-stressing the fabric/ liner.

The use of lubricant may be allowed to reduce friction during installation. The lubricant shall be a nontoxic, oil-based product that has no detrimental effect on the liner, does not support bacterial growth or affect the general characteristics of the domestic sewer. Care should be exercised during filling and emptying of the pipeline, to avoid causing a vacuum that could damage the new liner. If the lining fails to make a tight seal at the manhole walls, the contractor shall apply a resin mixture seal at that point. The resin seal shall be compatible with the resin mixture of the lining.

Following preparation of the site and pipeline installation, curing and cool-down of the CIPP lining shall be carried out in a continuous operation in single lengths between contiguous manholes. The Contractor shall make the necessary arrangements to ensure that no water circulates in the section of pipeline being relined during installation and curing. The installation, curing, cooling-down and testing procedures shall meet the requirements of ASTM F1216-09 for direct inversion lining technology. The Contractor shall be solely responsible for the suitability of the proprietary installation, curing and cooling down procedures to the particular characteristics and condition of each section of the pipeline.

Once a complete section of relining tube is installed it shall be cured through the use of circulating heated water, introduction of steam or application of ultraviolet light, under carefully controlled conditions via installation of a temperature monitoring system. The Contractor shall be responsible for the post-installation cleaning of the entire section of relined pipe and safe disposal of any residual water from the installation, pressurising and curing operations in accordance with its Construction Environmental Management Plan.

### **PS-TD-8.3.2 Rehabilitation of Existing Manholes**

The Contractor must inspect each manhole for any leaks and structural damages and report to the Employer's Agent for remedial action. The contractor shall:

- Remove the existing step irons and install new Copolymer Polypropylene covered step irons (Same Colour) in existing manhole chambers before cleaning or lining
- Ensure that the surface is clean of any loose debris
- Apply a 20mm thick (finished thickness) coat of 100% calcium aluminate mortar. The mortar shall be able to withstand biogenic corrosion.
- The manhole should have a smooth finished surface.

### **PS-TD-8.3.3 Service Connections**

The Contractor shall reinstate all the house connections in each finished section of pipeline utilizing a remotely controlled cutting device, monitored by a CCTV. The cutting tool shall leave a smooth bevelled edge free of any protrusions that shall be flush with the inside surface of the branch sewer line. There shall be no discontinuity between the lining material at the cut hole and the branch sewer line. The services shall be restored to not less than 90% of their original capacity and shall be free of any sharp edges or protrusions, which could cause paper, rags or debris to accumulate.

The Contractor shall allow sufficient time for any movement of the installed lining relative to the host pipe before carrying out the cut outs. This shall include movements caused by shrinkage, thermal contraction, stress recovery, mechanical adjustment in material properties during curing, or any other action.

Following acceptance testing, the Contractor shall coordinate with the Employer's Agent to notify the affected community that the service has been restored.

## **PS-TD-9 TESTING, INSPECTION AND ACCEPTANCE**

### **PS-TD-9.1 Inspection**

The cured pipeline shall be inspected by CCTV and a DVD recording made in the presence of the Employer's Agent. The lining shall be continuous over the entire length lined and shall have no deformations (except in sympathy with defects in the existing pipe), twist, wrinkles, foreign inclusions, dry spots, lifts, pinholes or delamination's. The pipe shall be free of leaks and defects that will affect the integrity or strength of the lining. The contractor shall rectify all defects before the lining is accepted. The Employer's Agent may instruct the Contractor to re-allow the flow through the pipe. This may be necessary before the Contractor shall rectify all defects. Any remedial work that the Contractor cannot perform immediately will have to be scheduled at another time. The Contractor shall perform any work required to remedy any defects in the lining at his own cost.

### **PS-TD-9.2 Testing**

Upon completion of each section of the pipeline the following inspection and testing procedures will be carried out:

- CCTV survey and reporting
- Two samples per lining operation shall be fabricated from material taken from the actual lining used and prepared in accordance with Clause 8.1.2 of ASTM F1216. Five specimens from the sample will be used for the determination of Short-term Flexural (Bending) Properties in accordance with Clause 8.1.3.1 of ASTM F1316.
- CIPP wall thickness shall be measured in accordance with Clause 8.6 or Clause 8.6.1 of ASTM F1216. The Cured-in-Place-Pipe samples shall be prepared for each lining operation. The samples shall be from the actual lining installed.
- The samples shall be large enough to provide a minimum of five specimens for flexural testing.
- After curing, the samples shall be submitted to an independent testing laboratory to meet the requirements submitted in the tender document or agreed upon with the Employer's Agent.
- The independent laboratory shall also measure the wall thicknesses of the samples. The minimum wall thickness at any point shall be not less than 87.5% of the design thickness.

**PS-TD-9.3 Acceptance**

Acceptance of each completed section of CIPP rehabilitation or CIPP Point repair rehabilitation will be conditional to compliance with the following requirements:

- Satisfactory compliance with minimum short-term flexural properties based on the results of tests established in Section PS-TD 9.1 of this specification
- Thickness of finished lining not less than 87.5% of thickness nominated by the Contractor as the basis for structural calculations, based on results of measurements as per Section PS-TD 9.1 of this specification
- The finished relining system shall be free of defects that may be detrimental to its long term structural and/or hydraulic performance, including but not limited to:
  - Dry spots, bubbles, cracks or delamination
  - Wrinkling of the lining with height exceeding 2.5% of the internal diameter of the host pipe, where not attributable to defects on the host pipe
  - Visible leakage through any part of the lining, including reinstated house connections
  - Inadequate sealing of the lining at manholes or points of entry of house connections
- In addition to the physical properties testing and post-installation CCTV survey, the Contractor shall deliver a certified copy of the curing report for each lined section, from the temperature monitoring system used of curing process.

In case of non-compliance with any of the above acceptance requirements, The Contractor shall undertake the necessary remedial actions to achieve compliance and will submit to the approval of the Employer’s Agent the proposed methodology and program of works for the completion of the corrective actions.

**PS-TD-10 MEASUREMENT AND PAYMENT**

The Cured-in-Place-Pipe lining method of pipe lining has been specified, whereby a resin impregnated flexible tube is inserted into the pipeline, pressurized and cured from to form a tight fit against the existing pipe. This is normally accomplished from existing manholes. During the installation of the liner, over-pumping of flows will be required. Prior to the installation of the liner the pipeline shall be cleaned of all debris and shall be inspected by CCTV inspections.

**PS-TD-10.1 Supply and Install Cured-in-Place-Pipe Liner**

<u>Item</u>	<u>Unit</u>
Supply and Install Cured-in-Place-Pipe Liner	
Host pipe Nominal Diameter .....mm      Liner Thickness ..... mm	.....m

Those sections of pipeline to undergo cured-in-place-pipe lining are to be isolated using plugs or stoppers by the Contractor to the satisfaction of the Employer’s Agent. The Contractor will have to deal with any infiltration of ground water into the isolated section of the pipeline. The cost of isolation sections of the pipeline and dealing with infiltration water is deemed to be included in the rates of cured-in-place-pipe lining.

The Cured-in-Place-Pipe liner shall be measured on the actual length of lined pipe including manhole benching. Separate items shall be scheduled for each nominal diameter of the host pipe and design thickness. The Price tendered and paid shall include full compensation for the cost of manufacturing, supply and installing the liner, curing, sealing at the manholes, insertion pits, final cleaning of pipelines, CCTV inspections, testing, safety measures, all supervision, labour materials, transport, equipment and incidentals required to reline the host pipe. Seventy five percent (75%) of the payment for Cured-in-Place-Pipe lining will be made once the liner has been successfully installed and inspected by CCTV. The remaining twenty five percent (25%) of the payment will be made once the liner has passed all tests and has been accepted and approved by the Employer’s Agent. Service reconnection shall be measured and paid for separately.

**PS-TD-10.2 Service Reconnection**

<u>Item</u>	<u>Unit</u>
Service Reconnection.....	No.

The service reconnection shall be paid for each pipe connection that is re-established by cutting a hole in the Cure-in-Place-Pipe liner. The rate shall include full compensation for the cost of establishment, de-establishment, providing and operating all equipment including robotic cutters and CCTV camera and including recovering of the waste material.

**PS-TD-10.3 Rehabilitation of Existing Manholes**

<u>Item</u>	<u>Unit</u>
20mm calcium aluminate mortar to internal faces .....	m2
Installation of Step irons .....	No.

The unit measured for step irons shall be the number of step irons installed.  
 The unit rate for plastering and sealing of the manhole chambers shall be per square meter of the chamber.

The tendered rate shall include full compensation for plastering and providing proper access to all manhole chambers in compliance with the OHS Regulations. In addition the rate shall also cover the cost of cleaning and applying a 20mm 100% calcium aluminate mortar to all concrete surfaces within the manholes.

**PS-TD-10.4 Extra-over items C10 to C100 for fluctuation in exchange rate**

<u>Item</u>	<u>Unit</u>
Extra-over items C10 to C100 for fluctuation in exchange rate .....	Prov Sum

The sum will compensate for the fluctuation (upwards or downwards) in the exchange rate. This will only apply to the liner costs. The sum will be calculated on the exchange rate at tender closing (rate quoted by Council’s main banker ABSA) and date of placing the order for the specific works project. Tenderers must submit proof of placing order for the specific works project. The order and invoice must make specific reference to the specific works project for which the liner is imported.

**PS-TD-10.5 Extra-over items C10 to C100 for installation of CIPP liners in mid-blocks**

<u>Item</u>	<u>Unit</u>
Extra-over items C10 to C100 for installation of CIPP liners in mid-blocks .....	m

The rate must cover all the associated costs and effort for installation of liners in a midblock sewer system.

## C3.5 Management

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- 3.5.1. FORMS FOR CONTRACT ADMINISTRATION
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- 3.5.5. ENVIRONMENTAL MANAGEMENT PROGRAMME
- 3.5.6. HEALTH AND SAFETY

#### 3.5.1 FORMS FOR CONTRACT ADMINISTRATION

The Contractor shall complete, sign and submit with each monthly statement for payment in respect of each Works Project contract, the following updated returns (the format of which are attached in C3.6 Annexes):

- a) Monthly Project Labour Report (Annex 1)
- b) B-BBEE Sub-Contract Expenditure Report (Annex 2)
- c) Joint Venture Expenditure Report (Annex 3)
- d) Targeted Labour Contract Participation Expenditure Report (Annex 4)
- e) Targeted Enterprises Contract Participation Expenditure Report (Annex 5)

The Monthly Project Labour Report must include details of all labour (including that of sub-contractors) that are South African citizens earning less than R450.00 per day, as adjusted from time to time (excluding any benefits), who are employed on a temporary or contract basis on this contract in the month in question.

In addition to the Monthly Project Labour Report the Contractor shall simultaneously furnish the Employer's Agent with copies of the signed employment contracts entered into with such labour, together with certified copies of identification documents, proof of attendance in the form of attendance register or timesheets, as well as evidence of payments to such labour in the form of copies of payslips or payroll runs. 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 and proof of such acknowledgement shall be furnished to the Employer's Agent.

The Monthly Project Labour Reports shall be completed and submitted in accordance with the instructions therein and copies of all submitted documents must be kept on site be made available to the employer's agent upon request.

The **B-BBEE Sub-Contract Expenditure Report** is required for monitoring the prime contractor's compliance with the sub-contracting conditions of the **Preference Schedule**.

The Joint Venture Expenditure Report is required for monitoring the joint venture's compliance with the percentage contributions of the JV partners as tendered, where the joint venture has been awarded preference points in respect of its consolidated B-BBEE scorecard.

The Targeted Labour Contract Participation Expenditure Report is required for monitoring the contractor's compliance for achieving the specified minimum targeted labour contract participation goal (CPG<sub>L</sub>) and, if applicable, for calculating any penalty in terms thereof.

The Targeted Enterprises Contract Participation Expenditure Report (if applicable) is required for monitoring the contractor's compliance for achieving the specified minimum targeted enterprises contract participation goal (CPG<sub>E</sub>) and, if applicable, for calculating any penalty in terms thereof.

The Expenditure Reports shall be verified by the Employer's Agent/Employer's Agent's Representative.

In respect of Annexes 2 and 3, the Employer shall, in addition to any other sanctions available to it, apply the financial penalties applicable to breach of preferencing conditions in the **Preference Schedule** in Part T2.2 Returnable Schedules. In the case of joint ventures (Annex 3), the contractor shall prove his compliance with item 6) in Section 2 of the **Preference Schedule** by providing a consolidated scorecard at his own cost on instruction from the Employer's Agent.

### 3.5.2 PARTICIPATION OF TARGETED LABOUR

#### 3.5.2.1 Minimum targeted labour contract participation goal

In support of the National Department of Public Works' Expanded Public Works Programme which is aimed at alleviating poverty through the creation of temporary employment opportunities using labour intensive methodologies and practices where possible, the Employer is seeking to increase the intensity of labour, as appropriate, in all of its infrastructure sector projects.

It is a requirement of this term tender contract, therefore, that the work be executed in such a manner so as to maximise the use of labour intensive construction methods in order to provide low and semi-skilled temporary employment opportunities.

To this end, a minimum targeted labour contract participation goal is specified below, which shall be achieved by the Contractor in the performance of each Works Project contract, failing which, penalties as described will be applied. The Contractor is required to provide all skills training where necessary, so as to ensure that a minimum level of competence is achieved and maintained, such that the various activities are carried out safely and to the required standard. The cost of training shall be included in the rates for the various work activities.

The specified minimum targeted labour contract participation goal (CPG<sub>L</sub>) is

**0.25 %**

The minimum CPG<sub>L</sub> is such that the Contractor will have to carry out some of the work that would normally have been undertaken using mechanised construction methods, by using labour intensive construction methods instead. It is left to the discretion of the Contractor to identify suitable work activities for the intensification of labour. The Contractor shall, within 5 working days of being requested in writing by the Employer's Agent to do so, submit details of his/her plan to achieve the minimum CPG<sub>L</sub> in the Works Project. If, due to the selection of items and quantities in any individual Works Project, it is not possible for the Contractor to achieve the specified minimum CPG<sub>L</sub> on that particular Works Project, then the Employer's Agent, at his/her sole discretion, may reduce such minimum CPG<sub>L</sub> upon motivation by the Contractor.

#### 3.5.2.2 Definitions

For the purposes of the requirements in respect of the participation of targeted labour, the following definitions shall apply:

“**Target area**” means the geographical area described in the Works Project contract document.

“**Targeted labour contract participation goal (CPG<sub>L</sub>)**” means the sum of the wages (excluding any benefits), for which the Contractor, or any of his/her sub-contractors contracts targeted labour in the performance of the contract, expressed as a percentage of the value of the contract.

“**Targeted labour**” means low and semi-skilled individuals, whose wages (excluding any benefits) do not exceed the threshold value, who reside in the target area, that are employed by the Contractor, or any of his/her sub-contractors, in the performance of the contract.

“**Threshold value**” is R450.00 per day as adjusted from time to time (excluding any benefits). The threshold value is not to be confused with any industry sector minimum wage determined in accordance with the Basic Conditions of Employment Act, 75 of 1977.

“**Value of the contract**” means the **Works Project** contract sum (accepted contract amount) less provisional sums, contingencies and VAT.

#### 3.5.2.3 The selection and recruitment of targeted labour

Where targeted labour is to be drawn from specific local communities (defined in terms of the target area), such labour shall be identified using the relevant Sub-Council Job-Seekers Database. The Contractor shall request, via a Community Liaison Officer (if required in terms of the contract), a list of suitable candidates from the database, from which the Contractor shall make his/her final selection. The contractor shall enter into written contracts of temporary employment with all targeted labour.

Any difficulty experienced by the Contractor in identifying candidates through the Job-Seekers Database, or as regards any matter relating to the employment of targeted labour, shall be immediately referred to the Employer's Agent.

#### 3.5.2.4 Contract participation goal credits

Credits towards the achieving the minimum CPG<sub>L</sub> shall be granted by converting the total monetary value of wages paid to targeted labour (including that of sub-contractors) to a percentage of the value of the contract. No credits shall be accorded should the contractor/sub-contractor fail to enter into written contracts with the targeted labour. Furthermore, no credits shall be accorded in respect of targeted labour employed on work in respect of provisional sums or prime cost items. Such labour shall nevertheless be recorded on the Monthly Project Labour Report which is required to be furnished by the Contractor.

#### 3.5.2.5 Training of targeted labour

The Contractor is required to provide all informal (on-the-job) skills training so as to ensure that a minimum level of competence is achieved and maintained, such that the various activities are carried out safely and to the required standard. The cost of informal training shall be included in the rates for the various work activities.

#### 3.5.2.6 Penalties

The financial penalty to be applied for failing to meet the specified minimum targeted labour contract participation goal in the performance of the contract (unless proven to be beyond the control of the Contractor), is as follows:

$$\text{Penalty} = (\text{CPG}_L^S - \text{CPG}_L^A) \times P^*$$

Where CPG<sub>L</sub><sup>S</sup> = the specified minimum targeted labour contract participation goal (expressed as a percentage).

CPG<sub>L</sub><sup>A</sup> = the targeted labour contract participation goal achieved (expressed as a percentage).

P\* = the value of the contract.

### 3.5.3 COMMUNITY LIAISON OFFICER

Certain Works Projects may require a Community Liaison Officer (CLO) to be appointed by the Contractor. The primary functions of the CLO shall be to assist the Contractor with the selection and recruitment of targeted labour, to represent the local community in matters concerning the use of targeted labour (and/or enterprises) on the works, and to assist with and facilitate communication between the Contractor, the Employer's Agent and the local communities.

The identification of suitable candidates (maximum 5; minimum 3) for the CLO position shall be **resolved by the relevant Sub-council Manager** through a process of **advertising and shortlisting**. Should suitable candidates not be identified through this process, the Contractor shall be allowed to **seek candidates from the relevant Sub-Council Job-Seekers Database**. The final selection and appointment of the CLO in terms of the contract shall be the responsibility of the Contractor.

The period of appointment of the CLO shall be as stated in the Contract for Temporary Employment as a Community Liaison Officer referred to below. The date of commencement of temporary employment of the CLO shall be as agreed with the Employer's Agent.

If it is required, therefore, that the Contractor enter into a contract of temporary employment with the selected CLO, the contracting parties will be the Contractor and the CLO. To this end, a specimen Form of Contract of Temporary Employment as Community Liaison Officer is included in this document (Part C1.9 Community Liaison Officer). This Form of Contract sets out, inter alia, the agreement between the parties, the duties and conditions of employment of the CLO. The rate of remuneration for the CLO, payable by the Contractor, is currently **R450.00** per day). As said contract will be between the Contractor and the CLO, all costs involved shall be borne by the Contractor and items will be provided in the Bills of Quantities in the Works Project contract document therefor.

### 3.5.4. PARTICIPATION OF TARGETED ENTERPRISES

#### 3.5.4.1 Minimum targeted enterprises contract participation goal

It is a requirement of this contract that enterprises located within the target area, as defined, be engaged by the Contractor for the provision of supplies, services or works necessary for the performance of this contract.

To this end, a minimum targeted enterprises contract participation goal is specified below, which shall be achieved by the Contractor in the performance of the contract, failing which, penalties as described will be applied.

The specified minimum targeted enterprises contract participation goal (CPG<sub>E</sub>) is

0 %

The Contractor shall engage targeted enterprises directly or indirectly in the performance of the contract to the extent that the total monetary value of such engagements (exclusive of VAT), expressed as a percentage of the value of the contract, is sufficient to achieve the specified minimum CPG<sub>E</sub>.

#### 3.5.4.2 Definitions

For the purposes of the requirements in respect of the participation of targeted enterprises, the following definitions shall apply:

“**Target area**” means the geographical area described in the Works Project contract document.

“**Targeted enterprises contract participation goal (CPG<sub>E</sub>)**” means the value of supplies, services or works (exclusive of VAT), for which the Contractor contracts targeted enterprises, either directly or indirectly, in the performance of the contract, expressed as a percentage of the value of the contract.

“**Targeted enterprises**” means any sole trader, partnership or legal entity that acts as a supplier, manufacturer, service provider or sub-contractor, and which has its base of operations in the target area.

“**Value of the contract**” means the contract sum (accepted contract amount) less provisional sums, contingencies and VAT.

#### 3.5.4.3 Achieving the contract participation goal

The contractor may achieve the specified minimum CPG<sub>E</sub> as follows:

- a) by engaging one or more targeted enterprises to perform commercially useful functions in the performance of the contract;
- b) by engaging non-targeted enterprises, who in turn engage one or more targeted enterprises to perform commercially useful functions in the performance of the contract;
- c) by a combination of the above.

The Contractor shall, within 5 working days of being requested by the Employer’s Agent to do so, submit details of his/her plan to achieve the minimum CPG<sub>E</sub>.

#### 3.5.4.4 Contract participation goal credits

Credits towards achieving the minimum CPG<sub>E</sub> shall be granted by converting the total monetary value (exclusive of VAT) of the agreements between the Contractor, or Contractor’s sub-contractors, and targeted enterprises, to a percentage of the value of the contract.

No credits shall be accorded should the Contractor (or sub-contractors):

- a) make direct payment to third parties in connection with the contract on behalf of targeted enterprises, when such payment is recovered by making deductions from payments due to the targeted enterprise;
- b) fail to enter into written contractual agreements with the relevant targeted enterprises.

Credits claimed towards the contract participation goal shall be denied where such written contractual agreements contain any of the following:

- c) conditions which are more onerous than those that exist in the prime contract (this contract);

- d) payment procedures based on a pay when paid system;
- e) authoritarian rights given to the employing contractor, with no recourse to independent adjudication in the event of a dispute arising.

No credits may be claimed in respect of targeted enterprises that do not adhere to statutory labour practices.

No credits shall be accorded in respect of targeted enterprises engaged on work in respect of provisional sums or prime cost items.

In the event that a targeted enterprise sub-contracts to another targeted enterprise, only the value of the higher level sub-contract shall be granted as credit towards achieving the specified minimum CPG<sub>E</sub>.

In addition to the form required for contract administration (the Targeted Enterprises Contract Participation Expenditure Report), the Contractor shall furnish the Employer's Agent, upon written request, with documentary evidence that the targeted enterprises have their base of operations in the target area, copies of the contractual agreements with the various targeted enterprises, as well as documentary proof of payments made to the various targeted enterprises.

#### **3.5.4.5 Penalties**

The financial penalty to be applied for failing to meet the specified minimum targeted enterprises contract participation goal in the performance of the contract (unless proven to be beyond the control of the Contractor), is as follows:

$$\text{Penalty} = (\text{CPG}_{E^S} - \text{CPG}_{E^A}) \times P^*$$

Where CPG<sub>E<sup>S</sup></sub> = the specified minimum targeted enterprises contract participation goal (expressed as a percentage).

CPG<sub>E<sup>A</sup></sub> = the targeted enterprises contract participation goal achieved (expressed as a percentage).

P\* = the value of the contract.

#### **3.5.5 ENVIRONMENTAL MANAGEMENT PROGRAMME**

Particular Specification E: Environmental Management Specification and its Annexures are attached hereto.

#### **3.5.6 HEALTH AND SAFETY**

Particular Specification H: Health and Safety Specification is attached hereto.

Project Health and Safety Specification  
In terms of Construction Regulations 2014

Client

**CITY OF CAPE TOWN**

Description of Project Works

85C/2019/20 - PROVISION OF PROFESSIONAL SERVICES TO PROVIDE OCCUPATIONAL HEALTH AND SAFETY SERVICES FOR THE WATER AND SANITATION DEPARTMENT – 104Q/2021/22 - TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE

Project Location

CITYWIDE  
(AREA 1, 2, 3 AND 4 – SEE LOCALITY MAP)

Date

SEPTEMBER 2021

Project Health and Safety Specification developed by:

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# PROJECT HEALTH AND SAFETY SPECIFICATION

Revision 1/2020-08-01

**SPECIFICATION FOR OCCUPATIONAL HEALTH & SAFETY  
AS REQUIRED BY THE CONSTRUCTION REGULATIONS 2014  
PROMULGATED UNDER  
THE OCCUPATION HEALTH AND SAFETY ACT (85 of 1993)**

for

**TENDER 104Q/2021/22 - TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-  
PLACE PIPE LINING CITYWIDE**

**Occupational Health and Safety Act, 85 of 1993; COVID-19 Regulations;  
Construction Regulation 5(1)(b): Health and Safety Specification**

**Health and Safety Specification** means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons working on and exposed to the associated works.

Developed on behalf of:



**CITY OF CAPE TOWN**

**WATER AND SANITATION**

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104Q/2021/22-HS-01-2021/08/03

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## INTRODUCTION

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 and 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 the Specification.

The objective of this Specification is to ensure that the Contractor entering into a contract with **the Client** achieves an acceptable level of H&S performance. This Specification forms an integral part of the Contract and Principal and other Contractors should make it part of any Contract that they may have with their Contractors and/or Suppliers.

Compliance with this Specification does not absolve **the Client** from complying with minimum legal requirements and **the Client** remains responsible for the health and safety of his employees and those of his Mandataries. **The Client** reserves the right to audit, monitor and where necessary regulate the site work activities of any Principal Contractor or principal appointed sub-contractor as contained in Construction Regulations 5(1)(k) and 7(1)(c)(v).

## SCOPE

The Specification outlines the requirements for addressing, mitigating and preventing occupational health and safety related incidents on the **CIPP Project**. The specification also addresses legal compliance, hazard identification and risk assessment, promoting a health and safety culture amongst those persons working on the project and those affected by the activities taking place in and around the construction project.

The Health and Safety Specification entails requirements that are generally applicable to construction work and imposes controls associated with activities that impact on human health and safety and provides the overarching framework within which the contractor is required to demonstrate compliance with certain requirements for health and safety during construction, established by the Occupational Health and Safety Act of 1993 and associated Regulations and Standards incorporated under Section 44 of the OHS Act of 1993, even if such standards are not directly referenced in the Specification.

The specification further establishes the manner in which the contractor is to manage the risk of health and safety incidents during the construction and the manner in which **the Clients appointed Health and Safety Agent** will interact with the contractor.

Contractors employed by **the Client** are to ensure that the provisions of the specification are applied both on the site and in respect of all off site activities relating to the project, in particular transport activities and project dedicated off site fabrication works and should further, enforce the provisions of the specification amongst all sub-contractors and suppliers to the project.

## PROVISION FOR COST OF HEALTH AND SAFETY

The Principal Contractor shall make and show adequate provision for the cost of adequate and required health and safety measures during the construction process as required by Construction Regulation 5(1)(g), specifically provision for the adequate quantities and types of specialised PPE as required for CIPP lining operations, including approved Breathing apparatus, respirators and disposable organic vapour cartridges .

Further to the adequate provision for the cost of health and safety as outlined above, the Principal Contractor shall ensure that on appointing any other contractor for any portion of the construction project, that each potential sub-contractor submitting tenders for such work, have made sufficient provision for adequate and required health and safety measures during the construction process as required by Construction Regulation 7(1)(c)(ii).

This provision shall include inter-alia, adequate supply of free PPE, fall prevention equipment, welfare facilities, OHS related training, suitably trained and competent supervisory and health and safety personnel, fire prevention measures, Covid-19 requirements, etc.

## DEFINITIONS

**Act:** The Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

**Contractor:** person or organisation that contracts to provide the works covered by the contract

**Contract Manager:** person appointed by the employer to administer the contract on his behalf

**Competent Person:** any person who:

- Has in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications specific to that work or task;
- Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act 67 of 2000), those qualifications and that training must be regarded as the required qualifications; and
- Is familiar with the Act and applicable regulations made under the Act

**Danger:** anything which may cause injury or damage to persons or property

**Employer/Client:** person or organisation that enters into a contract with the contractor for the provision of the works covered by the contract, in this instance, **CITY OF CAPE TOWN, WATER AND SANITATION**

**Employer's/Client's Health and Safety Agent:** the person appointed as agent by the employer in terms of Regulation 5(5) of the Construction Regulations and named in the contract data as being the employer's agent responsible for health and safety matters, in this instance, the Clients appointed Health and Safety Agent.

**Hazard:** a source of or exposure to danger

**Hazard Identification:** the identification and documenting of existing or expected hazards to the health and safety of persons, which are normally associated with the type of construction work being executed or to be executed

**Health and Safety Plan:** a documented plan which addresses hazards identified and includes safe work procedure to mitigate, reduce or control the hazards identified

**Health and Safety Specification:** a site, activity or project specific document pertaining to all health and safety requirements related to construction works which is included in the contractor's contract with the employer or an order issued in terms of the framework agreement

**Healthy:** free from illness or injury attributable to occupational causes

**Incident:** an event or occurrence occurring at work or arising out of or in connection with the activities of persons at work, or in connection with the use of plant or machinery, in which, or in consequence of which:

- Any person dies, become unconscious, suffers the loss of a limb or part of a limb or is otherwise injured or becomes ill to such a degree that he 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 was employed or is usually employed;
- A major incident occurred; or
- The health or safety of any person was endangered and where;
  - A dangerous substance was spilled;
  - The uncontrolled release of any substance under pressure took place;
  - Machinery or any part thereof fractured or failed resulting in flying, falling or uncontrolled moving objects; or machinery ran out of control
- **Inspector:** a person designated as such under section 28 of the Act
- **Major Incident:** an occurrence of catastrophic proportions, resulting from the use of plant or machinery, or from activities at a workplace
- **Reasonably Practicable:** practicable having regard to:
  - the severity and scope of the hazard or risk concerned
  - the state of knowledge reasonably available concerning that hazard or risk and of any means of removing or mitigating that hazard or risk
  - the availability and suitability of means to remove or mitigate that hazard or risk; and
  - the cost of removing or mitigating that hazard or risk in relation to the benefits deriving therefrom
- **Risk:** the probability that injury or damage will occur
- **Safe:** free from any hazard
- **Scaffold:** any temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both
- **Structure:**
  - Any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure
  - Any false work, scaffold or other structure designed or used to provide support or means of access during construction work; or
  - Any fixed plant in respect of construction work which includes installation, commissioning, decommissioning or dismantling and where any construction work involves a risk of a person falling
- **Substance:** any solid, liquid, vapour, gas or aerosol, or combination thereof
- **Suitable:** capable of fulfilling or having fulfilled the intended function or fit for its intended purpose
- **Temporary works:** any false work, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction
- **Workplace:** any premises or place where a person performs work in the course of his employment

## INTERPRETATION

This Health and Safety Specification is a compliance document drawn up in terms of the South African legislation and is therefore binding. It must be read in conjunction with the relevant legislation and any other applicable health and safety standards as provided for in Section 44 of the Occupational Health and Safety Act, 85 of 1993.

The Health and Safety Specification contains clauses that are generally applicable to building/construction and to impose pro-active controls associated with activities that impact on human health and safety as it relates to construction activities and the use of plant and machinery.

Compliance to the requirements of the OHS Act and regulations in addition to compliance with the requirements of the Client's Health and Safety Specification is part of the Contractor's legal liability and responsibility. **The Client/Health and Safety Agent** will monitor the contractors' compliance with the requirements of the OHS Act and Regulations and the Health and Safety Specification but will not prescribe to the contractor how such compliance is achieved.

Each contractor appointed on the project is required to outline in the site and project health and safety plan drawn up for the **CIPP project**, how they will achieve compliance to the OHS Act and Regulations and the Client's Health and Safety Specification in relation to their individual scope of work, as well as control measures that will be implemented and maintained to reduce and manage the risk associated with execution of the project.

## **PROJECT DETAILS**

The site of the proposed work is situated in Cape Town Metropole, Western Cape. The provisional start date for site establishment and construction will be confirmed.

This project comprises of CIPP Lining to remediate existing pipes which will involve isolation of sewer lines, over-pumping or bypassing of flows, inserting a resin impregnated liner into the host pipeline, curing of lining, CCTV inspections, robotic cutting, and the testing of pipes.

The rehabilitation method is CIPP Lining without having to excavate and expose the entire length of infrastructure that requires remedial work. CIPP lining operations entail access into manholes, exposure to raw sewage and hazardous chemicals which have high associated risks to be adequately and effectively addressed prior to the commencement of any work activities.

### **Overview of the Works:**

Rehabilitation of all types of existing vulnerable sewers by inserting CIPP Liner to extend the lifespan of the existing pipeline. The existing diameter range from 110mm to 500mm.

- Replace existing man-hole with new man-holes up to +-6m depth.
- Point repair work which will include excavation, shoring up to +-6m excavations
- Over pumping of sewage into another man-hole
- Bulk Cleaning of existing sewers
- Traffic accommodation in busy roads.

Also included is the execution of any necessary point repairs to the pipelines as well as the repair of any defective manholes as decided by the Employers Representative. Pipes are to be cleaned of any debris, fats and roots.

#### General items

- Establishment on site by the Contractor
- The supply of labour, tools, equipment, materials and supervision to complete the work
- Identification of the works and location of manholes
- Accommodation of vehicular traffic / pedestrians and residents during all of the construction work
- Maintenance of the works during and after construction.

#### Cleaning / CCTV / CIPP items

- Cleaning of sewers and root removal where necessary
- Repair / reconstruction of Manholes as identified

## EXISTING ENVIRONMENT

**Hazards particular to this project by virtue of location:** Located in the hub of existing operational infrastructure and residential areas, the specific hazards to be addressed by the Principal Contractor/s are the interface between construction vehicles and public road users, including pedestrians.

The potential for high risk periods exists at the beginning and end of each work day, as well as the middle of the day when pedestrian traffic and volumes of vehicles in proximity to the construction area will increase exponentially. The Principal Contractor/s is to make adequate provision for access control, traffic management including the interface between construction vehicles and public vehicles and the protection of pedestrians. All aspects for potential public liability are to be adequately addressed.

If excavations are not closed before shift ends solid barricading must be installed, adequately secured to prevent unauthorized access. Excavation warning signage must be displayed with warning illuminants for at night.

### **Overhead, above ground and underground services crossing the site:**

**Overhead:** As identified by Contractor

**Underground:** Existing electricity, water and sewerage pipelines.

**Ground level:** As identified by the Contractor

**Service drawings available:** Available from the Project Manager.

**Way leaves required:** Responsibility of the Contractor

**Permits required:** To be confirmed by the Contractor and Project Manager

**Isolations required:** As identified by the Consulting Team and Contractor.

**Existing ground conditions:** The ground conditions within the package work area is known to be tarred road in close proximity to residential areas.

The contractor is to ensure that adequate shoring, bracing, and where space is adequate, battering of excavations is undertaken to avoid the collapse of excavations.

## DUTIES OF DESIGNERS

All persons appointed as Designers on the project, including the Principal Contractor's appointed temporary works designer are required to familiarise themselves with the requirements of Construction Regulation 6 and OHS Act Section 10(1) in respect of the duties incumbent on designers to ensure that the applicable safety standards incorporated into the regulations under Section 44 of the Act are complied with in the design.

Designers are required to consider and be familiar with all the requirements of each part of SANS 10400 relevant to their design and ensure that their design complies with all such requirements.

Appointed designers are to refrain from including anything in their design necessitating the use of dangerous procedures or materials hazardous to the health and safety of persons. Where a designer identifies any element of the design which may pose a risk to health and safety during execution of the design during construction, operation and maintenance of the structure, such information is to be brought to the attention of the Client and the client's appointed Health and Safety Agent.

During the design phase, designers are required to take cognisance of ergonomic design principles in order to minimise ergonomic related hazards in all phases of construction and subsequent use and maintenance of a structure.

Designers shall further take into account the hazards relating to any subsequent maintenance of the relevant structures and must make provision in the design for that work to be performed safely and with minimal risk.

When mandated by the client to do so, each designer shall carry out the necessary inspections at appropriate stages to verify that the construction is carried out in accordance with his design. Furthermore, if so mandated by the Client, stop any contractor from executing any construction work which is not in accordance with the relevant design's health and safety aspects.

## GENERAL REQUIREMENTS

The contractor shall:

- Create and maintain as reasonably practicable a safe and healthy work environment
- Execute the works in a manner that complies with the requirements of the OHS Act and all its associated regulations and standards and in so doing, minimize the risk of incidents occurring during execution of the project;
- Conspicuously display any site-specific construction work permit number assigned to the construction site in terms of the Construction Regulations 2014 at the main entrance to the site; and
- Respond to the notices issued by **the Clients appointed Health and Safety Agent** as follows:
  - **Improvement Notice:** improve health and safety performance over time so that repeat notices are not issued;
    - A third improvement notice for the same/similar activity or situation will result in a contravention notice;

- **Contravention Notice:** rectify contravention as soon as possible and not later than the end of the shift;
  - A third contravention notice for the same/similar activity, situation or non-conformance will result in a prohibition notice and such activity shall be terminated until rectified;
- **Prohibition Notice:** terminate affected activities with immediate effect and only recommence activities when it is safe to do so and approved by the Health and Safety Agent;
  - A second prohibition notice for the same/similar activity, situation or non-conformance will, at the discretion of the Project manager, result in a work stoppage until risk assessments and safe work procedures have been reviewed and communicated to the workforce, and where necessary, additional or refresher training is provided to relevant persons. Such work stoppage shall not trigger a compensation event for the Contractor.

A written close-out report documenting remedial action taken for all prohibition and contravention notices to be submitted to the Clients appointed Health and Safety Agent within one (1) day of the site inspection.

## GENERAL HEALTH & SAFETY PROVISIONS

### Health and Safety Policy

As contained in OHS Act Section 7, the Principal Contractor shall submit and maintain in the health and safety file a Health and Safety Policy signed by the current Chief Executive Officer of the company. Such policy must outline the health and safety objectives of the organisation, how the said objectives will be achieved and implemented by the company and who shall be responsible for such implementation.

The health and safety policy are to be reviewed and updated as necessary, but at least once every year.

The signed health and safety policy shall be prominently displayed on a notice board in an area where all persons reporting for work must pass when accessing the workplace.

Further to this, the Principal Contractor shall be responsible to ensure that each sub-contractor appointed by him for any portion of the construction work on the project, submits and maintains a health and safety policy as outlined above.

### Health and Safety Organogram

The Principal Contractor and each of his appointed sub-contractors shall submit and maintain in the health and safety file a project organogram, with contact numbers, outlining the health and safety site management structure, including the relevant appointments for competent persons.

Such organograms shall be site specific and in addition are to be updated immediately when any changes to the site management structure are effected, or a legal appointee is substituted.

### 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 H&S Plan and be implemented and maintained as contemplated in CR7(1)(b).

The contractor shall appoint a competent risk assessor to lead a risk assessment team when project specific risk assessments are being compiled. A risk assessment team should consist of a subject matter expert, construction manager, construction supervisor and the appointed risk assessor as a minimum. The structure of the risk assessment team is to be documented on each risk assessment and countersigned by each member of the team.

Due to the nature of the CIPP Lining process and the associated risks, each activity must define individual tasks associated with that identified activity in a detailed method statement. These and all associated hazards must be identified and listed in the risk assessment. This ensures that critical tasks and associated hazards are not overlooked.

This HIRA (hazard identification and risk assessment) process is to include the need for and identification of any specialised PPE which may be required for tasks. These can include for example, vibration, noise, confined spaces, thermal conditions, ergonomics etc.

The 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 (SWP) to mitigate, reduce or control the risks and hazards that have been identified
- A monitoring plan and
- A review plan, specifying the frequency of regular reviews and the circumstances that will trigger a review outside of the specified frequency

Based on the risk assessments, the contractor must develop a set of site-specific H&S rules that will be applied to regulate the H&S aspects of the construction.

A risk register together with a copy of the most recent construction programme to be kept in the risk assessment file for all tasks and activities in line with the site-specific construction programme to determine what risk assessments have been compiled and communicated and what future risk assessments will be required.

**NB: A risk assessment shall be performed for all unplanned work or activities and submitted to the Clients appointed Health and Safety Agent for assessment prior to such work or activity commencing.**

**Review of Risk Assessments:** The Principal contractor and sub-contractors are to review the hazards identified, risk assessments and safe work procedures (SWP) **every time** an incident or near miss occurs and/or changes are made to designs, drawings and construction methods and processes, as well as when new equipment or machinery is introduced.

### Legal Requirements

Each Contractor entering into a contract with **the Client** shall, as a minimum, comply with the:

- Occupational Health and Safety Act and Regulations (Act 85 of 1993): A current, up to date copy of the OHS Act and Construction Regulations are to be available on site at all times;
- The Client’s Health and Safety Specification;
- Compensation for Occupational Injuries and Diseases Act (Act 130 of 1993): The principal contractor shall submit to **the Client and Health and Safety Agent**, proof of registration as an employer with the Department of Employment and Labour as well as a valid letter of good standing from the Compensation Commissioner or a licenced compensation insurer as contemplated in the COID Act (Act 130 of 1993);
- The principal contractor shall ensure that every sub-contractor appointed on the project complies with the Compensation for Occupational Injuries and Diseases Act (Act 130 of 1993), and can provide a valid letter of good standing from the Compensation Commissioner or a licence compensation insurer;
- All Contractors shall comply with the “Integration Labour Law Act” and regulations
- All Contractors shall comply with all relevant Municipal bylaws and National Building Regulations
- All Contractors shall comply with the Immigrations Act 2002, as amended, and shall further ensure that no foreign nationals are employed on the construction site without an original or certified valid work permit or asylum seekers permit.

### Structure and Responsibilities

#### Overall supervision and responsibility for H&S:

- The Principal Contractor is to ensure that any contractors appointed in terms of Construction Regulation 7(1)(c)(v), implement and maintain the agreed, approved H&S plan. **The Principal Contractor will take full responsibility for the health and safety of all contractors on the project. The Principal Contractor is to ensure that all health and safety legal documentation of all contractors is compliant with the OHS Act of 1993, Construction Regulations 2014 and the Client’s Health and Safety Specification. The Principal Contractor shall further ensure that all legal documentation of all contractors and direct contractors are maintained and kept up to date for the duration of the project.**
- The Chief Executive Officer of the Contractor, in terms of 16(1) of the Act, is to ensure that the Employer (as defined in the Act) complies with the Act. A Legal Compliance Audit shall be conducted by **the Clients appointed Health and Safety Agent** for this purpose.
- It is a requirement of **the Client**, that when he appoints a Contractor in terms of Construction Regulations 5(1)(k), he includes an OHS Act Section 37(2) agreement ‘Agreement with Mandatary’ in his agreement with such Contractors. In addition, in order to ensure that the correct structure and related responsibilities are addressed, all the required statutory appointments will be established.

#### H&S Specific Supervision Responsibilities:

Further specific supervision responsibilities for H&S: The Contractor shall appoint designated competent employees and/or other competent persons as required by the Act and Regulations. The following identified appointments may be used to select the appropriate appointments for the **CIPP project**.

It is to be noted that these appointments are based on the proposed scope of works at the time of drafting of this health and safety specification. Should the scope of work or activities on the project change at any given time, legal appointments together with competency requirements required for such change in scope or additional activities will be communicated to the contractor and such appointment must be implemented by the contractor with immediate effect.

Appointment	Ref. Section/Regulation in OHS Act
Construction Manager ( <b>To be on site full time</b> )	Construction Regulation 8(1)
Construction Manager (Alternate)	Construction Regulation 8(1)
Assistant Construction Manager	Construction Regulation 8(2)
Construction Supervisors	Construction Regulation 8(7)
Assistant Construction Supervisors	Construction Regulation 8(8)
Construction Vehicle and Mobile Plant Inspector	Construction Regulation 23(1)(k)
Construction Vehicle and Mobile Plant Operator	Construction Regulation 12(1)(d)
Emergency/Fire Coordinator	Construction Regulation 29
Fire Marshalls	Construction Regulation 29

Excavation Supervisor	Construction Regulation 13(1)(a)
Explosive Actuated Fastening Device Supervisor	Construction Regulation 21(2)(b)
Explosive Actuated Fastening Device Operator	Construction Regulation 21(1)(b)
Explosive Actuated Fastening Device Cartridge Controller	Construction Regulation 21(2)(g)
Fall Protection Plan Developer	Construction Regulations 10(1)(a)
Fall Protection Plan Supervisor	Construction Regulations 10(1)(b),(c)
Fall Rescue Team	Construction Regulations 10(2)(e)
First Aiders	General Safety Regulation 3(4)
Fire Equipment Inspector	Construction Regulation 29(h)
Hazardous Chemical Substances Supervisor	HCS Regulations
Incident Investigator	General Administrative Regulations 9(2)
Ladder Inspector (Designated)	General Safety Regulations 13A
Lifting Machine Operator	Driven Machinery Regulation 18(11)
Lifting Machine and Lifting Tackle Inspectors	Driven Machinery Regulation 18(5)
DEL Registered Electrician	Electrical Installation Regulation 6
Health and Safety Committee Chairman	OHS Act Section 19
Health and Safety Committee Members	OHS Act Section 19
Construction Health and Safety Officer	Construction Regulation 8(5)
<i>In terms of Construction Regulation 8(5), <b>The Client</b> requires the Principal Contractor to appoint a <b>full-time Construction Health and Safety Officer</b> in writing and provide the required proof of competency. Where required by the size of the project and the degree of danger likely to be encountered, or on the instruction of an Inspector of the Department of Employment and Labour, sub-contractors shall also be required to appoint a Health and Safety Officer. Any safety officer appointed on a part time or full-time basis is to be <b>registered with the SACPCMP</b> and provide a valid certificate of registration in compliance to the requirements of Construction Regulation 8(6).</i>	
Health and Safety Representatives	OHS Act Section 17(1)
<i>Where the Principal Contractor employs more than 20 persons (including the employees of sub-contractors) he shall appoint one H&amp;S Representative for every 50 employees or part thereof. OHS Act Sec. 17(2) and GAR 6, requires that the appointment OR election and subsequent designation of H&amp;S Representatives are executed in consultation with Employee Representatives or Employees. H&amp;S Representatives to be designated in writing and designation must include the area of responsibility of the appointee and term of the designation. Duties and functions of the H&amp;S Representatives shall be as contained in Section 18 of the OHS Act.</i>	
Pressure Equipment Supervisor	Pressure Equipment Regulations
Scaffolding Supervisor	Construction Regulation 16(1)
Scaffolding Inspector (Cannot be the Supervisor or Erector)	Construction Regulation 16(1)
Scaffolding Erectors	Construction Regulation 16(1)
Stacking and Storage Supervisor	Construction Regulation 28(a)
Structures Supervisor	Construction Regulation 11(2)(a)
Suspended Platform Supervisor	Construction Regulation 17(1)
Temporary Electrical Installation Controller <b>(To be on site full time)</b>	Construction Regulation 24(c)
Temporary Electrical Installation Inspector	Construction Regulation 24(d)
Temporary Works Designer	Construction Regulation 12(1)
Temporary Works Supervisor	Construction Regulation 12(2)
Temporary Works Pre-Pour Inspector <b>(Minimum competency: Structural Technician)</b>	Construction Regulations 12(3)(g)
Temporary Works Inspector	Construction Regulation 12(3)(f)
Welding Supervisor	General Safety Regulation 9

#### Appointment of Responsible Persons:

The appointments and designations must be in writing and the responsibilities clearly stated, together with the period for which the appointment is made. This information must be communicated to and accepted by the appointees.

Copies of appointments together with detailed CV's and where applicable and certificated proof of competency or training must be maintained in the contractor's health and safety file and any changes in appointees or appointments are to be amended immediately.

Where an appointee designated a legal appointment leaves the employ of the contractor, or the appointee is substituted, the appointment shall be cancelled in writing - indicating the date of cancellation, signed by the appointer and the appointee and kept on record for inclusion in the consolidated health and safety file to be provided to the Client at the end of the project.

On cancellation of any appointment in the circumstances mentioned above, the contractor is to ensure that an alternate competent person has been identified and is appointed on the same date as the cancellation of any previous appointment. Any person so appointed is to provide the required competency as defined below.

#### **Management of Sub-Contractors:**

When appointing any sub-contractor, the principal contractor shall ensure that they comply with all the requirements of Construction Regulation 7: Duties of principal contractor and contractor.

The Contractor shall, furthermore, as outlined in Construction Regulation 7(1)(f) provide a register, with the scope of work and contact details of responsible persons, of all Contractors that he/she has appointed or intends to appoint and keep this register updated on a weekly basis. Such register shall be submitted to the Clients appointed Health and Safety Agent on a monthly basis.

Prior to any appointed sub-contractor commencing activities on the project, the principal contractor shall furnish such contractor with a copy of the relevant sections of the client's health and safety specification in order for the sub-contractor to compile a project specific health and safety plan for assessment and approval by the principal contractor. The principal contractor's Safety Manager or Safety Officer shall assess and approve in writing each health and safety plan for implementation and monitor compliance to the approved plan on an ongoing basis.

No sub-contractor shall be allowed to commence with construction activities without a valid letter of good standing from the Compensation Commissioner or FEM. The validity of letters of good standing is to be verified by the principal contractor on a monthly basis.

The principal contractor shall conduct a site audit and document verification audit on each sub-contractor's activities and health and safety file at least once a month. These audits are to be based on legal requirements and quantified, and records of such audits to be available for inspection.

The principal contractor is to monitor the availability, use and condition of PPE issued by sub-contractors to their employees, and where any sub-contractor is unable to provide its employees with the correct suitable and sufficient PPE, the principal contractor shall make provision for an agreement with each sub-contractor in respect of the issuing of PPE to sub-contractor employees on their behalf.

#### **Appointment of H&S Committee:**

The Principal Contractor, with his sub-contractors must establish a Health and Safety Committee consisting of all the designated H&S Representatives together with a number of management representatives whose number shall not exceed the number of H&S Representatives on the committee. The members of the H&S Committee must be appointed in writing.

The H&S Committee must meet a minimum of once per month and consider, at least, the following Agenda:

- Opening and Welcome
- Present / Apologies / Absent
- Minutes of previous meeting
- Matters arising from previous minutes
- H&S Representative reports
- Incidents reports and investigations
- Incident/injury statistics
- Other matters
- Close / Next Meeting

#### **Assessment of Competency:**

The Client must be reasonably satisfied that the Principal Contractor it intends to appoint has the necessary competency and resources to safely conduct the work they will be appointed for and likewise the Principal Contractor must be reasonably satisfied that the sub-contractors he intends to appoint have the necessary competencies and resources to safely conduct the work they will be appointed for.

In order to ensure this, the Principal Contractor shall demonstrate to **the Client** that he/she and his/her sub-contractors have a suitable and sufficiently documented H&S Plan and shall submit the following documentation for perusal and verification by **the Client** and **Health and Safety Agent**.

- Site and activity specific Health and Safety Plan
- Management structure (organogram)
- Valid registration certificate with the Compensation Commissioner or FEM
- Proof of management training on the Occupational Health & Safety Act and other related training for Construction Managers and Supervisors
- Any previous convictions under the OHS Act
- The Company's previous two years injury claims as reported to your Workmen's Compensation Insurer
- The Company's approach to co-ordination of on-site health and safety (safety officer, safety consultant etc.)

#### **Administrative Controls and the Health and Safety File (CR7(1))**

As required by Construction Regulation 7(1)(b), the Principal Contractor and each sub-contractor appointed by him on the project, will open and maintain a Health and Safety File on site containing the records of information on aspects of the project, required legal documentation as outlined in the OHS Act and Regulations and all relevant appointments, registers and checklists as contained in the attached Health and Safety Audit and Document Verification template (Annexure A).

The health and safety file is to be structured according to the attached Health and Safety Audit and Document Verification template (Annexure A), to facilitate the monthly audit of the health and safety file as required by Construction Regulation 5(1)(o).

The Principal Contractor's health and safety file shall further also include a list of all contractors on site that are accountable to Principal Contractor and the agreements between the parties and details of work being done.

The Clients appointed Health and Safety Agent may conduct an audit on the health and safety file of the Contractors prior to appointment by the Client, as deemed necessary and by routine monthly audits. The results of these audit inspections will be communicated to the Client and Principal Contractor with recommendations and corrective action requirements where applicable. Upon receipt of the audit results, the contractor will be required to submit an action plan to address the outstanding issues and to communicate such plan in writing, detailing the measures to be taken and the time frame in which this will be achieved. The principal contractor shall inform the Clients appointed Health and Safety Agent of all contractors that will start construction work including principal contractor's start date on the **CIPP Project** at least one week in advance.

***NB: Any serious non-compliance must be dealt with immediately. In the event of a serious or life-threatening non-compliance to legal requirements, work activities may be curtailed until such time as the non-compliance has been adequately addressed. This will be done after the Clients appointed Health and Safety Agent has consulted with The Client/Principal Agent and action will be implemented on their final decision.***

On completion of the project or on completion of the sub-contractors work during the cycle of the construction process, the complete health and safety file of each contractor must be surrendered to the principal contractor for consolidation into one master file. These records will then be archived by the Client for future reference purposes. (Refer to CR 7(1)(e)).

#### **H&S Goals and Objectives, Monitoring and Review of H&S Performance**

The Contractor will maintain and provide to **the Clients appointed Health and Safety Agent** fortnightly consolidated man-hours worked on the project, the number of incidents (Lost Time, First Aid Treatment and Medical Treatment) and time consumed with respect to Lost Time Injuries, including work stoppage, investigations and time lost by injured person/s. **It must be noted that any Lost Time Injury shall be communicated within 1 hour both verbally and in writing to the Clients appointed Health and Safety Agent and the Client/Principal Agent.**

#### **Notification of Construction Work**

The Principal Contractor shall, seven (7) days prior to commencing any work on site, notify the Department of Employment and Labour of the intention to carry out construction work and proof of such notification to be retained on site in the health and safety file. A copy of the Notification of Construction as well as proof of submission must be forwarded to **the Clients appointed Health and Safety Agent** for record keeping purposes. Annexure 2 in the Construction Regulations to be referenced for this purpose.

#### **Training, Awareness and Competence**

Taking into account the definition of competent person contained in the Construction Regulations, the Unit Standard number, where such US is registered, for all training required by the Act and Regulations will be the minimum required proof of competency and training and such unit standard numbers are to be included in the Health and Safety Plan.

The following training as required by the OHS Act and Regulations, as well as further best practice training, are to be implemented by the Principal Contractor on the **CIPP Project**.

##### **General Induction Training:**

All Principal Contractor Management, employees and sub-contractors, Consulting Team members and their visitors, all visitors and all employees of the Client who wish to gain entry onto site are to be in possession of proof of General Induction Training conducted by the Principal Contractor, indicated by means of visible, readily discernible confirmation of induction, such as identification tags or stickers indicating the principal contractor, name of the site and date of induction.

##### **Site Specific Induction Training:**

The Principal Contractor will be required to develop project and scope of work specific induction training, which shall be based on the risk assessments for the construction work and to provide such training for all employees and sub-contractors and their employees in this regard. As work progresses and risk accumulates, induction training must be reviewed and changed to keep it site specific. Any amendment to the site-specific induction training is to be communicated via toolbox talks to all employees inducted prior to such amendment.

##### **Other Training:**

All Appointees for legal appointments as required by the OHS Act and Regulations are to be in possession of proof of training and certified competent by an Accredited Training Provider and where a Unit Standard is registered against a legal appointment, that Unit Standard shall be deemed to be the minimum requirement. Where required, a valid medical certificate specific to the task performed as well as psychological assessment where relevant shall be kept on the health and safety file (required for operators and drivers of construction vehicles, mobile plant and other motorised equipment as well as for working at heights).

#### **Promoting Awareness:**

All Contractors are required to document and implement, awareness, incentive and reward scheme campaigns to foster a positive health and safety culture within the workforce. Sub-contractor employees are to be included in all incentive and reward schemes.

Promotion and awareness tools include but not limited to, Toolbox Talks, H&S Posters, Videos, Suggestion Schemes and Participative Activities.

Incentive and reward schemes can include for example:

- Competitions with a predetermined prize;
- A weekly prize for best compliance to health and safety requirements by an employee;
- Employee of the month prize for ongoing and consistent compliance to health and safety requirements;
- A monthly prize for consistent compliance to the use of PPE, etc.

Prizes do not need to be cost intensive, and may include inter alia, time off, weekly and monthly grocery voucher to a determined value, other gift vouchers etc.

#### **Competence:**

The Contractor shall ensure that all personnel appointed according the OHS Act and Regulations are competent and that all training required for executing the work safely and without risk to health, has been completed prior to the commencement of construction.

Competence will be assessed against the definition contained in the Construction Regulations:

Competent person means a person who –

- a. Has in respect of the work or task to be performed the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No. 67 of 2000), those qualifications and that training must be regarded as the required qualifications and training; and
- b. Is familiar with the Act and with the applicable regulations made under the Act.

Prior to providing any training required to meet competency requirements, the Contractor is to ensure that where an NQF registered qualification or training is required, that both the training service provider and the training/qualification are registered with SAQA under the appropriate SETA.

The Contractor shall ensure that follow-up and refresher training is conducted when required, as the contract and work progresses and the work environment or method of work changes. All proof of training required in terms of the OHS Act and Regulations are to be kept in the site H&S file for audit purposes.

All employees working at height (any work conducted above foundation level) must have attended training in Basic Working at Height, aligned to US229998, and be in possession of a certificate of training issued by a competent person. In addition, all employees working at height shall undergo a working at height medical to assess their suitability for safe working at height.

#### **Consultation, Communication and Liaison**

Site safety committee meetings will be held at least one a month, or as determined by the associated risks on site. This does not preclude the requirement that each contractor will implement and maintain its own safety meetings where applicable.

In addition to the above, communication may be directed to **the Client and Health and Safety Agent**, in writing, as and when the need arises.

Consultation with the workforce on H&S matters will be through their supervisors, H&S representatives, the H&S committee and their elected trade union representatives, if any.

The Construction Manager or his site Safety Officer will be responsible for the dissemination of all relevant H&S information to the other contractors, e.g. design changes agreed with **the Client** and the Designer, instruction by **the Client/Principal Agent/Health and Safety Agent**, the exchange of information between contractors and the reporting of hazardous and/or dangerous conditions or situations, etc. If so requested, the contractor is to provide documented evidence of such communication to employees and sub-contractors.

**A due diligence report must be completed (and retained on file for audit purposes) by the contractor every week for the duration of the project, after the Safety Officer has performed his/her own health and safety compliance site inspections.** These reports are to be referenced at each formal site safety committee meeting together with the site inspection and audit reports issued by the Clients appointed Health and Safety Agent.

Each Supervisor is to conduct a Daily Safe Task Instruction (DSTI) talk with his team prior to work commencing, relevant to the area of work and tasks to be performed. The risk assessment/s relevant to the daily activities to be executed is to be communicated during the DSTI. The DSTI is to be documented, signed by the Supervisor and each attendee, and a copy retained in the health and safety file.

In addition, the Contractors will be required to conduct Toolbox Talks with their employees on a weekly basis as a minimum and records of such kept on the H&S file. Employees must acknowledge the attendance of Toolbox Talks; which record must likewise be kept on the H&S file.

The Contract Manager or suitable designate of each appointed contractor is required to attend all site H&S meetings.

### **Audits, Inspections and Reporting of Corrective Actions**

**Monthly audit by Client:** The Clients appointed Health and Safety Agent will conduct a monthly health and safety audit and document verification to comply with the requirements of Construction Regulation 5(1)(o), to ensure that the Contractor has implemented and is maintaining the agreed and approved Health and Safety Plan. Written proof of rectification in instances of non-compliance is to be issued to the Clients appointed Health and Safety Agent within **3 calendar days** of receiving the audit report.

**Site Inspections:** The Client has mandated the appointed Health and Safety Agent to conduct site inspections on the **CIPP Project** on a **weekly** basis. A representative of the Contractor must accompany **the Health and Safety Agent** on all Audits and Inspections and may conduct his/her own audit inspection at the same time. Each party will, however, take responsibility for the result of his/her own audit inspection results.

The contractor shall provide to the Clients appointed Health and Safety Agent a close-out report for all prohibitions and contraventions noted during each site inspection, within **1 day of the site inspection**. The Safety Officer is to keep written notes and records during the site inspection to facilitate submission of the close-out report, and not wait to receive the formal written report which is generated for the Client.

**Other Required Audits and Inspections:** Where the Principal Contractor as appointed in terms of Construction Regulation 5(1)(k) elects to appoint a contractor/sub-contractor in terms of Construction Regulation 7(1)(c)(v), the Principal Contractor shall conduct monthly health and safety audits and document verification of the sub-contractor's health and safety system and health and safety file as required by Construction Regulation 7(1)(c)(vii) and the Client or Health and Safety Agent reserves the right to conduct detailed verification audits and inspections to verify their compliance to the approved Health and Safety Plan, OHS Act and regulations.

**Contractor's Audits and Inspections:** The Contractor is to conduct his/her own monthly internal audits to verify compliance with his/her own H&S Management system as well as with this specification, and is further required to conduct monthly audits of each of his sub-contractors to verify compliance with their Health and Safety Plans as well as with this specification and retain documented proof thereof.

**Inspections by H&S Representatives and other Appointees:** The Principal Contractor's H&S Representatives are to conduct **weekly** inspections of their areas of responsibility and report thereon to their foreman or supervisor whilst other appointees must conduct inspections and report thereon as specified in their appointments.

**Recording and Review of Inspection Results:** Individual Contractors shall be responsible to ensure that all the results of abovementioned inspections are recorded in writing, reviewed at H&S meetings, endorsed by the chairman of the meeting and placed on the H&S file.

### **Accident and Incident Recording, Reporting and Investigation:**

**Accident and Incident Recording:** The Principal Contractor shall open and maintain an Accident and Incident Register for the duration of the project, which register shall record all accidents and incidents resulting in lost time injuries, injuries requiring medical treatment and injuries requiring first aid treatment.

This register shall be structured to identify accident and incident trends by recording the type and location of injury and the cause of injury.

**Accident and Incident Reporting:** Referencing Section 24 of the OHS Act and General Administrative Regulation 8, the contractor must report all incidents where an employee is injured on duty to the extent that he/she:

- Dies
- Becomes unconscious
- Loses a limb or part of a limb
- Is injured or becomes ill to such a degree that he/she is likely either to die or to suffer a permanent physical defect or likely to be unable for a period of at least 14 days either to work or continue with the activity for which he/she is employed
- OR WHERE
- A major incident occurred
- The health and 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 object
- Machinery ran out of control

Where any of the abovementioned reportable incidents has occurred, the Contractor shall report to **the Client, Health and Safety Agent** and the Provincial Director of the Department of Employment and Labour immediately by telephone, fax or email.

The Contractor is required to provide **the Client** and **appointed Health and Safety Agent** with copies of all statutory reports required in terms of the OHS Act within 7 days of the incident occurring.

The Contractor is required to provide **the Client** and **appointed Health and Safety Agent** with copies of ALL internal and external accident/incident investigation reports including the reports contemplated above and below, within 7 days of the incident occurring.

**Accident and Incident Investigation:** Referencing General Administrative Regulation 9, the Contractor is responsible for the investigation of all accidents/incidents where employees and non-employees are injured to the extent that they have to be referred for medical treatment by a doctor, hospital or clinic. Results of such investigations are to be entered into the Accident/Incident register mentioned above.

The contractor is responsible for the investigation of all major and non-injury incidents as described in Section 24(1)(b),(c) of the OHS Act and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

The Contractor in conjunction with the Site Manager is responsible for the investigation of all construction related road traffic accidents and keeping a record of the results of such investigations including the steps taken to prevent similar accidents in future.

**The Client** and **appointed Health and Safety Agent** reserve the right to hold its own investigation into any incident or to call for an independent external investigation as deemed necessary. All minor incidents and accidents are to be reported on a weekly basis to **the Clients appointed Health and Safety Agent**.

### Duty to Inform

Referencing Section 13 of the OHS Act and General Administrative Regulation 8, without derogating from any specific duty imposed on an employer by this Act, every employer (contractor) shall:

- as far as reasonability practicable, cause every employee to be made conversant with the hazards to his health and safety attached to any work which he has to perform, any article or substance which he has to produce, process, use, handle, store or transport and any plant or machinery which he is required or permitted to use, as well as with the precautionary measures which should be taken and observed with respect to those hazards;
- inform the health and safety representative concerned beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector, and of any application for exemption made by him in terms of section 40; and
- inform a health and safety representative as soon as reasonably practicable of the occurrence of an incident in the workplace or section of the workplace for which such representative has been designated.

## OPERATIONAL CONTROL

Where any Section of the OHS Act or Regulations requires an appointment in writing of a competent person, with proof of competency, the definition of competency as contained in the Construction Regulations will take precedence in determining the requirements for competency.

### Emergency Preparedness, Contingency Planning and Response:

The Principal Contractor must develop a site Emergency Evacuation Procedure, accompanied by a Site Plan detailing the appropriate appointments for the firefighting team, bulk first aid and the emergency coordination team. In addition to which, emergency escape routes throughout the site and emergency assembly points are to be identified and depicted by the use of appropriate symbolic signage. The Emergency Evacuation Plan must be assessed for suitability by **the Clients appointed Health and Safety Agent** in consultation with the Principal Contractor. Should the early warning fire alarm system not be integrated, each zone/area must by definition be accommodated in the site evacuation plan. (Refer to Environmental Regulation 9 and Construction Regulation 29).

The emergency evacuation procedure is to include a schematic drawing of the site, indicating emergency escape routes, assembly points, location of fire extinguishers and location of first aid boxes. Such schematic is to be updated on a **weekly** basis as works progress and the layout of the site changes. Schematic drawings to be displayed on notice boards and in active working areas.

The Construction Manager shall conduct regular **emergency identification inspections** and establish what emergencies could possibly develop. He/she must then develop a detailed contingency plan and emergency procedure for combustible liquid/vapour, friction of hand tools and portable electrical tools that can cause an explosion, transporting of chemicals, acute and chronic inhalation of fumes/vapour by employees, severe skin irritations, contact with eyes, ingestion of chemicals and pre-existing skin and respiratory conditions of employees.

The Contractor shall hold **quarterly** practice drills of the contingency plans and emergency procedures to test their efficiency and to familiarise employees with them. Records of such drills must be kept in writing on the H&S file.

The Principal Contractor and each sub-contractor shall appoint a competent person to act as their Emergency Controller/Coordinator, supported by an appointed team of first aiders and fire marshals in suitable numbers.

A contact list of all **emergency service providers** (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and readily available to site personnel. Emergency contact lists are to be prominently displayed in the site office laydown area. An emergency situation, which is likely to require outside emergency assistance, may attract mass circulation, written media or electronic media attention and be harmful to **the Client's** reputation. No person may comment on any incidents on site without prior approval from **the Client**.

### First Aid (GSR 3):

The Contractor must provide First Aid equipment and if necessary, a stretcher and a suitably qualified First Aider/s for the level of risk associated with the project, as required by General Safety Regulation 3 of the OHS Act. The level of first aider training required may be amended by the Client/Health and Safety Agent as deemed necessary based on the level of risk and potential injuries.

Where specialised first aid treatment and equipment may be required for work in confined spaces, use of chemicals, falls from height etc., the contractor shall ensure that first aiders are trained at the appropriate level and such specialised equipment is available on site.

The Contingency Plan of the Contractor must include the arrangements for speedily and promptly transporting injured/ill person/s to a medical facility or of securing emergency medical aid to person/s that may require it.

All contractors on site shall wherever possible assist other contractor's injured employees as the need arises.

#### **Security and Access Control (GSR2C):**

Referencing General Safety Regulation 2C and Construction Regulation 27, the Principal Contractor or Site Manager will develop and establish an Access Management Plan outlining the procedures to be taken to prevent unauthorised access to site and site access rules, and shall further ensure that the access management plan is effectively implemented and maintained throughout the construction period.

The active working areas shall be adequately protected on all sides to prevent unauthorised access to the construction activities. The site office and laydown area shall be adequately hoarded with a controlled access point and any additional gates where no access control measures are in place are to be kept locked at all times.

In the event that a portion of the hoarding is temporarily removed or an access gate is unlocked for temporary access, for whatever reason, the Contractor shall ensure that suitable access control is maintained at such opening by deploying security/authorised personnel, pending the closure/locking of such temporary access area. The hoarding shall be maintained and kept in good condition for the duration of the project.

The access management plan is to make provision for visitors and non-employees to report at the site office prior to accessing the construction site. No visitors or non-employees will be allowed on site unaccompanied and without good reason and provision shall be made for the induction of visitors to the site.

The contractor is to employ a security company for the duration of the project. The Principal Contractor, Construction Manager and appointed security company shall develop a set of Site Security Rules and Procedures and maintain these throughout the construction period.

All required mandatory and information signage in respect of construction sites to be displayed at the site entrance. These include inter alia mandatory PPE requirements, current hazards on the site such as work overhead, deep excavations, open edges etc., site rules and other relevant signage.

#### **Alcohol and Other Drugs (GSR 2A):**

Referencing General Safety Regulation 2A, Contractors shall develop a Drug and Alcohol Policy and communicate such policy to their employees and sub-contractors, proof of such policy and communication to be retained in the health and safety file.

No alcohol and drugs will be allowed on site. No person may be under the influence of alcohol or any drug or have in his/her possession any alcohol or drug while on the construction site. Any person appearing to be under the influence of alcohol, or any drug shall not be permitted to remain on site or be granted entry onto the 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 requiring medication 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 shall be removed from site and sent home immediately.

#### **Personal Protective Equipment (PPE) (GSR 2):**

The Contractor is required to identify the hazards in the workplace and deal with them appropriately. He must either eliminate hazards or, where elimination is not practicable, take steps to protect workers and make it possible for them to work safely and without risk to health and safety under the hazardous conditions.

Personal Protective equipment (PPE) should, however, be **the last resort** and there should always first be an attempt to apply engineering and other solutions to mitigate hazardous situations before the issuing of PPE is considered.

Where it is not possible to create an absolutely safe and healthy workplace the Contractor is required to inform employees regarding this matter and to issue, free of charge, suitable PPE to protect them from any hazards.

Where the risk assessment for any task indicates the need for specialised personal protective equipment, such as shock absorbing gloves when working with vibrating machinery and equipment or noise attenuating ear muffs when noise levels exceed the OEL for example, the contractor shall provide such required specialised PPE to be issued together with the equipment and returned for cleaning, sanitising and correct storage on completion of task.

It is a further requirement that the Contractor maintain this PPE and that he instructs and trains the employees in the correct use and maintenance of the PPE as required in GSR 2(5). PPE shall be fit for purpose at all times and provide the required and intended protection.

No person, including management, the Client, client employees and members of the professional team, shall be permitted to work on the site if the correct PPE is not used. The Contractor shall ensure that the prescribed, required and correct PPE is used by the employees and all other persons as per GSR 2(6) at all times.

The contractor shall keep on site a supply of hard hats, high visibility vests, safety glasses and hearing protection for use by visitors to site who may not have the required PPE. **Under no circumstances shall any visitor to site or member of the professional team be allowed onto site without steel toed safety shoes**, however, it is not incumbent on the contractor to provide safety shoes to site visitors.

Employees shall comply to OHS Act Section 14(b) and (c) and do not have the right to refuse to utilise or wear the personal protective equipment prescribed by the employer and, if it is not possible for an employee to use or wear any prescribed personal protective equipment correctly as intended, through health or any other reason, the employee may not be allowed to continue working under the hazardous condition/s for which the personal protective equipment was prescribed.

The Contractor may not charge any fee for personal protective equipment prescribed by him/her but may charge for personal protective equipment under the following conditions:

- Where the employee requests additional issue in excess of what is prescribed
- Where the employee has blatantly abused or neglected the personal protective equipment leading to early failure
- Where the employee has lost the personal protective equipment

All employees, visitors and non-employees shall, as a minimum, be required to wear the following PPE on any of **the Client's** construction sites:

- Protective overalls (employees only)
- Protective footwear
- Protective headwear
- Eye protection
- Hearing protection
- High visibility vests/jackets
- Fall arrest equipment when working in elevated positions
- Fall prevention equipment where fall arrest equipment is not practicable
- Respirators/Breathing apparatus
  
- Rescue tripod
  
- Gas monitor/detector
  
- Impermeable/water resistant overalls when exposed to raw sewage
- Rescue equipment consisting of a full body harness and rescue lanyard/rope secured at the surface when working in manholes

**Specialised PPE requirements:**

- Respirators and breathing equipment when working with HCS or when exposed to raw sewage
- Daily supply of organic filters for respirators
- Non-porous elbow length gloves
- Face shields compatible with respirator system used
- Impermeable/water resistant overalls when exposed to HCS and raw sewage
- Fall protection equipment when working in elevated positions or in a fall risk position, such fall prevention equipment being a full body harness and work positioning lanyard
- Rescue equipment consisting of a full body harness and rescue lanyard/rope secured at the surface when working in manholes

**Public Health and Safety (OHS Act Sec. 9):**

Referencing OHS Act Section 9, all Contractors will be responsible for ensuring that all non-employees, consulting team members and their visitors, all visitors and all **Client** employees who wish to gain entry onto site in addition to all non-employees working on this project and are affected by the construction work are made aware of the dangers likely to arise from said construction work as well as the precautionary measures to be observed to avoid or minimise those dangers.

Examples of non-employees are: Non-employees entering the site for whatever reason, the surrounding community, passers-by to the site (pedestrians and road users) and the general public.

Appropriate signage warning of construction related hazards must be posted in prominent positions in and around the construction site and all employees on site must be instructed to ensure that non-employees are protected at all times.

The construction site area shall be fenced as a minimum with a diamond mesh fence of at least 1.8 meters in height and covered with shade netting. The contractor will ensure that all access to the construction area is controlled and enforced.

All non-employees on **entering** the site must receive induction on the hazards and risks and the control measures to mitigate these and shall be accompanied to the site office by a person designated thereto.

Adequate dust suppression measures must be implemented to minimise the exposure of the surrounding community and general public to excessive levels of airborne dust.

All truck loads must be covered or adequately secured to prevent the fall of material onto public roads.

The traffic management plan referred to below is to be implemented and maintained in respect of ensuring the health and safety of public road users and pedestrians associated with the access and egress of site by construction vehicles and mobile plant.

Noise levels are to be managed during construction to minimise disturbance to neighbouring properties and the general public in proximity to the construction site.

#### **Fall Protection (CR 10(2),(3),(4)(a),(b),(c)(i);GSR 5 & GSR 7):**

Referencing Construction Regulation 10(2); 13 and General Safety Regulation 5 & 7, a pre-emptive Risk Assessment and Fall Protection Plan will be required for any work to be carried out below or above two metres from the road level. The fall protection plan shall contain all the requirements of Construction Regulation 10(2) and in addition a procedure addressing the review of the fall protection plan and a documented disciplinary process for non-compliance to the fall protection plan.

As far as is practicable, any person working in proximity to an opening in the ground, such as manholes is at least as safe as if he/she is working at ground level and whilst working in this position be wearing and using a **work positioning system** that will be worn to prevent the person falling into the manhole or opening.

This safety harness will be, as far as is possible, secured to a point away from the edge over which the person might fall and the double lanyard must be of such a length that the person will not be able to move over the edge. Where work is conducted in close proximity to edges, work positioning belts/lanyards shall be utilised to prevent persons from falling.

In addition, any platform or surface forming an edge over which a person may fall must be fitted with guard rails of adequate strength and stability to prevent the fall of persons.

**Medical certificates of fitness for all employees must be available on site. All medical certificates must be issued by a registered Occupational Health Practitioner.**

#### **Edge Protection and Barricading (CR 10):**

Referencing the requirements and provisions of Construction Regulation 10, the Principal Contractor must ensure that all exposed openings are guarded and demarcated at all times until permanent protection has been erected. All temporary guarding and edge protection shall be of sufficient, height, strength and stability to prevent the fall of persons.

The Contractor has the following options when contemplating the protection of openings and edges:

- A physical barrier at the edge of the opening, which must be of sufficient strength to support the weight of a person in the event of a fall (wire and/or orange netting will not be deemed sufficient fall prevention).
- SANS 10085-1 compliant
- A visual barrier in the form of orange webbing, at a distance of at least 1.5 metres from the actual edge of such slab or opening.

Regardless of the edge protection provided, any employee working in proximity to edges or openings shall attach a either a full body harness with double shock absorbing lanyard or work positioning lanyard as required, to a stable structure/rescue tripod, able to support the weight of the employee and any equipment he may be working with in the event of a fall.

Should none of the above be achieved, as a last resort, the Contractor must endeavour to gain exemption from Construction Regulation 10(4)(a), as contained in Section 40 of the OHS Act and obtainable in writing from the Department of Employment and Labour.

The Principal Contractor's fall protection plan must detail the following safety measures: Protection of manholes deeper than 1 metre and all other openings and areas where a person may fall from or fall into.

The Principal Contractor and contractors' fall protection plan must include the strategies for management and maintenance of manholes or openings.

#### **Structures (CR 11):**

The Contractor will ensure that in terms of Construction Regulation 11:

- That the structure on/in which works is to be performed has been inspected by a structural engineer declaring the structure to be safe for use for the intended 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, including excavations and blasting operations.

- No structure is overloaded to the extent where it becomes unsafe. If uncertainty arises then the structural engineer is to be consulted. During construction the structural engineer's maximum construction slab loading is to be complied with.
- 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-technical 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 intervals of the construction work in execution of the design of the relevant structure, to ensure compliance with the design and record the results of these inspections in writing. These records of inspections shall be maintained on the relevant site safety file.

#### **Temporary Works (CR 12):**

The Contractor shall carry out all construction and use of temporary works structures with stringent reference and compliance to the requirements of Construction Regulation 12.

All temporary works structures founded on public roadways and sidewalks, shall be protected by concrete jersey barriers - secured against movement, of suitable height and set at a distance adequate to prevent impact to any part of the temporary works structure in the event of a collision by any type of private, commercial or construction vehicle.

In addition, all temporary works structures founded on and spanning public roadways are to be designed with a minimum vertical safety factor of 5.

In order to ensure compliance to the requirements of CR12, the Contractor shall **have a separate file available for audit** that contains the requirements of CR 12, specifically as outlined below:

#### **CR 12(1)**

A contractor must appoint a temporary works designer in writing to design, inspect and approve the erected temporary works on the site before use: Each contractor to appoint a competent temporary works designer (proof of competency to be available). In the event that the temporary works is contracted out to a sub-contractor, in addition to the 7(1)(c) sub-contractor appointments, the competent persons must be appointed as the Temporary Works designer by the Principal Contractor.

Such person appointed as the Temporary Works Designer, shall further be conversant with and comply with the requirements contained in CR 6 Duties of designer, section (2) outlining the duties of the temporary works designer, in respect of ensuring the integrity and safety of temporary works at all times.

#### **CR 12(3)(b); CR 6(2)(b)**

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;

#### **CR 12(3)(c); CR 6(2)(c)**

Detailed activity specific drawings and calculations 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, Health and Safety Agent or any employee: Temporary works design drawings and calculations to be kept and maintained (latest available drawings) in the temporary works file as mentioned above.

#### **CR 12(3)(f)**

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. Competent temporary works inspector (proof of competency to be available) to be appointed. Inspection checklist to be compiled and maintained, allowing for inspections as per the required schedule contained in above sub-regulation. In addition, proof to be available of demarcation & isolation of the area below concrete pour as well as spotters in safe, strategic positions during concrete pour, below the pour area to monitor integrity of temporary works during pouring operations.

#### **CR 12(3)(g)**

No person may cast concrete, until authorization in writing has been given by the competent person contemplated in paragraph (a); CR 12(3)(a) refers: 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; Competent person to be appointed and written permission to be documented and filed prior to the casting of concrete. The minimum competency requirement for final inspection and authorisation for casting of concrete shall be a Structural Technician.

#### **CR 12(3)(n)**

*A temporary works drawing, or any other relevant document includes construction sequences and method statements:* Temporary works drawings to be available for all sections of temporary works, including construction sequence and method statement for erecting, supporting and bracing temporary works structure.

### CR 12(3)(q)

*The temporary works drawings are approved by the temporary works designer before the erection of any temporary works: All temporary works drawings as contemplated in CR 12(3)(n) are to be available and signed off by the appointed temporary works designer prior to any construction of temporary works begins.*

### Excavations (CR 13):

All excavation operations shall be conducted with close reference and compliance to Construction Regulation 13 and the recommendations contained in the geotechnical report as issued. Where excavations will exceed 1m in depth, the Contractor will be required to submit a Method Statement and Risk Assessment to **the Client** and **appointed Health and Safety Agent** for assessment prior to commencing with excavations, and **the Client/Client's Principal Agent** will issue a permit to proceed once the Risk Assessment and Method Statement are verified as suitable and sufficient.

- Every excavation must be provided with a safe means of access and egress that must be within 6 metres of any worker within the excavation and extend a minimum of 900mm above the ground.
- Warning signage to that effect is to be prominently displayed next to any excavations **within which or where persons are working or carrying out inspections or tests**. Where such excavations in which persons are working are in proximity to construction vehicle and mobile plant thoroughfares, demarcation shall be placed **at least 1.5 m** away from the edges of such excavation to ensure that no vehicle or plant moves near the edge of such excavation and may cause its collapse.
- The location and nature of any existing services such as water, electricity, gas etc. must be established before any excavation is commenced with, and any service that may be affected by the excavation must be protected and made safe before workers enter the excavation.
- Where excavations are done in close proximity to any existing structure where the foundations of buildings will be exposed, the Contractor shall ensure that the stability of the structures is not affected, by installing adequate support measures to the structures and sufficient shoring or bracing of such excavations.
- The contractor shall ensure that no load, material, plant or equipment is placed or moved near the edge of any excavation where it may cause its collapse and endanger the safety of persons. Where excavations are in proximity to construction vehicle roadways, the contractor shall make provision for the erecting of barricading at a distance from the edge of the excavation that will ensure the stability of such excavations is not compromised, but not less than 1.5m from the edge.
- Taking into account soil conditions on the site as contained in the geotechnical report, all excavations deeper than 1.3 metres shall require dewatering during the rainy season and an upslope temporary berm will be required during construction to ensure surface runoff is diverted away from excavations to ensure safe working conditions.
- As far as is reasonably practicable, excavated material is to be placed at a distance equal to the depth of the excavation away from the edges of the excavation. Where this is not possible, the contractor is required to ensure sufficient shoring or bracing of such excavations.
- Every excavation including the shoring and bracing or any other method to prevent collapse must be inspected by the appointed competent person as follows:
  - **Daily before work commences** and before every shift
  - After every blasting operation
  - After an unexpected collapse of the excavation
  - After substantial damage to any supports or after rain, high winds or any other adverse weather condition.
- The results of all inspections must be recorded in a register kept on site.
- Upon entering any excavation deeper than 1.5m the precautionary measures contained in General Safety Regulation 5 – Work in confined spaces must be observed and complied with at all times.
- Procedures for co-ordination of construction related infrastructure on new projects and other projects under construction, as well as existing infrastructure must be implemented, safeguarding the integrity of existing and completed infrastructure, to ensure such infrastructure is not compromised by excavations for the **CIPP Project**.
- No excavations may take place in proximity to completed structures, structures under construction and the base of tower cranes without the written approval of the Principal Agent, structural engineer and civil engineer. Such excavations may only be undertaken after the precautionary and protective measures required by the structural engineer to safeguard any structure or tower crane base have been installed, inspected and signed off by the Construction Manager. The Clients appointed Health and Safety Agent is to be provided with the structural engineer's report, contractors task specific method statement, risk assessment and safe work procedure for assessment prior to commencement of excavation in proximity to structures and tower crane bases.

### Demolition Work (CR 14):

All demolition work shall be done with close reference to the requirements of Construction Regulation 14 and all necessary precautionary measures as outlined in CR 14 to safeguard persons from controlled and uncontrolled collapse of the structure and fall of material from demolition and/or disposal of material shall be stringently applied.

A detailed structural engineering survey of the structure to be demolished shall be carried out and a method statement for the procedure to be followed for the demolition of the structure or part thereof, to be developed by a competent person, prior to any demolition work commencing.

The procedure to include the identification of utilities, services and hazardous materials, and risks to surrounding structures. Detailed mitigation, safeguarding or securing methods to be addressed.

Procedure to be developed and implemented for the control and reduction of dust release using engineering controls and watering methods.

Shoring, bracing, propping and underpinning temporary works design to be developed by a Professional Engineer experienced in temporary works design for load bearing structures or components. Adjoining structures and buildings to be supported based on structural engineer's design and calculations.

The contractor may have to implement vibration monitoring and measuring where vibration levels may exceed the allowable limits, as required.

The provision and implementation of exclusions zones and walkways to safeguard persons below.

A detailed Risk Assessment shall be compiled from the Method Statement and reviewed by **the Clients appointed Health and Safety Agent, prior** to the commencement of any demolition work.

Demolition work shall only be carried out under the constant supervision of a competent person who has been appointed in writing.

As the demolition progresses, the integrity of the structure shall be checked at intervals as determined in the method statement, by the appointed competent person, in order to prevent any premature and/or unplanned collapse.

Steps shall be taken to ensure that where a structure is being demolished, no floor, roof or any other part of the structure is overloaded with debris or material that would make it unsafe. It is a prerequisite that the floor and roof load bearing capacity be established prior to any storage or accumulation of tools and equipment, building rubble and materials. **The established load capacity may under no circumstances be exceeded.**

### **Cranes and Lifting Operations (CR 22 & DMR 18):**

Referencing Construction Regulation 22, Construction Regulation 27, Driven Machinery Regulation 18 and SANS 12480-1, cranes and lifting equipment must be designed and constructed in accordance with generally accepted technical standards and operated, used, inspected and maintained in accordance with the requirements of the Driven Machinery Regulation. All persons conducting legislated safety inspections on lifting machinery and lifting tackle must be registered as an LMI with a registered LME.

The requirements of Construction Regulation 22 and Driven Machinery Regulation 18 are to be stringently applied and maintained in respect of all tower cranes, mobile cranes, lifting tackle and lifting operations. SANS 12480 shall further be applicable for the installation and use of tower cranes.

Prior to the establishment of the base area of a tower crane, the soil conditions for the base area must be signed off by a registered professional engineer. Prior to use, a full inspection by an independent LMI shall be conducted after erection of a tower crane and documented proof of such inspection kept in the site safety file.

The Structural Engineer/Designer must take into consideration the design requirements of the manufacturer when designing the tower crane base and consider the soil conditions when determining the tower crane placement.

Method Statement and Risk Assessment must include the compaction requirement of the base area as determined by the Structural Engineer/Designer, and confirmation of compaction attained must be provided in writing and retained in the safety file.

No excavations are to take place in proximity to the crane base, stormwater must be channelled away from the foundation to prevent undercutting causing unstable soil conditions and potential falling of the crane.

The tower crane slewing radius must be plotted on a scale drawing to establish if there are any conflicts in the slew arc. Control measures to be implemented where crane jibs and slew arcs intersect one another to prevent collisions or load interference.

In addition to the required legal appointment of operators, supervisors and inspectors in respect of cranes and lifting machines, appointments shall also be made for Slings and Banksmen/Signallers, with the required proof of competency and experience.

Furthermore, all training providers in respect of operators of lifting machines and cranes are required to be accredited by the Transport Seta as contained in notice R.910 of 2015 (G.G. 39252 of 02/10/2015). Proof of such accreditation by the Transport Seta is to be attached to any certification issued by such training provider.

Evacuation procedures, risk assessments, safe working procedures and lifting plans are to be developed in respect of tower cranes and communicated to all relevant persons involved in the operation of tower cranes. Documented proof of such communication is to be kept in the site safety file.

Documented proof of tower crane services and maintenance are required. The last major service record is to be present in the safety file, and services should be conducted annually or every 1,000 hours, whichever occurs first. The tower crane operating logbook and all other legal documentation is to be available for inspection and audit.

The Principal Contractor shall be responsible for ensuring that the necessary inspections and performance tests by a competent registered LMI of a registered LME as outlined in the Driven Machinery Regulations for tower cranes and lifting equipment are conducted, and documented proof of such inspections and performance tests retained in the health and safety file.

- DMR 18(5): **Annual** inspection and performance test of the whole installation and all working parts;

- DMR 18(6): Ropes, chains, hooks or other attaching devices, sheaves, brakes and safety devices at intervals not exceeding **six (6) months**;
- DMR 18(10)(e): Lifting tackle at intervals not exceeding **three (3) months**.

All lifting operations are to have a clearly defined and demarcated safe operating area below the lifting area, with warning signage strategically placed and watchers/spotters shall be deployed to prevent unauthorised access to the lifting area.

Where the lifting arc shall cause loads to be moved above public roadways and pedestrian walkways and thoroughfares, such areas shall have barricading erected to prevent persons from passing below suspended loads. Where barricading is not practicable, the Principal Contractor shall provide dedicated enclosed safe walkways, constructed in such a way and utilising material able to adequately protect pedestrians from any potential falling load.

As per the requirements of SANS 12480-1, guide ropes or steady lines shall be fitted to the slings of tower cranes and lifting equipment to eliminate manual handling of suspended loads.

Worn and damaged steel wire ropes, slings and lifting tackle must be discarded (*not used any further for lifting purposes, regardless of the load*) when excessive wear and corrosion is evident. Furthermore, under normal operating conditions the ropes must be examined by a competent person every three months for this purpose and the results recorded.

### **Construction Vehicles and Mobile Plant (CR 23):**

Construction vehicles and mobile plant may be inspected by **the Client or Health and Safety Agent** prior to being allowed on the project site and suppliers of hired vehicles, plant and equipment will be required to comply with this specification as well as the OHS Act and Regulations.

The Contractor shall develop and implement a site-specific traffic management plan and procedure, accompanied by a schematic site plan to comply to the requirements of CR23(1)(f) and CR23(2)(b). Such traffic management plan is to include the procedure and signalling arrangements for construction vehicles and mobile plant accessing into and egressing from the site onto public roadways, as well as the management and control of movement of construction vehicles and mobile plant on the site.

In addition to the above, the traffic management plan shall include the procedure and arrangements for safeguarding the public from stationary construction vehicles on public roads, including mobile plant and supplier's vehicles.

A suitable number of signallers (traffic controllers) are to be appointed to ensure compliance to the traffic management plan and shall be adequately trained to ensure the safety of the public and construction personnel. Proof of such training is to be available in the site safety file.

Traffic controllers to be positioned on either side of any access/egress areas of site to control oncoming traffic **from both directions** and issued with red flags for signalling. When visibility is poor, flags to be replaced with luminous batons.

Compliance to the requirements and provisions of Construction Regulation 23 shall be enforced by **the Clients appointed Health and Safety Agent** and the Contractor shall ensure that all construction vehicles on site are used and organised in accordance with CR 23 to ensure their continued safe operation.

Any construction vehicle left unattended at any time shall have stop blocks and the wheels chocked on either side and on both sides of the vehicle to prevent uncontrolled movement. Mobile plant are to have buckets or booms, or similar appendages completely lowered when not in use.

### **Electrical Installations and Machinery (CR 24 & EIR):**

The installation use and inspection of temporary electrical installations for the construction project shall be in strict accordance with Construction Regulation 24 and Electrical Installation Regulations.

The Contractor shall appoint in writing a Temporary Electrical Installation Controller, who shall keep all temporary DB's locked and under his control at all times. Main switches shall be accessible through a cut-out in the door of the housing cabinet. The temporary electrical controller shall be available on site at all times and may be the Storeman or a SHE Rep who are fully informed and conversant with the responsibility of the appointment.

The Contractor shall further appoint an electrician, registered with the Department of Employment and Labour to conduct weekly inspections as well as a monthly earth leakage tests of all temporary DB's, including any DB's in temporary containers and site offices.

A copy of the certificate of compliance for each temporary electrical installation shall be kept in a weatherproof sleeve on the inside of the door of the housing cabinet and a copy to be retained in the Contractor's site safety file.

### **Transport, Storage and Use of Hazardous Chemical Substances (HCS):**

The Contractor shall ensure that hazardous chemical substances including Resin are stored in strict compliance to the requirements and provisions of Construction Regulation 25, General Safety Regulation 4 and the Regulations for Hazardous Chemical Substances.

The use and storage of hazardous chemical substances shall be under the control of an appointed person, trained in the correct use and storage of hazardous substances and conversant with the necessary safety precautions to be taken to ensure the safety of persons at all times.

All employees before working with or exposed to resin on CIPP projects are to be subject to a medical, which must include the screening for existing lung, respiratory and skin conditions.

Employees with pre-existing skin and respiratory disorders should as far as reasonably practical not be exposed to Hazchem and not work with resin. If work with resins are unavoidable such employees are to be subject to medical screening on a regular basis and the contractor is to provide a medical screening procedure outlining persons who will receive medical screening and the frequency of such screening.

Any person exposed to contact with resin or resin vapours to receive a medical evaluation within 3 days of exposure.

All users of hazardous chemical substances shall receive the necessary information, training and personal protective equipment to be able to safely use and store hazardous chemical substances.

A hazardous chemical substance register and MSDS's (material safety data sheets) for each hazardous chemical substance used on site shall be implemented and maintained for the duration of the construction.

#### **Special precautions for Storage and handling of HCS:**

- Temperature to not exceed a maximum of 49 degrees when stored in vehicles or work area.
- Mechanical ventilation to be provided on all vehicles used for transporting and storing of chemicals.
- Resin to be stored in a cool dry place, tightly sealed containers and not in excessive heat for long periods of time.
- Never weight product in a closed storage room
- When working with product, do not eat, drink or smoke
- Persons working with the product exposed, not to inhale fumes or vapor. Respirators with organic cartridges to be used.
- Mechanical ventilation to be provided on all vehicles used for transporting and storing of chemicals.
- Special precautions to be taken to avoid static electricity build up. Grounding to be applied when decanting into another container.
- Special precautions to be taken to prevent shock of the product because of the product being highly explosive. Slip free rubber gloves to be provided for manual handling of containers to prevent accidental dropping.
- When transporting product, containers, tools and equipment are to be secured to prevent uncontrolled movement and the possibility of containers being struck/subjected to shock forces

#### **Use and Temporary Storage of Flammable Liquids (CR 25 & GSR 4):**

The contractor is to ensure that all flammable liquids are used and stored in strict compliance to Construction Regulation 25 and General Safety Regulation 4.

Flammable liquids stores are to be constructed/positioned away from general storage areas, containers and eating areas, and away from any combustible materials, including natural flora retained on the site.

In particular, it is a requirement of the Client that all flammable liquids left on site are stored in a flammable liquids store and the requirements of General Safety Regulation 4(10) in respect of flammable liquids stores are to be stringently followed and will be rigorously enforced by **the Clients appointed Health and Safety Agent**.

Where it is not practicable to construct a flammable liquids store with a bund adequate to contain 110% of the anticipated maximum volume of flammable liquids to be stored, excess flammable liquids are to be stored in a compliant off-site facility and brought to the site as and when required in quantities that will not exceed the flammable liquids store maximum volume.

No combustible material, gas cylinders or other pressure equipment such as compressors are to be stored inside or in proximity to the flammable liquid store.

A suitable number of fire extinguishers commensurate to the volume of the flammable liquids store are to be positioned so as to be easily accessible and a safe distance from a potential fire originating in the flammable liquids store. There is to be no risk to any fire marshal when accessing fire extinguishers for use in the event of a fire.

A register of flammable liquids together with material safety data sheets (MSDSs) for each type of flammable liquids which is stored on the site must be retained in the safety file. Any specialised first aid treatment or first aid equipment required for the treatment of exposure to flammable liquids is to be available in the first aid box and appointed first aiders informed and trained (where necessary) in the correct use of such treatment and/or equipment.

No flammable liquids and hazardous substances may be kept in general unventilated storage containers of the principal contractor or any sub-contractor. In the event that a sub-contractor is not able to provide a suitable flammable liquid store compliant with GSR 4(10), it shall be the responsibility of the principal contractor to make the necessary arrangements to provide such sub-contractor with a compliant flammable liquids store.

#### **Housekeeping and General Safeguarding (CR 27):**

The requirements of Construction Regulation 27 shall be implemented by Contractors on the site and maintained at all times.

Work and access areas and walkways shall be kept clear of materials and equipment for use at all times and scrap, waste and debris removed at appropriate intervals. Designated areas are to be demarcated for tools, equipment, scrap and waste in all active work areas, and the use of such designated areas enforced at all times.

The Contractor shall ensure that the construction site is adequately hoarded with controlled access points to prevent unauthorised access.

#### **Stacking and Storage (CR 28 & GSR 8):**

The Contractor shall ensure that the requirements of Construction Regulation 28 and General Safety Regulation 8 are implemented and maintained for all stacking operations for the duration of the construction.

The appointed stacking and storage supervisor will be required to conduct weekly inspections of the stacking area to ensure the continued safety of stacks and that stacking areas remain under control. The results of such inspections are to be documented and retained in the safety file.

Stacking and storage areas to be clearly defined and demarcated and kept under control so as not to encroach onto roadways and walkways.

Designated areas for stacking of different materials, waste and combustible materials to be identified. Materials to be segregated by type to eliminate double handling and such segregated areas to be maintained at all times. Walkways must be created for easy and safe access between materials and stacks.

Stacking area for bricks to be identified, levelled and compacted prior to the delivery of any bricks. Brick pallets are preferably to be stacked in single layers. In the event that space for stacking and storage is limited, brick pallets are not to be stacked more than two tiers high under any circumstances and the stability of such stacked tiers to be monitored and maintained.

The condition of pallets is to be closely monitored, and where pallets in poor condition compromise the stability of any brick stack, such stacks are to be immediately dismantled and restacked.

Where piping is stacked, adequate chocks are to be utilised at the base and between tiers to prevent the uncontrolled movement of pipes.

Stacks are to be dismantled from the top and employees are to be trained by all contractors in the correct and safe dismantling of stacks. Unstable or unsafe stacks are to be dismantled and re-stacked immediately.

#### **Fire Precautions (CR 29):**

While the most effective way in which to deal with fires is to prevent them from occurring as far as possible, fire prevention efforts are unfortunately not always effective, and fires do occur occasionally. It is essential to be prepared and ready to react quickly, efficiently and safely to deal with fires when they do occur. This state of readiness and preparedness is achieved through the installation and implementation of fire protection measures.

Fire protection consists of three steps and they are taken in the following sequence:

- Raise the fire alarm – notify the area/building/site of the fire and evacuate appropriately;
- Contain the fire – stop the fire from spreading to neighbouring areas/buildings/sites; and
- Extinguish the fire – as quickly and safely as possible.

There is however not a single solution for fire protection. There are a variety of different fires that could occur on the site due to the many different fire hazards that are normally present on a construction site. Similar fires can in some cases in fact be treated with the same fire protection measure(s), but this is not always the case.

Fire risks are to be evaluated by the Construction Manager to determine all types of fire that the Contractor could potentially have to deal with. The worst-case scenario for each fire risk is to be considered and the fire protection measures that would be required to quickly, effectively and safely deal with the fire must be identified and implemented.

The Principal Contractor and all other contractors shall implement and maintain the necessary precautions as defined in Construction Regulation 29 and determined through risk assessment and take all appropriate measures to avoid the risk of fire.

**All** employees on the site shall be trained on the correct use of fire extinguishers. This training is to be done by a competent person by means of a demonstration as part of the site induction, with follow-up toolbox talks conducted on a quarterly basis.

The Principal Contractor and all other contractors shall implement and maintain the necessary precautions as defined in Construction Regulation 29 and take all appropriate measures to avoid the risk of fire.

Contractor to use CO2 fire extinguishers only.

All employees on the site shall be trained on the correct use of CO2 fire extinguishers. Contractor to ensure adequate fire protection where flammable chemicals are stored.

The contractor is to enforce no smoking and open flames in areas where resin is being handled and stored.

The contractor is to make provision for special firefighting equipment by means of a self-contained breathing apparatus and full body personal protective equipment for fighting of chemical resin fires.

#### **Employee Welfare Facilities (CR 30):**

The Principal Contractor shall provide - construct where necessary - and maintain on the construction site, facilities as required by Construction Regulation 30 and the Facilities Regulations. Provision of the required facilities shall in addition to CR 30, take into account the legislative requirements for Covid-19 as contained in the Covid-19 Specification annexed hereto.

In the event that the Principal Contractor appoints other contractors as contained in CR 7(1)(c)(v), the principal contractor shall ensure that any contractor so appointed provides welfare facilities for his employees as contained in CR 30 and the Covid-19 regulations. In the event that such appointed contractor is unable to make provision for the required facilities, it shall be incumbent on the Principal Contractor to provide such facilities for the employees of his sub-contractors and number such employees with his own to maintain the ratios as specified in Construction Regulation 30.

Sanitary facilities are to be cleaned twice a day and free toilet paper as well as soap and hand washing facilities provided at the sanitary facilities. In the instance of hired chemical toilets, the supplier shall be mandated by the Contractor to service and thoroughly clean the toilets on a bi-weekly (twice a week) basis, regardless of the ratio. The maximum ratio of employees to sanitary facilities is 30:1 and separate facilities for each gender. During the summer months, this ratio should be reduced substantially, or the sanitary facilities serviced at least three (3) times per week.

Where required, separate facilities for changing, for each gender are to be provided. Facilities for safekeeping of personal belongings are to be provided for each person and no personal belongings are to be allowed on site. Such facilities provided are to keep personal belongings completely segregated.

Eating areas are to be constructed in such a manner that they provide shelter from sun, wind, rain and other inclement weather and shall be large enough for the maximum number of persons who may be on site during the peak of construction. Such eating areas shall be constructed considering the employees of sub-contractors in the event that a sub-contractor is unable to provide adequate facilities.

#### **Portable Electrical Tools and Equipment (EMR 10):**

Portable electrical tools and equipment includes every unit that draws electrical power and is moved around for use in the workplace i.e. drills, saws, grinders, portable lights, etc. and the Contractor shall comply with the requirements and provisions of Electrical Machinery Regulation 10 for the standards, maintenance and inspection of portable electrical tools and equipment.

In addition, electrical appliances such as fridges, hotplates, heaters, etc. must be inspected and maintained to the same standards as portable electrical tools and equipment.

Extension cords are deemed to be portable electrical equipment and must be inspected and maintained to the same standards as portable electrical tools. All extension cords and cords on electrical equipment are to be fully insulated and the earth wires connected at all times.

**Portable electric lights** when used as an additional source of light in work areas with inadequate natural light, shall be constructed, insulated, safeguarded and used in compliance to Electrical Machinery Regulation 11. 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 to ensure that all works contemplated can be conducted safely.

The Principal Contractor and any sub-contractor shall not undertake any night work without written permission from **the Client** or its Principal Agent. **The Clients appointed Health and Safety Agent** is to be notified in all instances when night work occurs. The principal contractor shall ensure that adequate lighting is provided for all night work and failure to do so shall result in the work being stopped.

#### **Hot Work (GSR 9):**

The Principal Contractor shall ensure that all employees and all contractors doing hot work, which includes steel cutting, grinding, welding, operating generators or other fuel driven equipment, shall do so in strict compliance to General Safety Regulation 9 and Construction Regulation 29(f). It is a requirement of **the Client** that a dedicated fire extinguisher is available at each hot work site, regardless of proximity to other hot works taking place.

Specific PPE for hot work shall be provided, including fire resistant overalls, leather chaps and/or aprons, leather gloves, face shields and adequate eye protection. Such PPE shall be regularly inspected, maintained and replaced when necessary. Use of PPE provided for hot work activities to be enforced as per the requirements of GSR 2(6).

#### **Ladders (GSR 13A):**

Referencing General Safety Regulation 13A, The Principal Contractor must ensure that all ladders are fit for purpose, compliant to the requirements as set out in the regulation, are noted on a register, are visually inspected daily prior to use, with monthly checklists maintained and kept up to date.

All extension ladders are to be maintained in good safe working order; the correct height for the task being performed; extend at least 900mm above the landing being accessed; fastened and secured against any movement and placed at a safe angle. The minimum angle for a ladder installed against any structure is 75°.

Stepladders are to be maintained in a good state of repair, safe for use, must be the correct height for the task and the top two rungs may not be used. All spreaders and locking devices provided for safety are to be in place, undamaged and maintained in good working order.

Records of inspections must be kept in a register on site. Contractors using their own ladders shall comply with the provisions of General Safety Regulation 13A.

### **Noise Induced Hearing Loss (NIHL Reg.):**

Referencing Noise Induced Hearing Loss Regulations published under GNR307, 7<sup>th</sup> March 2003, 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 NIHL regulation; and furthermore, provide proof of the relevant management process. The contractor is advised to pay particular attention to section 12 of the Noise Induced Hearing Loss Regulation.

Where any noise generating activity may exceed the OEL in respect of exposure to noise above the allowable threshold, the contractor shall have a noise survey conducted by a registered occupational hygienist and where required, provide additional noise attenuating ear muffs or similar suitable and adequate PPE to reduce the exposure to below the OEL threshold.

The contractor shall identify and display warning signage at each noise zone and the use of hearing protection by each person within a minimum of 20m radius of the identified noise zone enforced. Task specific risk assessments for noise generating activities such as use of hilti guns, pecker operations, steel and aluminium cutting, etc., are to specify the minimum distance for demarcating a noise zone.

### **Pressure Equipment and Gas Cylinders (PER):**

The Principal Contractor shall ensure that all employees and contractors shall comply with the requirements of the Pressure Equipment Regulations, including:

- Providing competency and awareness training for operators and/or users
- Providing relevant and adequate PPE and clothing and enforcing the use of such PPE and clothing. PPE issued for the use of pressure equipment shall be regularly inspected and replaced when necessary.
- Inspect equipment on a monthly basis and keep records of inspections
- Provide appropriate firefighting equipment on hand
- Gas cutting and welding gas cylinders to be secured on a trolley in an upright position, must not show any signs of corrosion or damage and must have flashback arrestors fitted to both the cylinders and torches.
- Where LPG cylinders are used in elevated positions, such cylinders shall be securely attached on a trolley for safe movement to the work area. No LPG or any other gas cylinders or pressure equipment are to be manually handled to any work areas.

When not in use, all gas cylinders shall be stored in a dedicated storage facility in an upright position and for oxy-acetylene cylinders, secured at all times. Such storage facility shall be kept locked at all times and under the control of an appointed person, trained in the safe handling and storage of pressure equipment.

Where pressure equipment is utilised on the site, the Contractor shall keep a register of such equipment as well as valid pressure test certificates not older than 36 months, and an inspection checklist for each item of equipment in the site safety file.

### **Hazardous Chemical Substances (HCS):**

The Contractor shall, before any employee is exposed or may be exposed to Hazardous Chemical Substances (resin), ensure that the employees are adequately and comprehensively informed and trained, as well as thereafter informed and trained at intervals with regard to:

- the contents and scope of these regulations;
- the potential source exposure;
- the potential risks to health caused by exposure;
- the potential detrimental effect of exposure on his or her reproductive
- The Contractor shall ensure that with a material safety data sheet containing all the information with regarding the Hazardous Chemical Substance:
  - product and company identification;
  - composition/information on ingredients;
  - hazards identification;
  - first-aid measures;
  - fire-fighting measures;
  - accidental release measures;
  - handling and storage;
  - exposure control/personal protection;
  - physical and chemical properties;
  - stability and reactivity;
  - toxicological information;
  - ecological information;
  - disposal considerations;
  - transport information;
  - regulatory information

The Principal Contractor shall provide the employees with suitable respiratory protective equipment and protective clothing; and in the case of an HCS which can be absorbed through the skin, provide the employees with suitable impermeable protective equipment.

Where respiratory protective equipment is provided, the Contractor is to ensure that the relevant equipment is capable of controlling the exposure. The equipment is correctly selected and properly used, to ensure that the information, instructions, training and supervision which is necessary with regard to the use of the equipment is known to all the employees; and that the equipment is kept in good condition and efficient working order.

#### **Work in Confined Spaces (GSR 5):**

Work in confined spaces shall be deemed to be any work in an enclosed, restricted or limited space where a hazardous substance may accumulate, or an oxygen deficient atmosphere may occur, including any chamber, tunnel, pipe, pit, sewer, container, deep excavation or similar construction in which a dangerous liquid or dangerous concentration of gas, vapour, dust or fumes may be present.

Due to the nature and process of CIPP lining of sewer pipes and the need to access manholes, this activity is classified as working in confined spaces.

The contractor shall ensure that all the requirements of general safety regulation 5 are strictly complied with and that such confined space shall only be entered by an employee or any other person after the air therein has been tested and evaluated by a person competent to pronounce the safety thereof.

The contractor shall develop a procedure for work in confined spaces and such procedure shall outline the requirements of general safety regulation 5 as well as the safety requirements and rescue procedure for the retrieval of employees if required.

Effective respirators with disposable organic filters shall be provided to any and all persons entering a manhole and the contractor shall keep available apparatus for resuscitation where work is conducted in confined spaces.

The Contractor to ensure that all confined spaces and manholes are tested for the presence of gases before entry, this is to be done by a competent person utilizing a calibrated gas detection equipment with proof of calibration certificate kept in the Health and Safety File.

When a confined space is known to contain hazardous contaminants, it is crucial to purge the space adequately before entry. Testing for gases to be done after purging to ensure that confined spaces are free of gases.

All employees working in confined spaces to ensure that a personal gas testing meter is attached to the PPE, proof of calibration to be retained in the Health and Safety file.

It is imperative that inspecting and entry of any confined space is always done as a team. The Contractor is to develop a rescue procedure in line with GSR 5 for rescuing persons who may need emergency assistance while in the confined space.

To facilitate rescue in the event of an emergency, each person accessing the manhole is to wear a full body harness with a rescue lanyard/rope that is secured at ground level.

An attendant trained in the use of rescue equipment, first aid and resuscitation is to be present on the surface at the manhole entrance at all times.

A rescue tripod is to be available on site at all times while work in manholes is being conducted, to effect a speedy rescue in the event of an emergency.

**Medical certificates of fitness for all employees working in confined spaces must be available on site. All medical certificates must be issued by a registered Occupational Health Practitioner. All employees working in confined spaces to be trained by a certified company.**

#### **Waste Management**

The contractor shall include in their health and safety file a comprehensive waste management plan, outlining the methodology for ensuring effective management and disposal of waste, eliminating as far as possible all impact on the environment. The waste management plan should include, as a minimum:

- Planned waste stream management to ensure removal of waste is effective and timeous;
- Appointment of a sub-contractor to collect recyclable material, who shall issue certificates of safe disposal where required and proof of delivery of waste to an approved recycling facility (oil, chemicals, fluorescent tubes, contaminated containers etc.);
- The separation of waste on site pending collection for recycling;
- Ensure recyclable materials are stored safely before removal from site.
- Allow sufficient space for waste skips and bins, ensuring removal at appropriate intervals to reduce the risk of exposure to hazardous biological agents from general waste;
- Procedure in the event of spills to prevent environmental impact;
- Proof of communication of waste management plan to all employees and sub-contractors.

#### **Hazardous Biological Agents**

The principal contractor is to identify all potential HBA's prior to the commencement of works. All employees who is or might be in contact with HBA is to obey all lawful instructions given from their employer. All employees that will be exposed to HBA should undergo a medical evaluation and declared fit before being exposed and 14 days after exposure be medically evaluated again. Before being exposed to HBA the employee is to wear the correct PPE, clothing and personal samplers. All PPE to be issued where there is a possibility of exposure to raw sewage is to

be completely impermeable and the possibility of skin contact with raw sewage is to be eliminated. It is the responsibility of the employer to ensure that a disinfection and decontamination facility is available to all employees exposed to HBA. Employers should ensure that monitoring is continuous while employees are exposed to HBA. All assessments, monitoring results and medical surveillance reports should be kept for minimum period of 40 years.

#### **Scaffolding (CR 16)**

CIPP liners may be installed using the inversion method or inserting liners into place through a manhole. The inversion method employs a scaffold tower to apply water pressure to turn the liner inside out and push it along the host pipe. The appointed scaffold supervisor is to ensure that scaffold work is carried out under his or her supervision and that all scaffold erectors and inspectors are competent to carry out their work. The Scaffold inspector to ensure that scaffolding complies with the safety standards incorporated for this purpose into these Regulations under section 44 of the Act that standard being SANS 10085-1 of 2004.

All scaffolding structures shall at all times be adequately barricaded or safeguarded against access by the public.

#### **Additional Specifications (Covid-19):**

The worldwide Covid-19 pandemic has resulted in Covid-19 health and safety regulations being promulgated by the National Government, and the implementation of these regulations are a legal requirement incumbent on the principal contractor and sub-contractors. Annexed hereto are a Covid-19 Health and Safety Specification and Baseline Risk Assessment to be referenced by contractors.

The Covid-19 specification serves as a framework for contractors to reference when compiling their site specific Covid-19 Workplace Plan, which plan must be annexed to the health and safety plan.

The Principal Contractor's Covid-19 Workplace Plan will be assessed by the Clients appointed Health and Safety Agent and approved for implementation once deemed to be suitable and sufficient. Compliance to the approved workplace plan will be monitored on an ongoing basis. The principal contractor is required to ensure that each sub-contractor appointed on the project implements and complies with the Covid-19 Workplace Plan.

The Covid-19 Baseline Risk Assessment is to be referenced by the contractor when drafting the site specific Covid-19 baseline risk assessment, from which issue-based risks and control measures will be drawn to include in issue-based risk assessments. All issue-based risk assessments are to address the identification of Covid-19 hazards, the associated risks and consequences, and document suitable and sufficient control measures.

Such issue-based risk assessments, including Covid-19 risks are to be communicated to employees and included for discussion during daily DSTIs.

#### **Specification and Design Changes:**

Where it becomes necessary for **the Client**/Client's Principal Agent to effect material changes to the design and project requirements, then such changes may necessitate an addendum to the site Health and Safety Specification.

On final appointment of the Principal Contractor, the contractor shall provide the Clients appointed Health and Safety Agent with their project construction methodology, after which the Health and Safety Specification may be amended to preclude any items not relevant to the construction process of the Contractor.

Such addendums shall be drafted by **the Clients appointed Health and Safety Agent** and issued as required and/or incorporated into the initial specification and will thereafter be defined Revision/No/Date.

It is a requirement for the Contractor to submit amended or revised H&S Plans to **the Clients appointed Health and Safety Agent** and obtain approval, for any alterations or changes to the H&S Plan in order to comply with the revised Health and Safety Specification, or where the H&S Plan is amended to make provision for changes in design, processes, construction methods or the introduction of new machinery or equipment.



**GA Environment**

# **COVID-19 HEALTH AND SAFETY SPECIFICATION**

Revision 0

## **SPECIFICATION FOR OCCUPATIONAL HEALTH & SAFETY**

**Occupational Health and Safety Act, 85 of 1993  
Construction Regulation 5(1)(b): Health and Safety Specification**

**COVID-19 Health and Safety Specification** means a documented specification of all health and safety requirements pertaining to the associated works on a construction site, so as to ensure the health and safety of persons working on and exposed to the associated works.

**COVID-19 Health and Safety Specification developed by:**

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**TENDER 104Q/2021/22 - TRENCHLESS  
REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE  
LINING CITYWIDE**

**Date: 03<sup>rd</sup> August 2021**



**CITY OF CAPE TOWN  
ISIXEKO SASEKAPA  
STAD KAAPSTAD**

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## INTRODUCTION

The World Health Organisation declared the coronavirus outbreak as a global pandemic on the 11th March 2020. On the 15th March 2020, the President of the Republic of South Africa, Mr Cyril Ramaphosa, declared the coronavirus pandemic as a national state of disaster, in terms of the Disaster Management Act, 2002 as the number of confirmed coronavirus cases continued to increase rapidly from person-to-person transmission. On the 23rd March 2020, the Government announced a 21-day national lockdown as a drastic measure to tackle the spread of the new coronavirus. The lockdown was set to begin from the 26th March until 16th of April 2020, however, due to the increase of new coronavirus cases, the lockdown was further extended. The Construction sector, similar to many other sectors, was also affected by the lockdown regulations. Since the **Cure In Place Pipe Project** is currently a new project, it will fall in line with the requirements of the Disaster Management Act: Regulations to address, prevent and combat the spread of Coronavirus COVID-19: Amendment.

In anticipation of the relaxation of the lockdown on the construction sector, the Client is legally required in terms of regulations 5(1)(b) to prepare a project specific document that will detail the health and safety requirements related to construction work at **Cured In Place Pipe**. These requirements specified in this document are in relation to the risks posed by the new coronavirus as it is infectious and is a hazard to human health.

## PURPOSE

The purpose of this document is to specify the health and safety requirements that the Contractor must comply with in working towards flattening the curve and prevent any further coronavirus infections and spread whilst performing work.

This document is developed specifically for the Contractor appointed for the **Cured In Place Pipe**, which is located in **Cape Town, Western Cape**. The Contractor must align his COVID-19 resumption response plan with this document. The initiatives of construction work resumption response are to ensure readiness to restart works and accelerate projects and lastly it also aims to slow and stop person to person transmission to prevent COVID-19 outbreaks.

This specification is compiled in line with the COVID-19 Baseline Risk Assessment. The Contractor must use it as a reference document when developing their COVID-19 response plans.

## COVID-19 HEALTH AND SAFETY REQUIREMENTS

### 3.1 CONTRACTOR SITE TRANSPORTATION REQUIREMENTS

The transportation of employees to site is a risk as employees tend to sit close to each other and there is generally substandard ventilation as some passengers might prefer not to open the windows. The Contractor is therefore expected to implement the following controls:

- Employees should consider travelling alone using their own transport, where possible
- Contractors transporting its employees to site must ensure that employees do not sit close to one another. A minimum of 2m distance must be maintained between the vehicle occupants. When entering the vehicle, the employees must sanitize their hands and wear their face masks (such as FFP2 or higher quality);
- Employees engaging in lift clubs must also exercise the principle of social distancing;
- Contractors are to consider other means of transport to avoid public transport
- Arrangements to be made for additional vehicles
- Consideration and planning to be taken how someone that has fallen ill will be taken home or to a medical facility and isolation area
- All employees must wear respiratory masks and sanitize their hands while travelling to work in the vehicle;
- Where not possible to avoid, the use of public transport must comply with the transport limitations. This means that the employee must wear respiratory mask, maintain 2m distance and also sanitize his/her hands regularly;
- Train and raise awareness pertaining to the virus and precautions to take during travel.  
These include:
  - ✓ Maintain social distancing (at least 2m) between yourself and anyone else when travelling;
  - ✓ Do not greet fellow employees by shaking their hands. Rather wave, nod or bow;
  - ✓ Employees showing symptoms of flu should not be permitted to travel to work;
  - ✓ Frequently clean hands by using alcohol-based hand sanitizer or soap and water;
  - ✓ Avoid touching your eyes, nose and mouth; and
  - ✓ Always sanitize your hands and wear a face mask.

### 3.2 ACCESS CONTROL

- Health and Safety Officers must to monitor compliance with the Occupational Health and Safety Act No.85 of 1993 and Regulations on site and upon entry.
- The Contractor must revise its Access Management Plan to be aligned with the Covid-19 risks.

- Contractor must consider the introduction of staggered start and finish times to reduce congestion and contact at all times.
- Security officers are expected to ensure that site is accessed only by authorised personnel.
- It is the responsibility of the Contractor to ensure that employees and essential visitors are screened upon arrival and departure. Screening in this case means the employees must be subjected to a non-contact thermometer and complete a questionnaire to determine possible symptoms. Only those employees not showing signs of fever, must be permitted to enter site. Non-essential visitors must be discouraged from entering site. Record of the questionnaire and sign in register must be kept available on file.
- Site access points must always be monitored in order to maintain social distancing. The Contractor must allow for plenty of space of at least two metres between people waiting to enter site.
- The Contractor must ensure the availability of sanitizer and face masks at all access points.
- All employees and non- employees should be sanitized before entering the site and when leaving the site.
- The security access point must be provided with a waste disposal bins face masks will be disposed as employees leave the site. These bins must be correctly labelled as “Danger Infectious Waste”. This waste can be handled and disposed by an approved service provider. The bin must have the relevant hazardous biological agent pictogram.
- In cases whereby hand wash basins are available at access points, visitors and employees are expected to wash or clean their hands before accessing or leaving the site.
- Delivering of material and goods should be monitored in a manner that the driver remains in the vehicle for loads that are easily handed out, in cases whereby the driver needs to access the site they should be sanitized accordingly.
- Security should ensure that employees remain on site once entered, but only allowed to leave site at the end of the shift. This means that employees should be discouraged from purchasing food outside of site during the course of day.

### 3.3 BREATHERLIZING

Owing to how the coronavirus spreads from per to person, the Contractor is discouraged from breatherlizing employees before entering site. The Contractor must closely monitor employee behaviour especially the mobile plant operators. This includes monitoring their driving behaviour, speech and the eyes amongst other things.

### 3.4 CONSTRUCTION ACTIVITIES

Before commencement of construction work, the Contractor must revise its Health and Safety Plan such that it is aligned with the Covid-19 risks. The Contractor must also develop a method statement, risk assessment and safe working procedure for the management of the risk posed by Covid-19. The Contractor can only be permitted to commence with construction works once these documents have been approved by the Clients appointed Construction Health and Safety Agent. As a minimum, all employees working onsite and, in the offices, must wear respiratory masks. The Contractor is expected to continue with its Health and Safety Management System while taking the Covid-19 risks into consideration.

The Contractor must ensure the following:

- The storeman must disinfect all tools and equipment before issue;
- The wearing of PPE, social distancing and use of hand sanitizer must be monitored during the toolbox talks and DSTI’s discussions. The venues for these discussions must be well ventilated;
- The use of mobile plant by operators must meet the Covid-19 required hygiene standards etc. This means that the mobile plant operators must disinfect the cabin of their mobile plant before and after use.
- During construction activities, communication systems such as radios cannot be shared amongst employees.
- Social distancing must be maintained in induction rooms or held in open air if possible.

The Supervisory team and Health and Safety Professionals are key to ensuring the requirements contained in this document.

### 3.5 FACILITY AND SANITATION STANDARDS

The Contractor must ensure that all facilities are in good state of use and maintained. It is the responsibility of the Contractor to develop a new cleaning schedule in order to prevent COVID-19 spread. These measures include:

- Regularly cleaning of common contact surfaces at the boardrooms, kitchen, eating areas, security guard houses, offices and turnstiles etc
- Eating areas could be hotspots for the coronavirus. Employee compliance to the Covid-19 health and safety requirements must be monitored at all times by the Supervisor’s, safety professionals including health and safety representatives. Food waste must also be regarded as a biological hazard as it has entered the mouths of employees.
- Employees should maintain 2m in between when seated at designated eating area in order to reduce congestion and contact.
- Where possible break times should be staggered to reduce congestion and contact.

- Hand sanitisers should be available at the entrance of any room where people meet and should be used by workers when entering and leaving the room.
- The workforce should be asked to bring pre-prepared meals and refillable drinking bottles from home. Water bottles must not be shared amongst employees.
- The Contractor is advised to only use disposable eating utensils and avoid the use non-disposable utensils.
- Drinking water should be provided with enhanced cleaning measures of the tap mechanism.
- All waste should be disposed in the appropriate waste bin and not left for someone else to clear up. All waste that came into contact with an employee's mouth and nose must be treated as a biological hazard and therefore must be disposed accordingly.
- All areas used for eating must be thoroughly cleaned at the end of each break and shift, including chairs, door handles and tables.
- Rooms should be well ventilated, or windows kept opened to allow fresh air circulation during use.

### 3.6 CONTROL OF VISITORS TO SITE

- Non-essential visitors should be prohibited to visit the site.
- Essential visitors should be sanitized before entering the site and when leaving the site.
- Essential visitors must undergo a full induction syllabus which includes COVID-19 risks.
- Essential visitors will be allowed to visit the site for a purpose, and they should leave the site as soon as the purpose is fulfilled.

### 3.7 EMPLOYEE MEDICAL SURVEILLANCE, DECLARATION OF TRAVEL DURING ALL ALERT LEVELS AND EXPOSURE KNOWLEDGEMENT AND CONCERNS.

- Any workers who develops flu-like symptoms (i.e. cough, shortness of breath, fever) should immediately be taken to the testing health service.
- For any suspected case, isolate the employee in a suitable room, if possible or transport the employee home where they must self-isolate (if necessary) after seeking medical attention.
- Erect signage asking for declaration of persons with a travel history and contact with person with suspected cases in the last 14 days to identify themselves to Supervisor. Declaration form should be made available for all employees and non-employees.
- The necessary system should be implemented to trace, identify and quarantining of people who came into contact with the infected persons.
- The Contractor should ensure that medical examinations are conducted in a manner that COVID-19 pandemic is addressed.
- The Contractor should be in position to offer an ongoing screening, monitoring, tracing and training of staff to minimise the possible contamination and spreading of COVID-19.
- Workers should be trained on all possible ways to minimise the exposure to COVID-19.
- Training should include information about how to isolate individuals with suspected or confirmed COVID-19 cases or other infectious diseases, and how to report possible cases.
- The training should be provided to employees during normal working hours at no cost. The training should include when to use PPE; what PPE is necessary; how to properly put on, use, and take off PPE; how to properly dispose of or disinfect, inspect for damage, and maintain PPE; and the limitations of PPE.
- The Training syllabus prepared for employees and visitors should include but no limited to the following:
  - ✓ Symptoms
  - ✓ Spread
  - ✓ Legislative requirements and
  - ✓ Precautions

### 3.8 EMERGENCY PROCEDURES AND ISOLATION

- The Contractor must develop an Emergency Procedure for COVID-19. This plan must be communicated to all employees.
- Provide patient with a dust mask, gloves, eye protection and respiratory mask.
- Limit the number of staff who can enter the isolation room and implement contact and droplet precautions.
- If someone becomes unwell in the workplace and there is reason to suspect they may have come into contact with COVID-19, the person should be removed to an area which is at least 2 metres away from other people.
- The site should call the designated public health service number in order to attend the affected personnel, whilst waiting for advice from the designated public health or emergency service, the affected person should remain at least two metres from other people. They should avoid touching people, surfaces and objects and should cover their mouth and nose with a disposable tissue when they cough or sneeze and put the tissue in a bag or pocket then throw the tissue in the bin. If they do not have any tissues available, they should cough and sneeze into the crook of their elbow.
- If they need to go to the bathroom whilst waiting for medical assistance, they should use a separate bathroom, if available.

### 3.9 PERSONAL HYGIENE ON SITE

In order to ensure good personal hygiene, the Contractor must:

- Provide additional handwashing facilities to the usual welfare facilities where applicable;
- Provide hand sanitizers in all strategic places on site;
- Ensure soap and fresh water is always readily available;
- Provide hand sanitiser where hand washing facilities are unavailable;
- Regularly clean the hand washing facilities such as sinks and check soap and sanitiser levels;
- Provide suitable and enough waste bins for hand towels with regular removal and disposal;
- Sites to have extra supplies of soap, hand sanitiser and paper towels and these will be securely stored in order to avoid contamination;
- Contractor should provide workers with tissues and waste bins lined with a plastic bag so that they can be emptied without contacting the contents;
- Contractor should instruct, train workers to clean their hands frequently, using soap and water for at least 20 seconds or with an alcohol-based hand sanitiser that contains at least 60-95% alcohol. The Contractor must also monitor adherence to training.
- Restrict the number of people using toilet facilities at a time.
- Employees to wash hands before and after using the toilet facilities.
- Enhance the cleaning regimes for toilet facilities particularly door handles, locks and the toilet flush handle.
- Portable toilets should be avoided wherever possible, but where in use, these should be cleaned and emptied more frequently.
- Provide suitable and enough waste bins for hand towels with regular removal and disposal.

### 3.10 HAZCHEM CONTROLS, USE AND EFFECTIVENESS MONITORING

- Hand sanitizers that are effective against COVID-19 contains alcohol of at least 60% and 95%. It may have other ingredients like moisturizers or scents, but alcohol is the active ingredient.
- Many retailers and pharmacies do sell hand sanitizers and it is the responsibility of the Contractor to identify registered suppliers with alcohol-based sanitizers.
- If your hands are greasy or visibly dirty, hand sanitizer won't be as effective.
- Types of PPE must be selected based upon the hazard to the worker, properly fitted as applicable (e.g. respirators), consistently and properly worn, regularly inspected, maintained, and replaced, as necessary, and properly removed, cleaned, and stored or disposed of to avoid contamination.
- Alcohol based sanitizers do pose some risks such as skin irritation, fire outbreak, eye irritation and increase sensitivity to ultraviolet rays.
- The Supervisor and health and safety professionals must monitor compliance usage and storage of the hand sanitizers.

### 3.11 COVID-19 HEALTH AND SAFETY POLICY

The Contractor must develop a Policy that will detail top management's commitment towards ensuring the flattening of the curve coronavirus cases. All Contractor employee must be trained on this policy. The Policy must be regularly reviewed. It must be signed by the Contractor's Top Management. This Policy must be conspicuously displayed in common areas such as boardrooms, eating and resting areas etc.

### 3.12 TRAINING: SPECIFIC TO PPE

The Contractor must ensure the following with respect to PPE:

- Covid-19 awareness training should be provided by the Contractor to all employees during normal working hours at no cost to them. The training should include when to use PPE; what PPE is necessary; how to properly put on, use, and take off PPE; how to properly dispose of or disinfect, inspect for damage, and maintain PPE; and the limitations of PPE.
- Re-usable PPE should be thoroughly cleaned after use and not shared between workers.
- Single use PPE should be disposed so that it cannot be reused.
- Contractor should ensure the availability of appropriate PPE in order to minimise the spread of COVID-19. e.g. dust mask, gloves, eye protection, face shield, ext.
- The Contractor should ensure that the number of attendances on site induction is reduced and consider holding them outdoors wherever possible.

### 3.13 SOCIAL DISTANCING

The Contractor must ensure the following with regards to Social distancing:

- Place posters that encourage staying home when sick, cough and sneeze etiquette, and hand hygiene at the entrance to the workplace and in other areas where they can be seen;
- Limited contact between onsite staff;
- Only necessary meeting participants should attend;
- Attendees should be two metres apart from each other;

- Consider holding meetings in open areas where possible;
- If it is feasible for your business, promote teleworking across your organisation and allow workers to work flexible hours to minimise crowding the workplace;
- Organisers of meetings and events need to think about the potential risk from COVID-19 because;
- Consider whether the meeting or event is necessary or whether it could be postponed or replaced with a tele or video conference or it can be scaled down so that fewer people attend;
- Check and follow the advice from the authorities in the community where you plan to hold the meeting or event;
- Develop and agree on a preparedness plan to prevent infection at your meeting or event:
  - ✓ Ensure and verify information and communication channels in advance with key partners such as public health and health care authorities.
  - ✓ Pre-order sufficient supplies and materials, including tissues and hand sanitizer for all participants.
  - ✓ Actively monitor where COVID-19 is circulating. Advise participants in advance that if they have any symptoms or feel unwell, they should not attend.
  - ✓ Make sure all organisers, participants, caterers and visitors at the event provide contact details: mobile telephone number, email and address where they are staying. State clearly that their details will be shared with local public health authorities if any participant becomes ill with a suspected infectious disease.
- Retain the names and contact details of all participants for at least one month. This will help public health authorities trace people who may have been exposed to COVID-19 if one or more participants become ill shortly after the event.

### 3.14 PARTNERSHIPS WITH LOCAL CLINIC AND POLICE

- The Contractor together with the Community Liaison Officer should initiate partnership with the local police and local clinics where required
- Construction site should welcome of all Forums and campaigns related to COVID-19.
- Local clinics should be given a platform to present or share information at the specific Construction.
- Contractor should maintain communication channels with the local police station.
- Community members who intent to gain access to the construction site by force and violate COVID-19 lockdown rules should be reported to the local police station.
- Community unrest which will affect the project in terms of COVID-19 should be reported to the local police station.

### 3.15 SUB-CONTRACTOR MANAGEMENT

- The Contractor must ensure that all sub-contractors are in position of COVID-19 Risk Assessment and Site Specification. The Contractor must ensure that proof of issue must be retained for audit purposed.
- The Contractor must ensure that subcontractor revised its Health and Safety Plan on receipt of the risk assessment and health and safety specification from the Contractor for his approval prior to commencement of any construction work. The Contractor must also ensure that the Subcontractor its current method statements, risk assessments and safe work procedures incorporate the risks posed by Covid-19
- The Contractor must ensure that the Subcontractor employees are conversant with the COVID-19 risks before commencement of construction work.
- The Contractor must ensure that the Subcontractor follows all the rules that are put in place related to COVID-19.

## E: ENVIRONMENTAL MANAGEMENT SPECIFICATION

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## E: ENVIRONMENTAL MANAGEMENT SPECIFICATION

For use with the General Conditions of Contract for Construction Works, Third Edition, 2015.

### E1 SCOPE

The Environmental Management Programme (EMP) for the project is comprised of this Environmental Management (EM) Specification and its Annexures, including the “Additional environmental issues deemed to form part of the Environmental Management Specification” attached as Annexure D hereto, which together cover the requirements for controlling the impact on the environment of construction activities.

### E2 INTERPRETATIONS

#### E2.1 Supporting specifications

The following standardised specification shall, *inter alia*, apply to this Contract:

- a) SANS 1200A, as may be varied or added to in the Scope of Work

#### E2.2 Application

This EM Specification contains clauses that are generally applicable to the undertaking of construction works in areas where it is necessary to impose pro-active controls on the extent to which the construction activities impact on the environment.

In the event of any difference or discrepancy between the provisions of the Standardised Specifications and the provisions of the EM Specification, the latter shall prevail.

#### E2.3 Definitions and abbreviations

For the purposes of this EM Specification the following definitions and abbreviations shall apply:

##### E2.3.1 Environment

The surroundings within which humans exist and that are made up of -

- a) the land, water and atmosphere of the earth;
- b) micro-organisms, plant and animal life;
- c) any part or combination of i) and ii) and the interrelationships among and between them; and
- d) the physical, chemical, aesthetic and cultural properties and conditions of the foregoing that influence human health and well-being.

E2.3.2 Potentially hazardous substance

A substance which, in the reasonable opinion of the Employer's Agent, can have a deleterious effect on the environment.

E2.3.3 Method Statement

A written submission by the Contractor to the Employer's Agent in response to the EM Specification or a request by the Employer's Agent, setting out the plant, materials, labour and method the Contractor proposes using to carry out an activity, in such detail that the Employer's Agent is enabled to assess whether the Contractor's proposal is in accordance with the Scope of Work and/or will produce results in accordance with the EM Specification.

E2.3.4 Reasonable

Unless the context indicates otherwise, means reasonable in the opinion of the Employer's Agent after he has consulted with a person suitably experienced in "environmental implementation plans" and "environmental management plans" (both as defined in the National Environmental Management Act, 107 of 1998).

E2.3.5 Solid waste

All solid waste, including construction debris, chemical waste, excess cement/ concrete, wrapping materials, timber, tins and cans, drums, wire, nails, domestic waste, dead vegetation, asphalt products, etc.

E2.3.6 Contaminated water

Water contaminated by the Contractor's activities containing cements, concrete, lime, paint products, thinners, turpentine, chemicals, fuels, oils washing detergents, etc.

E2.3.7 Working area

Any area within the boundaries of the Site where construction is taking place.

E2.3.8 Contractor's camp or construction camp

The area designated for all temporary site offices, storage areas, construction plant parking areas, staff welfare facilities, etc.

E2.3.9 Employer's Agent

The person/firm so named in the Contract Data, whose function is to administer the Contract as agent of the Employer.

E2.3.10 Employer's Agent's Representative (ER)

The natural person appointed by the Employer's Agent in terms of the Contract, who shall observe the execution of the Works, examine and test materials and workmanship, and deliver and receive communications to/from the Contractor.

E2.3.11 Environmental Officer (EO)

Appointed by the Employer's Agent as his environmental representative on Site, with the mandate to enforce compliance with the EMP. The duties of the EO are stipulated in the City's guideline document for the EO and ER.

E2.3.12 Environmental Control Officer (ECO)

An independent appointment to objectively monitor implementation of relevant environmental legislation, conditions of Environmental Authorisations (EAs), and the EMP for the project.

E2.3.13 Environmental Site Officer (ESO)

Employed by the Contractor as his environmental representative to monitor, review and verify compliance with the EMP by the Contractor. The ESO must ensure that he is involved at all phases of the construction (from site clearance to rehabilitation).

#### E2.3.14 Abbreviations

The following abbreviations occur in this EM Specification:

EMP - Environmental Management Programme  
EM Specification – Environmental Management Specification  
EO - Environmental Officer  
ECO – Environmental Control Officer  
ESO – Environmental Site Officer  
ER – Employer’s Agent’s Representative  
MSDS - Material Safety Data Sheets

#### **E2.4 Employer’s Agent’s authority to delegate**

In terms of Clause 3.2.4 of the General Conditions of Contract, Third Edition, 2015 (GCC 2015), the Employer’s Agent has the authority to appoint a representative. Other than the Employer’s Agent’s Representative (ER) in terms of Clause 3.2, this can be in the form of an Environmental Officer (EO), who shall be responsible for monitoring compliance with the EMP. All instructions given by the EO shall go through the ER, who will then convey these to the Contractor, except in the case of an environmental emergency, in which case the EO can issue an instruction directly to the Contractor. An environmental emergency is one which, in the opinion of the EO, would cause serious environmental harm if not addressed immediately.

Depending on the nature/environmental sensitivity of the Contract the following variations in the organisational structure are possible:

- a) The ER may work together with an EO; or
- b) There may be an ER only (for construction projects with low potential for causing significant environmental impacts). In this case the ER has responsibility for the EO’s functions.
- c) There may be an independently appointed Environmental Control Officer (ECO) who will fulfil essentially the same functions as the EO. The ECO may work with just the ER (if there is no EO) or may work with both the ER and EO.

The term “Employer’s Agent” in this EM Specification refers to the Employer’s Agent as defined in Clause E2.3.9 acting through the ER/EO/ECO as delegated.

#### **E3 MATERIALS**

##### **E3.1 Materials handling, use and storage**

The Contractor shall ensure that any delivery drivers are informed of all procedures and restrictions (including "no go" areas) required to comply with the EM Specification. The Contractor shall ensure that these delivery drivers are supervised during off loading by someone with an adequate understanding of the requirements of the EM Specification.

Materials shall be appropriately secured to ensure safe passage between destinations. Loads, including but not limited to, sand, stone chip, fine vegetation, refuse, paper and cement, shall have appropriate cover to prevent them spilling from the vehicle during transit. The Contractor shall be responsible for any clean-up resulting from the failure by his employees or suppliers to properly secure transported materials.

All manufactured and or imported materials shall, where reasonably possible, be stored within the Contractor’s camp and, if so required by the Employer’s Agent, out of the rain. The location and method of protection of such materials stored outside of the Contractor’s camp and the method of rehabilitation of these areas, shall be subject to the Employer’s Agent’s approval.

Stockpile areas shall be approved by the Employer’s Agent before any stockpiling commences.

#### **E4 Hazardous substances**

Hazardous chemical substances (as defined in the Regulations for Hazardous Chemical Substances in GN 1179 (25 August 1995)) stored on Site for use during construction shall be stored in secondary containers which are clearly and appropriately marked/signed. The relevant Material Safety Data Sheets (MSDS) shall be available on Site. Procedures detailed in the MSDSes shall be followed in the event of an emergency situation.

If potentially hazardous substances are to be stored on Site, the Contractor shall inform the Employer’s Agent of such substances and provide a Method Statement detailing the substances/ materials to be used, together with the storage, handling and disposal procedures of the materials. Hazardous substances shall be stored out of flood risk areas and disposal of these substances shall be at a licensed waste disposal

facility. **PLANT (referring to “Construction Equipment” as defined in GCC 2015, and the Contractor’s facilities as used in SANS 1200A)**

#### **E4.1 Fuel (petrol and diesel) and oil**

##### **E4.1.1 Storage**

If fuel and oil is to be stored on Site, then the Contractor shall submit a Method Statement covering the procedures for dealing with accidental hydrocarbon spillage and leaks, and detailing how these liquids will be stored, handled and disposed of.

The Employer’s Agent shall approve the location of all fuel storage areas. All necessary approvals with respect to fuel storage and dispensing shall be obtained from the appropriate authorities. Symbolic safety signs depicting “**No Smoking**”, “**No Naked Lights**” and “**Danger**” conforming to the requirement of SANS 1186 are to be prominently displayed in and around the fuel storage area. There shall be adequate fire-fighting equipment at the fuel storage area.

The Contractor shall ensure that all liquid fuels and oils are stored in tanks with lids, which are kept firmly shut and adequately secured. The capacity of the tank shall be clearly displayed and the product contained within the tank clearly identified using the emergency information system detailed in SANS 0232 part 1. Fuel storage tanks shall have a capacity not exceeding 9000 litres and shall be kept on site only for as long as fuel is needed for construction activities, on completion of which they shall be removed.

The tanks shall be situated on a smooth impermeable base with an earth bund. The volume inside the bund shall be 110% of the total capacity of the largest storage tank. The base may be constructed of concrete, or of plastic sheeting with impermeable joints, covered by a layer of compacted earth to protect the sheeting. The impermeable lining shall extend to the crest of the bund. The floor of the storage area shall be sloped to enable any spilled fuel and/or fuel-contaminated water to be removed easily.

If any rainwater collects in the bunded areas, it shall be promptly removed and taken off Site to a disposal site approved by the Employer’s Agent.

Only empty and externally clean tanks may be stored on the bare ground. Empty and externally dirty tanks shall be sealed and stored on an area where the ground has been protected.

Adequate precautions shall be provided to prevent spillage during the filling of any tank and during the dispensing of the contents. If fuel is dispensed from 200 litre drums, the proper dispensing equipment shall be used, and the drum shall not be tipped in order to dispense fuel. The dispensing mechanism for the fuel storage tanks shall be stored in a waterproof container when not in use.

##### **E4.1.2 Refuelling**

Plant shall be refuelled at a designated refuelling area approved by the Employer’s Agent. The surface under the temporary refuelling area shall be protected against pollution to the reasonable satisfaction of the Employer’s Agent prior to any refuelling activities. The Contractor shall ensure that there is always a supply of absorbent material (e.g. Spill Sorb or Enretech #1 powder or equivalent) readily available that is designed to absorb, break down and encapsulate minor hydrocarbon spillage. The quantity of such material shall be able to handle a minimum of 200 litres of hydrocarbon liquid spill.

##### **E4.1.3 Treatment and remediation**

Treatment and remediation of hydrocarbon spill and leak areas shall be undertaken to the satisfaction of the Employer’s Agent. In the event of a hydrocarbon spill the source of the spillage shall be isolated and the spillage contained.

#### **E4.2 Ablution and toilet facilities**

Washing, whether of the person or of personal effects, defecating and urinating are strictly prohibited other than at the facilities provided.

The Contractor shall provide abluion facilities for all personnel employed on the Site, including shelter, toilets and washing facilities. The Contractor’s personnel will not be permitted to use the City’s abluion facilities.

Toilet facilities provided by the Contractor shall occur in a ratio of not less than 1 toilet per 30 workers (1:15 is preferred) of each sex. Toilet facilities shall be located within the Contractor's camp, but also at work areas remote from the camp, all to the satisfaction of the Employer's Agent. All portable toilets shall be adequately secured to the ground to prevent them toppling over as a result of wind or any other cause.

The Contractor shall ensure that the entrances to these toilets are adequately screened from view, that they are maintained in a hygienic state, serviced regularly, that no spillage occurs when they are cleaned and that contents are removed from Site. Toilets shall also be emptied before any temporary site closure for a period exceeding one week. Discharge of waste from toilets into the environment and burial of waste is strictly prohibited. The Contractor shall provide toilet paper at all times.

No ablution facilities shall be located closer than 50m to any water body

A Method Statement shall be provided by the Contractor detailing the provision, location, and maintenance of ablution facilities.

### **E4.3 Eating areas**

The Contractor shall designate eating areas within the approved Contractor's camp. The feeding of, or leaving of food for, animals is strictly prohibited. Sufficient bins, as specified in Clause E4.4 below, shall be present in these areas.

Any cooking on Site shall be done on well-maintained gas cookers with fire extinguishers present. No open fires for cooking purposes shall be permitted, unless for occasional use in facilities specifically provided for this purpose and within the confines of the Contractor's camp.

### **E4.4 Solid waste management**

#### **E4.4.1 Litter and refuse**

The site shall be kept neat and clean at all times, littering is prohibited.

No on-site burying or dumping of any waste materials, vegetation, litter or refuse shall occur. The Contractor shall provide scavenger and weatherproof bins with lids, of sufficient number and capacity to store the solid waste produced on a daily basis. The lids shall be kept firmly on the bins at all times. Bins shall not be allowed to become overfull and shall be emptied regularly, at least once a week. Waste from bins may be temporarily stored on Site in a central waste area that is weatherproof and scavenger-proof, and which the Employer's Agent has approved. Wherever possible refuse shall be recycled, and containers for glass, paper, metals and plastics shall be provided and the contents delivered to suitable recycling facilities when necessary.

All other litter and refuse shall be disposed of off Site at an approved landfill site. The Contractor shall supply the Employer's Agent with a certificate of disposal.

#### **E4.4.2 Construction waste**

Where possible all construction waste or spoil material shall be recycled, either on Site or elsewhere. As a last resort all construction waste shall be disposed of off Site at an approved landfill site. The Contractor shall supply the Employer's Agent with a certificate of disposal.

### **E4.5 Contaminated water management**

Potential pollutants of any kind and in any form shall be kept, stored, and used in such a manner that any spill or escape can be contained and the water table and/or any adjacent water courses or bodies are not endangered. Spill kits which can be used to contain and/or mop up spills shall be available. Water containing such pollutants as cements, concrete, lime, chemicals, oils and fuels shall be discharged into a conservancy tank for removal from the Site to a licensed disposal facility. This particularly applies to water emanating from concrete batching plants and to runoff from fuel storage, refuelling or construction equipment washing areas. Wash down areas shall be placed and constructed in such a manner so as to ensure that the surrounding areas are not polluted.

No paint products, chemical additives and cleaners, such as thinners and turpentine, may be disposed of into the stormwater system or elsewhere on Site. Brush/roller wash facilities shall be established to the satisfaction of the Employer's Agent.

A Method Statement shall be provided by the Contractor detailing the management of contaminated water.

Should contaminated water be released into the environment, specifically into a water course, monitoring thereof shall commence in accordance to the National Water Act, 36 of 1998, Section 21(f) – refer to GN 399 (26 March 2004). Contaminated water must not be released into the environment without authorisation from the relevant authority.

The Contractor shall notify the Employer's Agent immediately of any pollution incidents on Site and, at his own cost, take all reasonable measures to contain and minimise the effects of the pollution.

Any rehabilitation of the environment required as a result of such pollution shall be carried out by the Contractor at his own cost in accordance with a Method Statement approved by the Employer's Agent.

#### **E4.6 Site structures**

The type and colour of roofing and cladding materials to the Contractor's temporary structures shall be selected to reduce the visual impact.

#### **E4.7 Lights**

The Contractor shall ensure that any lighting installed on the Site for his activities does not cause a reasonably avoidable disturbance to other users of the surrounding area.

Lighting installed shall, as far as practically possible, be energy efficient. Lighting utilised on Site shall be turned off when not in use.

#### **E4.8 Workshop, equipment maintenance and storage**

No workshops or plant maintenance facilities shall be constructed on Site for performing major or routine maintenance of equipment and vehicles.

The Contractor shall ensure that in those areas where, after obtaining the Employer's Agent's approval, the Contractor carries out emergency or minor routine plant maintenance, there is no contamination of the soil, water sources or vegetation. Drip trays to collect waste oil and other lubricants shall be provided in any areas of the Site where such maintenance takes place. Drip trays must be emptied regularly and after rain, and the contents disposed of at a licensed disposal facility.

All vehicles and plant shall be kept in good working order. Leaking vehicles and plant shall be repaired immediately or removed from the Site.

The washing of vehicles and plant on Site shall be restricted to emergency or minor routine maintenance requirements only. Washing may only be undertaken in areas designated by the Employer's Agent.

#### **E4.9 Noise**

The Contractor shall limit noise levels (for example, by installing and maintaining silencers on plant). The provisions of SANS 1200A Clause 4.1 regarding "built-up areas" shall apply.

Appropriate directional and intensity settings are to be maintained on all hooters and sirens.

No amplified music shall be allowed on Site. The use of audio equipment shall not be permitted, unless the volume is kept sufficiently low so as to be unobtrusive. The Contractor shall not use sound amplification equipment on Site, unless in emergency situations.

Construction activities generating output levels of 85 dB(A) or more in residential areas, shall be confined to the hours 08h00 to 17h00 Mondays to Fridays. Should the Contractor need to do this work outside of the above times, he shall do so only with the approval of the Employer's Agent, and the surrounding communities shall be informed prior to the work taking place.

### **E5 CONSTRUCTION**

#### **E5.1 Method Statements**

The Contractor shall submit the environmental method statements required within such reasonable time as the Employer's Agent shall specify or as required by the EM Specification. The Contractor shall not commence any activity until the Method Statement in respect thereof has been approved and shall, except in the case of emergency activities, allow a period of two weeks for consideration of the Method Statement by the Employer's Agent.

The Employer's Agent may require changes to a Method Statement if the proposal does not comply with the specification or if, in the reasonable opinion of the Employer's Agent, the proposal may result in, or carries a greater than reasonable risk of, damage to the environment in excess of that permitted by the EM Specification.

Approved Method Statements shall be readily available on the Site and shall be communicated to all relevant personnel. The Contractor shall carry out the Works in accordance with the approved Method Statement. Approval of the Method Statement shall not absolve the Contractor from any of his obligations or responsibilities in terms of the Contract.

Changes to the way the Works are to be carried out must be reflected by amendments to the original approved Method Statements, and these amendments require the signature of both the Contractor and the Employer's Agent.

Method Statements shall consider all environmental hazards and risks identified by the Contractor and/or Employer's Agent and shall contain sufficient information and detail to enable the Employer's Agent to assess the potential negative environmental impacts associated with the proposed activity and shall cover applicable details with regard to:

- a) construction procedures,
- b) materials and equipment to be used,
- c) getting the equipment to and from Site,
- d) how the equipment/material will be moved while on Site,
- e) how and where material will be stored,
- f) the containment (or action to be taken if containment is not possible) of leaks or spills of any liquid or material that may occur,
- g) the control of fire,
- h) timing and location of activities,
- i) compliance/non-compliance with the EM Specification,
- j) any other information deemed necessary by the Employer's Agent.

The format to be used for the required method statements is bound in Annexure A of this EM Specification. The Contractor (and, where relevant, any sub-contractors) must also sign the Method Statement, thereby indicating that the work will be carried out according to the methodology contained in the approved Method Statement.

#### **E5.1.1 Method Statements to be provided within 14 days from the Commencement Date**

- a) Layout and Preparation of Contractor's Camp (E5.4).
- b) Ablution Facilities: number of, location, cleaning, method of securing to the ground, etc. of portable toilets (E4.2).
- c) Solid Waste Management: number of, type, location, cleaning, method of securing to the ground, etc. of bins (E4.4).
- d) Environmental Awareness Training: logistics for the environmental awareness courses for all the Contractor's management staff, as well as other employees (E5.2).
- e) Emergency Procedures for Accidental Hydrocarbon Leaks and Spillages (E4.1 and E5.8).
- f) Asphalt and Bitumen: details of all methods and logistics associated with the use of bitumen and asphalt (E5.11).

#### **E5.2 Environmental Awareness Training**

It is a requirement of this Contract that environmental awareness training courses are run for all personnel on Site. Two types of courses shall be run: one for the Contractor's and subcontractors' management, and one for all site staff and labourers. Courses shall be run during normal working hours at a suitable venue provided by the Contractor. All attendees shall remain for the duration of the course and sign an attendance register that clearly indicates participants' names on completion, a copy of which shall be handed to the Employer's Agent. The Contractor shall allow for sufficient sessions to train all personnel. Subsequent sessions shall be run for any new personnel coming onto Site. A Method Statement with respect to the organisation of these courses shall be submitted.

Notwithstanding the specific provisions of this clause, it is incumbent upon the Contractor to convey the spirit of the EM Specification to all personnel involved with the Works.

#### E5.2.1 Training Course for Management and Foremen

The environmental awareness training course for management shall include all management and foremen. The course, which shall be presented by the Employer's Agent or his designated representative, shall be of approximately one hour duration. The course shall be undertaken prior to the commencement of work on Site.

#### E5.2.2 Training Course for Site Staff and Labour

The environmental awareness training course for site staff and labour shall be presented by the Contractor from material provided by the Employer's Agent. The course shall be approximately one hour long. The course shall be undertaken not later than 3 working days after the commencement of work on Site, with sufficient sessions to accommodate all available personnel.

All the Contractor's employees, sub-contractors' employees and any suppliers' employees that spend more than 1 day a week or four days in a month on Site shall attend the Environmental Awareness Training Course for Site Staff and Labour

#### **E5.3 Contractor's Environmental Representative (ESO)**

The Contractor shall appoint an environmental representative, also called an Environmental Site Officer (ESO), who shall be responsible for undertaking a daily site inspection to monitor compliance with this EM Specification. The Contractor shall forward the name of the environmental representative (ESO) to the Employer's Agent for his approval. The environmental representative (ESO) shall complete Environmental Site Inspection Checklists (Annexure B attached hereto) and these shall be submitted to the Employer's Agent once a week.

#### **E5.4 Site division, demarcation and "no go" areas**

The Contractor shall restrict all his activities, materials, plant and personnel to within the Site or any particular working areas specified or indicated on the drawings.

The Contractor shall erect and maintain permanent and/or temporary fences of the type and in the locations specified elsewhere in the Scope of Work or on the drawings. Such fences shall, if so specified, be erected before undertaking any construction activities.

Where environmentally sensitive areas are specified as "no go" areas, the Contractor shall ensure that, insofar as he has the authority, no person, plant or material shall enter the "no go" areas at any time.

A Method Statement detailing the layout and method of establishment of the Contractor's camp (including all offices, shelters, eating areas, storage areas, ablution facilities and other infrastructure required for the running of the project) shall be provided.

#### **E5.5 Access routes/ haul roads**

On the Site and, if so required, within such distance of the Site as may be stated by the Employer's Agent, the Contractor shall control the movement of all vehicles and construction equipment, including that of his suppliers, so that they remain on designated routes, are distributed so as not to cause an undue concentration of traffic, and that all relevant laws are complied with. In addition, the movement of such vehicles and construction equipment shall be planned and operated so as to minimise disruption to regular users of the routes. As far as possible the Contractor shall use existing access and haul routes. Damage to existing access roads as a result of construction activities shall be repaired to the satisfaction of the Employer's Agent, using material similar to that originally used. The cost of the repairs shall be borne by the Contractor. New temporary access or haul routes may only be established with the prior approval of the Employer's Agent. The rehabilitation of such routes shall be to the Contractor's own cost and to the approval of the Employer's Agent.

Any directional signage required by the Contractor for the purposes of directing the movement of his own vehicles and construction equipment (or that of his subcontractors or suppliers) must be of a design and in a location approved by the Employer's Agent. Directional signage may not be erected in such a manner that it interferes with sight lines or pedestrian movement.

#### **E5.6 Construction personnel information posters**

The Contractor shall erect and maintain information posters for the information of his employees, depicting actions to be taken to ensure compliance with aspects of the EM Specification. A2 information posters, printed on white vinyl, shall be erected at the eating areas and any other locations specified by the Employer's Agent.

The specification for the poster is presented in Annexure C of this EM Specification. The symbols shall be black and the circles shall be red lines. The Contractor shall ensure that the construction personnel information posters

are not damaged in any way, and shall replace a poster if any part of it becomes illegible.

#### **E5.7 Fire control**

Other than for cooking purposes as specified in Clause E4.3, no fires may be lit on Site. Any fires which occur shall be reported to the Employer's Agent immediately.

Smoking shall not be permitted in those areas where it is a fire hazard. Such areas shall include fuel storage and refuelling areas, and any other areas where the vegetation or other materials are susceptible to the start and rapid spread of fire.

In terms of the National Environment Management: Air Quality Act, 39 of 2004 and Community Fire Safety By-law, burning is not permitted as a disposal method.

The Contractor shall appoint a Fire Officer (who may be the ESO) who shall be responsible for ensuring immediate and appropriate actions in the event of a fire and shall ensure that employees are aware of the procedure to be followed. The Contractor shall advise the relevant authority of a fire as soon as one starts and shall not wait until he can no longer control it. The Contractor shall forward the name of the Fire Officer to the Employer's Agent for his approval.

The Contractor shall comply with Clause 27 of the Construction Regulations, 2003 where applicable, and shall ensure that there is suitable and sufficient fire-fighting equipment available on Site at all times.

The Contractor shall be liable for any costs relating to the rehabilitation of burnt areas, should the fire be the result of the Contractor's activities on Site

The Contractor shall submit a Method Statement to the Employer's Agent covering the procedure to be followed in the event of a fire.

#### **E5.8 Emergency procedures**

The Contractor's attention is drawn to the Method Statements required in terms of Clauses E4.1 and E5.7 above. Such Method Statements shall include procedures to be followed by the Contractor in the event of an emergency.

Furthermore, in the event of an emergency the Contractor shall contact the City of Cape Town's Emergency Call Centre by telephoning 107 or 021 480 7700 (from a cell phone). Telephone numbers of emergency services, including the local fire fighting service, shall be posted conspicuously in the Contractor's office near the telephone.

#### **E5.9 Health and safety**

The Contractor shall comply with requirements of the Occupational Health and Safety Act, 85 of 1993 and Construction Regulations, 2014, the Health and Safety Specification and relevant clauses of GCC 2015, insofar as health and safety is concerned.

#### **E5.10 Community relations**

If so required, the Contractor shall erect and maintain information boards in the position, quantity, design and dimensions specified in the Scope of Work or as directed by the Employer's Agent. Such boards shall include contact details for complaints by members of the public in accordance with details provided by the Employer's Agent.

The Contractor shall keep a "Complaints Register" on Site. The Register shall contain all contact details of the person who made the complaint, and information regarding the complaint itself.

#### **E5.11 General protections in terms of the National Heritage Resources Act, 25 of 1999**

The Contractor shall take cognisance of the provisions of the National Heritage Resources Act, 25 of 1999 in respect of, *inter alia*, structures older than 60 years; archaeology, palaeontology and meteorites; burial grounds and graves; and public monuments and memorials.

#### **E5.12 Protection of natural features**

The Contractor shall not deface, paint, damage or mark any natural features (e.g. rock formations) situated in or around the Site for survey or other purposes, unless agreed beforehand with the Employer's Agent. Any features affected by the Contractor in contravention of this clause shall be restored/ rehabilitated to the satisfaction of the Employer's Agent. The cost of restoration/rehabilitation shall be borne by the Contractor.

The Contractor shall not permit his employees to make use of any natural water sources (e.g. springs, streams, open water bodies) for the purposes of swimming, personal washing and the washing of machinery or clothes.

#### **E5.13 Protection of flora and fauna**

Except to the extent necessary for the carrying out of the Works, as specified by the Employer's Agent, no vegetation shall be removed, damaged or disturbed.

The presence of any wild animals found on Site shall be reported to the Employer's Agent, who shall issue an instruction with regard to their removal or relocation. If a wild animal needs removal from the Site the Cape Nature (Metro Region) Conservation Services Manager may be contacted for assistance (tel 021 955 9132/9121/3122/9130). Trapping poisoning, injuring or shooting animals is strictly forbidden. No domestic pets or livestock are permitted on Site, with the exception of controlled watchdogs approved by the Employer's Agent.

Where the use of herbicides, pesticides and other poisonous substances has been specified, the Contractor shall submit a Method Statement to the Employer's Agent for approval.

#### **E5.14 Erosion and sedimentation control**

The Contractor shall take all reasonable measures to limit erosion and sedimentation due to the construction activities and shall, in addition, comply with such detailed measures as may be required by the Scope of Work. Where erosion and/or sedimentation, whether on or off the Site, occurs, rectification shall be carried out in accordance with details specified by the Employer's Agent. Where erosion and/or sedimentation occur due to the fault of the Contractor, rectification shall be carried out to the reasonable requirements of the Employer's Agent, at the Contractor's cost. In particular, the Contractor shall ensure that the City's stormwater system is kept free from sediment arising from the Works.

Any runnels or erosion channels developed during the construction period or during the vegetation establishment period shall be backfilled and compacted, and the areas restored to a proper condition. Stabilisation of cleared areas to prevent and control erosion shall be pro-actively managed by the Contractor. The method of stabilisation shall be determined in consultation with the Employer's Agent.

#### **E5.15 Aesthetics**

The Contractor shall take any requisite measures to ensure that construction activities do not have an undue negative impact on the aesthetics of the area.

#### **E5.16 Temporary site closure**

In the event of temporary site closure (for a period exceeding one week), the Contractor's ESO shall carry out checks and ensure that, amongst others, the following conditions pertain and report on compliance with this clause:

- a) Fire extinguishers are serviced and accessible.
- b) There is adequate ventilation in enclosed spaces.
- c) All hazardous substance stores are securely locked.
- d) Fencing and barriers are in place.
- e) Emergency and management contact details are prominently displayed and available.
- f) Wind and dust mitigation measures, e.g. straw, brush packs, irrigation, etc. are in place.
- g) Excavated and filled slopes and stockpiles are at a stable angle and capable of accommodating normal expected water flows.
- h) There are sufficient detention ponds or channels in place.
- i) Cement and materials stores are secured.
- j) Toilets are empty and secured.
- k) Central waste area and all refuse bins are empty and secured.
- l) Contaminated water conservancy tank empty.
- m) Any bunded areas are clean and treated with an approved product where applicable (e.g. Spill Sorb or Enretech #1 powder or equivalent).
- n) Drip trays are empty and secure

### **E5.17 Asphalt and bitumen**

Bitumen drums/products, if stored on Site, shall be stored in an area approved by the Employer's Agent. This area shall be indicated on the Method Statement for the Layout and Preparation of the Contractor's Camp. The storage area shall be constructed with an appropriate base, bunding and sump to the satisfaction of the Employer's Agent. A Method Statement shall be provided in this regard.

When heating bitumen products, the Contractor shall take cognisance of appropriate fire risk controls. Heating shall only be undertaken using LPG or similar zero emission fuels. Appropriate fire fighting equipment shall be readily available on Site.

### **E5.18 Dust**

The Contractors shall be solely responsible, at his cost, for the control of dust arising from his activities on Site, and for any costs involved in damages resulting from the dust. The Contractor shall take all reasonable measures to minimise the generation of dust

### **E5.19 Contractor's advertising signage**

Any advertising on the Site or any part of the Works shall remain at the sole discretion of the Employer, who reserves the right to order, via the Employer's Agent, its removal, covering or re-sizing, wherever placed, at no cost to the Employer.

Apart from at the Contractor's camp, no signage advertising the Contractor, or any of its subcontractors, manufacturers, suppliers or service providers shall be placed, fixed or erected anywhere on the Site or on the Works without the prior approval of the Employer's Agent. No advertising signage will be permitted on any designated scenic route. Notwithstanding any prior approval given, the Employer's Agent may instruct the Contractor to remove, cover or re-size any advertising signage at any time at no cost to the Employer.

Advertising signage at the Contractor's camp shall be appropriately designed and sized with due consideration to the surrounding environment, views and sight lines.

Branding or identification markings on the Contractor's and subcontractor's vehicles and equipment is generally permitted, although the Employer reserves the right to instruct, via the Employer's Agent, the removal, covering or re-sizing of any branding, markings or signage, on any equipment (scaffolding, for example), which it considers inappropriate in the environment in which it is placed.

No third party advertising (that is, in respect of any person, business or product that is not associated with the Works) shall be permitted anywhere on the Site or Works.

### **E5.20 Clearance of Site on completion**

On completion of the Works, and at final completion when all defects have been remedied or corrected, the Contractor shall, in addition to the requirements for clearance of the Site in terms of the Contract, ensure that he has complied with the following requirements in terms of this EM Specification:

#### **E5.20.1 Clause E3.1**

Clean-up of improperly secured transported materials, and rehabilitation of storage areas.

#### **E5.20.2 Clause E4.1.3**

Remediation of hydrocarbon spill and leak areas.

#### **E5.20.3 Clause E4.4**

Disposal of litter, refuse and Contractor's waste.

#### **E5.20.4 Clause E5.4**

Removal of temporary fences and Contractor's camp.

#### **E5.20.5 Clause E5.5**

Repair of access roads damaged by the Contractor, and rehabilitation of temporary access routes.

E5.20.6 Clause E5.7

Rehabilitation of burnt areas should a fire be the result of Contractor's activities on Site.

E5.20.7 Clauses E5.11 to 5.13

Rehabilitation of heritage and natural features, including vegetation which is damaged or disturbed, which required protection in terms of these clauses.

E5.20.8 Clause E5.14

Rectification where erosion and/or sedimentation has occurred due to the fault of the Contractor .

E5.20.9 Clause E5.19

Removal of Contractor's advertising signage.

**E6 TOLERANCES**

**E6.1 Fines**

Environmental management is concerned not only with the final results of the Contractor's operations, but also with the control of how these operations are carried out. Tolerance with respect to environmental matters applies not only to the finished product, but also to the standard of the day-to-day operations required to complete the Works.

It is thus required that the Contractor shall comply with the EM Specification on an on-going basis and any failure on his part to do so will entitle the Employer's Agent to certify the imposition of a fine. Fines may be issued per incident at the discretion of the Employer's Agent. Such fines will be issued in addition to any remedial costs incurred as a result of non-compliance with the environmental specifications. The Employer's Agent will inform the Contractor of the contravention and the amount of the fine, and will deduct the amount from monies due in payment certificates issued under the Contract.

Maximum fines for the following transgressions by either the Contractor and/or his sub-contractors may be imposed by the Employer's Agent, as follows:

	<b>Maximum fine per incident</b>
a) Vehicles, plant or materials related to the Contractor's operations, parked or stored outside the demarcated boundaries of the Site.	R 2 000
b) Persons, vehicles, plant or materials related to the Contractor's operations, found within the designated boundaries of a "no go" area.	R 4 000
c) Persistent and unrepaired oil leaks from machinery/not using a drip tray to collect waste oil and other lubricants/not using specified absorbent material to encapsulate hydrocarbon spillage/using inappropriate methods of refuelling (the use of a funnel rather than a pump).	R 3 000
d) Refuelling in areas not approved by the Employer's Agent.	R 3 000
e) Litter on Site.	R 1 000
f) Deliberate lighting of fires on Site.	R 5 000
g) Individual not making use of the Site ablution facilities.	R 1 000
h) Damage to trees not specified to be removed.	R 5 000
i) Dust or excessive noise emanating from the site	R 1 000
j) Not containing water contaminated with pollutants such as cement, concrete, fuel, etc.	R 2 000

For each subsequent similar offence the fine shall be doubled in value to a maximum value of R50 000.

**E7 TESTING**

Not applicable to this tender.

**E8 MEASUREMENT AND PAYMENT**

**E8.1 Basic principles**

Except where separate pay items have been measured in the Bills of Quantities, all costs in respect of complying with the EM Specification are deemed to be covered by the sum tendered for complying with the EM Specification.

**ANNEXURE A: ENVIRONMENTAL METHOD STATEMENT**

**CONTRACT:**.....

**DATE:**.....

**PROPOSED ACTIVITY** (give title of method statement and reference number from the EMP):

**WHAT WORK IS TO BE UNDERTAKEN** (give a brief description of the works - attach extra information to ensure accurate description given):

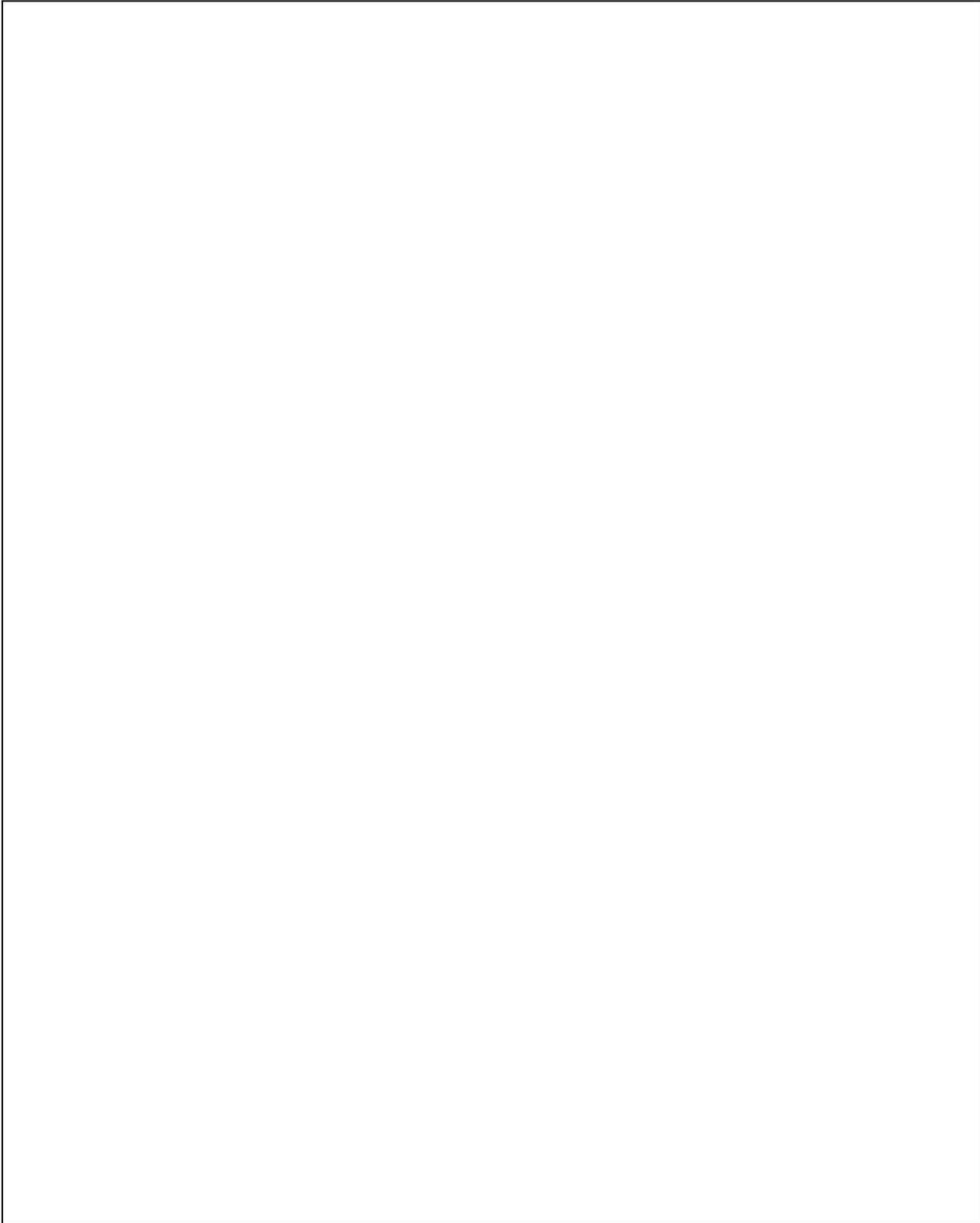
**WHERE THE WORKS ARE TO BE UNDERTAKEN** (where possible, provide an annotated plan and a full description of the extent of the works):

**START AND END DATE OF THE WORKS FOR WHICH THE METHOD STATEMENT IS REQUIRED:**

Start Date:

End Date:

**HOW THE WORKS ARE TO BE UNDERTAKEN** (provide as much detail as possible, including annotated sketches and plans where possible):



Note: please give too much information rather than too little. Please ensure that issues such as emergency procedures, hydrocarbon management, wastewater management, access, individual responsibilities, materials, plant used, maintenance of plant, protection of natural features, etc. are covered where relevant

**DECLARATIONS**

**1) EMPLOYER’S AGENT’S REPRESENTATIVE/ENVIRONMENTAL OFFICER/ENVIRONMENTAL CONTROL OFFICER**

The work described in this Method Statement, if carried out according to the methodology described, appears to be satisfactorily mitigated to prevent avoidable environmental harm:

\_\_\_\_\_  
(signed)

\_\_\_\_\_  
(print name)

Dated: \_\_\_\_\_

**2) CONTRACTOR**

I understand the contents of this Method Statement and the scope of the works required of me. I further understand that this Method Statement may be amended on application to other signatories and that the Employer’s Agent’s Representative/Environmental Officer/Environmental Control Officer will audit my compliance with the contents of this Method Statement. I understand that this method statement does not absolve me from any of my obligations or responsibilities in terms of the Contract.

\_\_\_\_\_  
(signed)

\_\_\_\_\_  
(print name)

Dated: \_\_\_\_\_

**3) EMPLOYER’S AGENT**

The works described in this Method Statement are approved.

\_\_\_\_\_  
(signed)

\_\_\_\_\_  
(print name)

\_\_\_\_\_  
(designation)

Dated: \_\_\_\_\_

## ANNEXURE B: ENVIRONMENTAL SITE INSPECTION CHECKLIST

To be submitted to the Employer's Agent once a week

CONTRACT:.....

DATE:.....

ENVIRONMENTAL ASPECT	YES/ NO (✓ or X)	COMMENTS
• All new personnel on Site are aware of the contents of the EMP and have been through the environmental awareness course.		
• Contractor's camp is neat and tidy and the labourers' facilities are of an acceptable standard.		
• Sufficient and appropriate fire fighting equipment is visible and readily available in the appropriate places.		
• Waste control and removal system is being maintained.		
• Fences are being maintained.		
• Drip trays are being utilised where there is a risk of spillage.		
• Bunded areas/drip trays are being emptied on a regular basis (especially after rain).		
• No leaks are visible from construction vehicles.		
• Refuelling of vehicles and plant occurs within designated areas, and appropriate refuelling apparatus and drip trays are being used.		
• "No go" areas, natural features, vegetation, etc. have not been damaged.		
• Dust control measures (if necessary) are in place and are effectively controlling dust.		
• Noise control measures (if necessary) are in place and are working effectively.		
• Erosion and sedimentation control measures (if necessary) are in place and are controlling effectively.		
• Material stockpiles are located within the boundary of the Site and are protected from erosion.		
• Other		

Completed by:.....

Signed:.....

ANNEXURE C: CONSTRUCTION PERSONNEL INFORMATION POSTER

ENVIRONMENTAL MANAGEMENT DO'S AND DON'TS	
 <p>Workers &amp; equipment must stay inside the site boundaries at all times</p>	 <p>Use the toilets provided Report full or leaking toilets</p>
 <p>Do not swim in or drink from streams</p> <p>Do not throw oil, petrol, diesel, concrete or rubbish in the stream</p> <p>Do not work in the stream without direct instruction</p> <p>Do not damage the banks or vegetation of the stream</p>	 <p>Only eat in demarcated eating areas Never eat near a river or stream Put packaging &amp; leftover food into rubbish bins</p>
 <p>Protect animals on the site</p> <p>Ask your supervisor or Contract's Manager to remove animals found on site</p>	 <p>Do not litter - put all rubbish (especially cement bags) into the bins provided Report full bins to your supervisor The responsible person should empty bins regularly</p>
 <p>Do not damage or cut down any trees or plants without permission</p> <p>Do not pick flowers</p>	 <p>Always keep to the speed limit Drivers - check &amp; report leaks Ensure loads are secure &amp; do not spill</p>
 <p>Put cigarette butts in a rubbish bin</p> <p>Do not smoke near gas, paints or petrol</p> <p>Do not light any fires without permission</p> <p>Know the positions of fire fighting equipment</p> <p>Report all fires</p> <p>Do not burn rubbish or vegetation without permission</p>	 <p>Know all the emergency phone numbers</p>
 <p>Work with petrol, oil &amp; diesel in areas marked for this</p> <p>Report any petrol, oil &amp; diesel leaks or spills</p> <p>Use a drip tray under vehicles &amp; machinery</p> <p>Empty drip trays after rain &amp; do not throw this water into a river</p>	 <p>Fines of between R1000 and R5000 Removal from site Construction may be stopped</p>
 <p>Try to avoid producing dust - wet dry ground &amp; soil</p>	 <p>Report any breaks, floods, fires, leaks and injuries to your supervisor Ask questions!</p>
 <p>Do not make loud noises around the site, especially near schools and homes</p> <p>Report or repair noisy vehicles</p>	

## ANNEXURE D: ADDITIONAL ENVIRONMENTAL ISSUES DEEMED TO FORM PART OF THE ENVIRONMENTAL MANAGEMENT PROGRAMME

Listed below are issues pertaining to the environment that form part of the Contract Document. The clause references relate to the **General Conditions of Contract for Construction Works, Third Edition, 2015 (GCC 2015)**. They are listed here to emphasise that they form part of the environmental considerations and requirements for this project. They must be read together with any Contract Specific Data referring thereto in Part C1.2 Contract Data. The comments made below on the various issues are to be taken as explanatory, in so far as environmental matters are concerned, and do not modify the clauses in any way.

### 1. Monitoring

Clause 3.1.1 makes provision for the Employer's Agent to administer the Contract in accordance with the provisions of the Contract, including the monitoring of any environmental variables.

### 2. Health and safety

Clauses 3.1.4, 4.3.1, 4.3.2 and 4.10.1 remind the Contractor of his obligations in terms of the Occupational Health and Safety Act (No. 85 of 1993) and Construction Regulations 2003.

Clause 5.7 of SANS 1200A reinforces these requirements through the observation of proper and adequate safety arrangements.

### 3. Employer's Agent's authority to delegate

Clause 3.2.4 gives the Employer's Agent the authority to appoint a representative to act as the Environmental Officer (EO) for the Contract. The EO, who shall be responsible for monitoring compliance with the EMP, may be the Employer's Agent's Representative or any other person accountable to the Employer's Agent.

### 4. Employer's Agent's instructions

Clause 4.2.1 requires that the Contractor comply with the Employer's Agent's instructions on any matter relating to the Works. Moreover, Clause 4.2.2 ensures that the Contractor only takes instructions from the Employer's Agent, the Employer's Agent's Representative or a person authorised by the Employer's Agent in terms of Clause 3.2.4.

### 5. Compliance with applicable laws

Clause 4.3.1 requires that the Contractor comply with all applicable laws, regulations, etc. in fulfilling the Contract.

### 6. Protection of fossils, etc.

Clause 4.7.1 requires the Contractor to take reasonable precautions to prevent any person from damaging, *inter alia* anything of geological or archaeological interest, and requires that he inform the Employer's Agent and follows any instructions issued in this regard.

### 7. Housing, food and transport

Clause 4.10.1 requires the Contractor to make his own arrangements for payment, housing, feeding and transport for his employees, provided that if he uses any part of the Site for such purposes he shall obtain the Employer's Agent's prior approval.

Clause 4.2 of SANS 1200A further requires that facilities provided comply with local authority regulations and are maintained in a clean and sanitary condition.

### 8. Competent employees

Clause 4.11.1 requires that all persons employed on Site are careful, competent, and efficient. These attributes embrace knowledge of the environmental matters and issues dealt with in the EMP.

### 9. Removal from Site

Clause 4.11.2 makes provision for the Employer's Agent to instruct the removal from the Works and Site of any person who is guilty of misconduct, or is incompetent or negligent, or is an undesirable presence on Site.

Clause 7.1.1 requires that all Construction Equipment be in good working order. Accordingly, the Employer's Agent may order that any Construction Equipment not complying with the environmental specifications be removed from Site.

#### **10. Unacceptable documentation**

Clauses 5.3.1 and 5.3.2 require the Contractor to provide documentation required before commencement with Works execution, failing which the Employer may terminate the Contract. Such documentation includes the Protection of the Environment Declaration provided for in the Contract Document.

#### **11. Programme and Method Statements**

Clause 5.6.1 makes provision for the Employer's Agent to request the programmes for carrying out the Works.

Clause 5.6.2 makes provision for the Employer's Agent to request statements from the Contractor for the entire scope of the work. In the case of the environmental specifications, these would be submitted as Method Statements.

#### **12. Hours of operation**

Clause 5.8.1 restricts the Contractors hours of operation to between sunrise and sunset on working days (usually from Monday to Saturday), unless, *inter alia*, permitted by the Employer's Agent in writing.

Clause 5.7.2 further requires that in the event that permission is granted for night work, then such work shall be carried out without excessive noise and disturbance.

#### **13. Suspension of Works**

Clause 5.11.1 enables the Employer's Agent to suspend the progress of the Works or any part thereof, which may be as a result of some default or breach of the Contract on the part of the Contractor.

#### **14. Site clean-up**

Clause 5.15.1 requires that, on completion of the Works, the Contractor shall clear away and remove from the Site all Construction Equipment, surplus materials, rubbish and Temporary Works of every kind and leave the whole of the Site and Works clean and in a safe condition. All streams and watercourses shall be restored to the condition as at the commencement of the Works. Should the Contractor fail to do the work upon notice from the Employer's Agent, the Employer may in terms of Clause 7.8.3, employ others to carry out the work and recover the cost of doing so from the Contractor.

#### **15. Access to the Works**

Clause 7.3.1 makes provision for the Employer's Agent to authorise the Environmental Officer (EO) to have access to the Works and Site.

#### **16. Pollution prevention and interferences**

Clause 8.1.2 requires that all operations necessary for the execution of the Works be carried out so as not to cause unnecessary noise or pollution, or to interfere unnecessarily or improperly with public services, or the access to, use and occupation of public or private roads and footpaths or properties.

Clause 5.6 of SANS 1200A further requires the Contractor to minimise dust nuisance and pollution of streams and inconvenience to or interference with the public.

#### **17. Dust**

Clause 8.1.2 requires that all operations necessary for the execution of the Works be carried out so as not to cause unnecessary pollution.

Clause 5.6 of SANS 1200A requires that the Contractor take all reasonable measures to minimise any dust nuisance.

## 18. Noise

Clause 8.1.2 requires that all operations necessary for the execution of the Works be carried out so as not to cause unnecessary noise.

Clause 4.1 of SANS 1200A requires that when working in built-up areas, the Contractor shall provide and use suitable and effective silencing devices for pneumatic tools and other plant that would otherwise cause a noise level exceeding 85dB.

## 19. Protection of existing environment

Clause 8.1.3 requires that the Contractor uses every reasonable means to prevent any roads or bridges to or in the vicinity of the Site being subjected to damage by excessive loads, or disruption due to excessive traffic, occasioned by his transport arrangements.

## 20. Reinstatement

Clauses 8.2 and 8.4 make provision for the Contractor to repair and make good any damage to the Works in his care (other than "excepted risks"), and bear any costs associated with such reinstatement.

## 21. Reporting accidents

Clause 8.5.1 requires the Contractor to report to the Employer's Agent every occurrence on the Site which causes environmental damage.

**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING  
CITYWIDE**

## **C3.6 Annexes**

### **CONTENTS**

Annex 1: Monthly Project Labour Report

Annex 2: B-BBEE Sub-Contract Expenditure Report

Annex 3: Joint Venture Expenditure Report

Annex 4: Targeted Labour Contract Participation Expenditure Report

Annex 5: Targeted Enterprises Contract Participation Expenditure Report

Annex 6: As-Built Processes – Protocols

Annex 7: Sewer Manhole – S1

**ANNEX 1**

**CITY OF CAPE TOWN  
MONTHLY PROJECT LABOUR REPORT**



**Instructions for completing and submitting forms**

General

- 1 The Monthly Project Labour Reports must be completed in full, using typed, proper case characters; alternatively, should a computer not be available, handwritten in black ink.
- 2 Incomplete / incorrect / illegible forms will not be accepted.
- 3 Any conditions relating to targeted labour stipulated in the Contract (in the case of contracted out services or works) shall apply to the completion and submission of these forms.
- 4 This document is available in Microsoft Excel format upon request from the City's EPWP office, tel 021 400 9406, email EPWPLR@capetown.gov.za.

Project Details

- 5 If a field is not applicable insert the letters: NA
- 6 Only the Project Number supplied by the Corporate EPWP Office must be inserted. The Project Number can be obtained from the Coordinator or Project Manager or from the e-mail address in point 4 above.
- 7 On completion of the contract or works project the anticipated end date must be updated to reflect the actual end date.

Beneficiary Details and Work Information

- 8 Care must be taken to ensure that beneficiary details correspond accurately with the beneficiary's ID document.

- 9 A new beneficiary is one in respect of which a new employment contract is signed in the current month. A certified ID copy must accompany this labour report on submission.
- 10 Was the beneficiary sourced from the City's job seeker database?
- 11 The contract end date as stated in the beneficiary's employment contract.
- 12 Where a beneficiary has not worked in a particular month, the beneficiary's name shall not be reflected on this form at all for the month in question.
- 13 Training will be recorded separately from normal working days and together shall not exceed the maximum of 23 days per month
- 14 Workers earning more than the maximum daily rate (currently R450 excluding any benefits) shall not be reflected on this form at all.

Submission of Forms

- 15 Signed hardcopy forms must be scanned and submitted to the City's project manager in electronic (.pdf) format, together with the completed form in Microsoft Excel format.
- 16 Scanned copies of all applicable supporting documentation must be submitted along with each monthly project labour report. Copies of employment contracts and ID documents are only required in respect of new beneficiaries.
- 17 If a computer is not available hardcopy forms and supporting documentation will be accepted.

**PROJECT DETAILS**

Numbers in cells below e.g (6) refer to the relevant instruction above for completing and submitting forms

CONTRACT OR WORKS PROJECT NAME: (6)		EPWP SUPPLIED PROJECT NUMBER: (6)												
DIRECTORATE:		DEPARTMENT:												
CONTRACTOR OR VENDOR NAME:		CONTRACTOR OR VENDOR E-MAIL ADDRESS:												
CONTRACTOR OR VENDOR CONTACT PERSON:		CONTRACTOR OR VENDOR TEL. NUMBER:												
CELL WORK														
PROJECT LABOUR REPORT CURRENT MONTH (mark with "X")														
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR		

ACTUAL START DATE (yyyy/mm/dd)						ANTICIPATED / ACTUAL END DATE (yyyy/mm/dd) (7)								
TOTAL PROJECT EXPENDITURE / VALUE OF WORK DONE TO-DATE (INCLUDING ALL COSTS, BUT EXCLUDING VAT)														
R														

**MONTHLY PROJECT LABOUR REPORT**

**BENEFICIARY DETAILS AND WORK INFORMATION**



<b>CONTRACT OR WORKS PROJECT NUMBER:</b>
--

<b>Year</b>	<b>Month</b>

<b>Sheet</b>		
1	of	

No.	(8) First name	(8) Surname	(8) ID number	(9) New Beneficiary (Y/N)	Gender (M/F)	Disabled (Y/N)	(10) Job seeker database (Y/N)	Contract start date (DDMMYY)	(11) Contract end date (DDMMYY)	(12) No. days worked this month (excl. training)	(13) Training days	(14) Rate of pay per day (R - c)
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												

0 0 R -

Declared by Contractor or Vendor to be true and correct:	Name	Signature
	Date	

Received by Employer's Agent / Representative:	Name	Signature
	Date	

**ANNEX 2**

**CITY OF CAPE TOWN**

**CONTRACT NO. AND NAME:** .....

**CONTRACTOR:** .....

**B-BBEE SUB-CONTRACT EXPENDITURE REPORT BASED ON PAYMENT CERTIFICATE NO. ....**

Value of the contract (as defined in the **Preference Schedule**) (P\*) R

B-BBEE Status Level of Prime Contractor

Name of Sub-contractor (list all)	B-BBEE Status Level of Sub-contractor <sup>1</sup>	Total value of Sub-contract (excl. VAT) <sup>1</sup>	Value of Sub-contract work to date (excl. VAT) <sup>1</sup>	Value of Sub-contract work to Sub-contractors with a lower B-BBEE Status Level than Prime Contractor
Sub-contractor A		R	R	R
Sub-contractor B		R	R	R
Sub-contractor C		R	R	R

<sup>1</sup>Documentary evidence to be provided

Total:	R
Expressed as a percentage of P*	%

**Signatures**

**Declared by Contractor to be true and correct:** .....

**Date:** .....

**Verified by Employer's Agent / Representative:** .....

**Date:** .....

# ANNEX 3

# CITY OF CAPE TOWN

CONTRACT NO. AND NAME: .....

CONTRACTOR: .....

**JOINT VENTURE EXPENDITURE REPORT BASED ON PAYMENT CERTIFICATE NO. ....**

Value of the contract (as defined in the Preference Schedule) (P*)	R	B-BBEE Status Level of Joint Venture	
--	---	--------------------------------------	--

Name of Joint Venture partner (list all)	B-BBEE Status Level of each JV partner as at contract award	Percentage contribution of JV partner per JV Agreement <sup>1</sup> A	Total value of JV partner's contribution (excl. VAT) <sup>1</sup> B = A% x P*	Value of JV partner's contribution to date (excl. VAT) <sup>1</sup> C	Value of JV partner's contribution as a percentage of the work executed to date D = C/P*x100
JV Partner A		%	R	R	%
JV Partner B		%	R	R	%
JV Partner C		%	R	R	%

<sup>1</sup>Documentary evidence to be provided

**Signatures**

Declared by Contractor to be true and correct: .....

Date: .....

Verified by Employer's Agent / Representative .....

Date: .....

# ANNEX 4

# CITY OF CAPE TOWN

CONTRACT NO. AND NAME: .....

CONTRACTOR: .....

**TARGETED LABOUR CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO. ....**

Value of the contract (as defined in the <b>Preference Schedule</b> ) (P*)	R
---	---

Specified Targeted Labour Contract Participation Goal	%
---	---

Name of Contractor/Sub-contractor (list all)	Total previous expenditure on wages in respect of targeted labour	Net Amount for this month <sup>1</sup>	Total expenditure on wages in respect of targeted labour
Contractor	R	R	R
Sub-contractor A	R	R	R
Sub-contractor B	R	R	R

<sup>1</sup>Documentary evidence to be provided

Total:	R
Expressed as a percentage of P*	%

**Signatures**

Declared by Contractor to be true and correct: .....

Date .....

Verified by Employer's Agent / Representative .....

Date .....

# ANNEX 5

# CITY OF CAPE TOWN

CONTRACT NO. AND NAME: .....

CONTRACTOR: .....

**TARGETED ENTERPRISES CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO. ....**

Value of the contract (as defined in the <b>Preference Schedule</b> ) (P*)	R
--	---

Specified Targeted Enterprises Contract Participation Goal	%
--	---

Name of targeted enterprise (list all)	Total previous expenditure (excl. VAT) to targeted enterprises	Net Amount for this month <sup>1</sup>	Total expenditure (excl. VAT) to targeted enterprises
Targeted Enterprise A	R	R	R
Targeted Enterprise B	R	R	R
Targeted Enterprise C	R	R	R

<sup>1</sup>Documentary evidence to be provided

Total:	R
Expressed as a percentage of P*	%

**Signatures**

Declared by Contractor to be true and correct: .....

Date .....

Verified by Employer's Agent/  
Employer's Agent's Representative: .....

Date .....

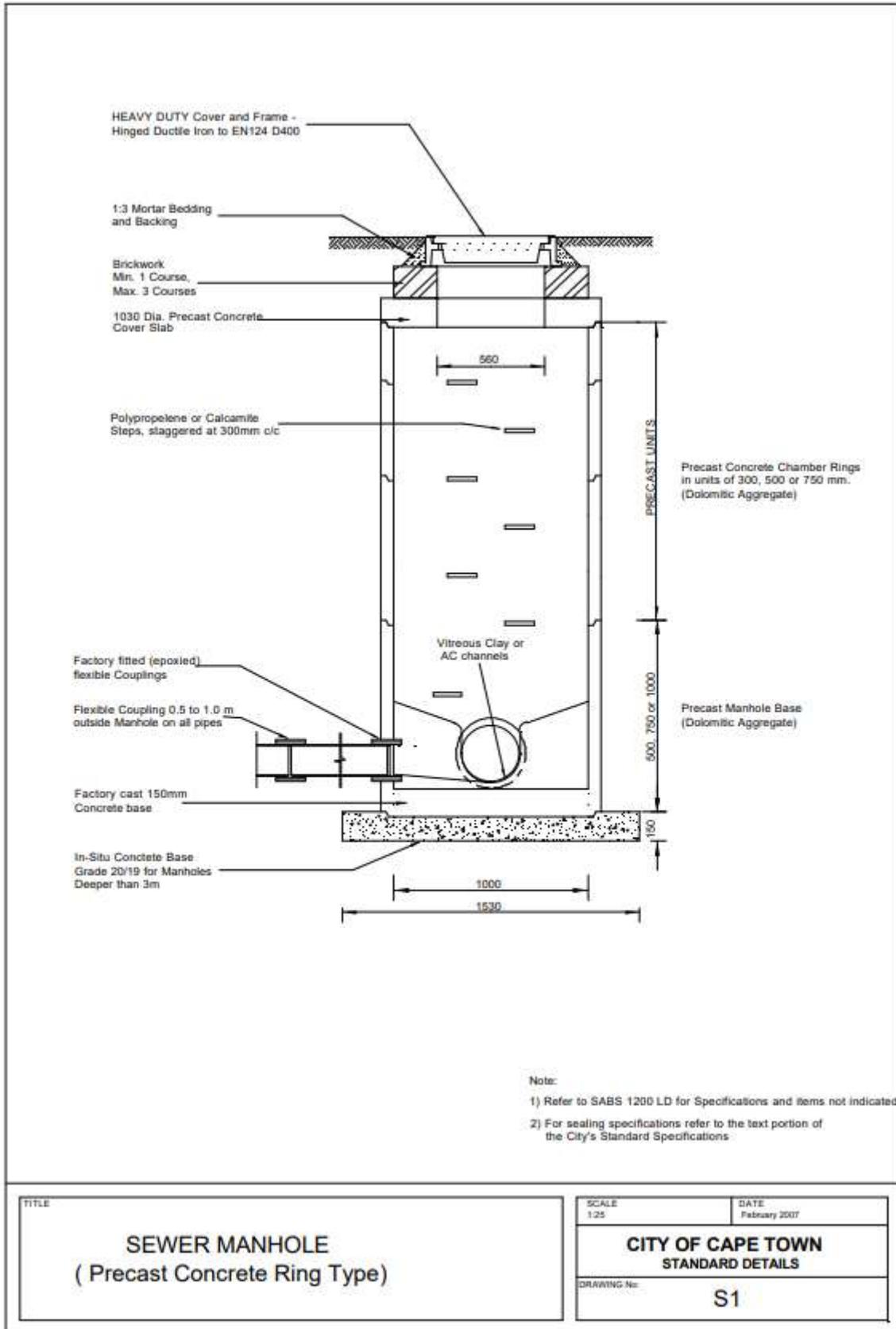
# ANNEX 6

<b>AS-BUILT PROTOCOL (CHECKLIST)</b> The following protocols regarding civil "as built" plans and GIS data are implemented by the City of Cape Town			
WS_RET_REG_017	29/07/2019	WATER AND SANITATION DEPARTMENT	Version: 01
COMPILED: Bil: SPO		INFORMAL SETTLEMENTS BASIC SERVICES	APPROVED: MANAGER
ALL CONTROLLED documents are located in the SAP DM System			Printed 2019/07/29
Printed documents are NOT CONTROLLED except if signed and dated			Page 1 of 1
<p><b>As-built data should be supplied to the CITY OF CAPE TOWN in GIS and CAD and Hardcopy formats, and comply with prescribed survey standards.</b></p> <p>1) AS BUILT PLANS 2) GIS DATA FORMAT / STANDARDS 3) CAD 4) SURVEY</p>			
<b>1) AS-BUILT PLANS</b>			
<input type="checkbox"/>	1.1 Two (2) sets of "as built" services layout plans (Scale 1 : 500), including longitudinal sections if applicable, be provided and loosely rolled up. (to be printed on Hydromat Film OR Coated Paper)		
<input type="checkbox"/>	1.2 The hard copies should be on standard sheet sizes. Hard copies should not be larger than A0. <b>A1 paper size is preferred.</b>		
<input type="checkbox"/>	1.3 No Telkom or electrical data should appear on the civil "as built" plans or digital data, unless requested by the City of Cape Town.		
<input type="checkbox"/>	1.4 <b>As-Built drawings:</b> Services should be separated on the drawings as follows: <ul style="list-style-type: none"> <li>- Water Layout (excluding contours)</li> <li>- Sewer Layout (excluding contours)</li> <li>- Roads and Storm water Layout (including contours)</li> <li>- Roads and Traffic Signage Layout</li> <li>- Combined Services (water, sewer and storm water) (excluding contours)</li> <li>- Electrical and Telkom (on request)</li> </ul>		
<input type="checkbox"/>	1.5 <b>The following information needs to be clearly indicated on all drawings:</b> All appropriate Map Layout features <ul style="list-style-type: none"> <li>o Title Block</li> <li>o Clear Legends indicating all services</li> <li>o North sign</li> <li>o Scale</li> </ul>		
<input type="checkbox"/>	1.6 Date – of all revisions should be indicated and final "as built" date.		
<input type="checkbox"/>	1.7 The Name of Development / Suburb.		
<input type="checkbox"/>	1.8 Where there are various phases, it should be shown clearly on a Locality insert map		
<input type="checkbox"/>	1.9 Street names (if available).		
<input type="checkbox"/>	1.10 The correct erf numbers on the even if available from the Surveyor General		
<input type="checkbox"/>	1.11 Servitudes and their widths.		
<input type="checkbox"/>	1.12 Revision number (A-Z) With "as built" as revision ZZ . Final plan clearly indicated as "As-built" and marked as revision ZZ.		
<input type="checkbox"/>	1.13 The name in full and signature of the responsible project manager, contact details, as well as the names of the clients, consultants, contractor and Project number should be on the "as built".		
<input type="checkbox"/>	1.14 The ownership, regarding "Municipal or Private" services should be clearly indicated.		
<input type="checkbox"/>	1.15 That all features and attribute data, i.e. pipes/leadings/valves/fittings and diameter/class, materials, slopes, lengths, cover and invert levels be clearly indicated on the drawings, positioned at the entity.		
<input type="checkbox"/>	1.16 The type of valves and hydrants indicated on the plan		
<input type="checkbox"/>	1.17 Accurate dimensions for all services		
<input type="checkbox"/>	1.18 Co-ordinate lists (ASCII /Excel file) of the valves, fire hydrants, manholes, meter positions, leading end cap, etc. should appear on the plan and to be digitally handed over to the Council.		
<input type="checkbox"/>	1.19 A table, indicating the total length of New Pipes/Relays for the different pipe diameters, class and types.		

<input type="checkbox"/>	1.20 Bulk Water Meter details (Location XY, size)
<input type="checkbox"/>	1.21 The new "as-built" data should not be indicated as "proposed".
	<b>Disclaimer:</b> <i>It is the responsibility of the contractor to verify the locations of the Water and Sanitation infrastructure in the field, as supplied to them by the CCT, before the start of construction and to immediately brought any discrepancies/ anomalies to the attention of the Water and Sanitation department.</i>
	<b>2) GIS</b> <b>GIS DATA FORMAT / STANDARDS</b>
<input type="checkbox"/>	2.1 <b>The GIS data must be produced and provided in the following projection:</b> Map Projection: Gauss Conformal (Transverse Mercator) Datum: Hartebeeshoek 94 Spheroid: WGS 84 Scale Factor: 1 Central Meridian: 19 Units: International Meter
<input type="checkbox"/>	2.2 <b>Spatial data should be supplied to the CITY OF CAPE TOWN in the following formats:</b> <b>When NO Geodatabase has been provided by the Municipality:</b> o Data to be submitted in ESRI GIS formats: ArcGIS File Geodatabase <u>or</u> Personal Geodatabase <u>or</u> Shape files (*.shp); with attributes containing pipe diameters /class, length, capacity, material, CL/IL ( <b>height values must be referenced to Mean Sea Level</b> ), consultant etc. o All field names must be understandable and, if provided as a Shapefile, the field names must be shorter than eight characters. o If the field name is more that one word, underscores must be used e.g. Facility_Name o Metadata explaining the field names and field parameters must be provided  <b>When an empty Geodatabase was provided by Water &amp; Sanitation GIS</b> o Capture all data and relevant fields as specified in the tender specifications o If any other spatial data (Except for the feature classes provided) is included in the final deliverable this data should be in a feature dataset o Data must be captured with the cadastral file used as background reference o All raster data and symbolize layers must be excluded from the geodatabase and provided in a separate folder
<input type="checkbox"/>	2.3 <b>Topology:</b> <i>All data supplied to the CITY OF CAPE TOWN should have spatial topology.</i> o The capturing direction of line features (pipes) must reflect the gravity (flow) direction of the sewer pipe. (Capture in the Flow Direction of the Pipes.) o Connectivity must be complete; stipulating that all connected features snaps accurately to one another with no under- or over shoots, point-to-line and line-to-line. o The drawing must be "topologically clean" with no duplication of features.
	<b>3) CAD</b>
<input type="checkbox"/>	3.1 <u>Cross Sections</u> , <u>Longitudinal Sections</u> and <u>Detail Drawings</u> are required in CAD format.
<input type="checkbox"/>	3.2 "As built" drawings in electronic AutoCad.dxf format is preferred, or alternatively
<input type="checkbox"/>	AutoCad.dwg (version 2000 or older). At least two drawing formats must be provided e.g. Dxf and AllyCad.drg or Dxf and AutoCad.dwg – AND in Pdf format.
<input type="checkbox"/>	3.3 The CAD drawings should be drawn BY LAYER and not BY COLOR and the layer names must be descriptive and just and containing not more than 8 digits. (Each theme type must be drawn on a different layer.)
<input type="checkbox"/>	3.4 No "YELLOW" colour of layers will be accepted.
	<b>4) SURVEY</b>
<input type="checkbox"/>	4.1 It is the responsibility of the contractor to verify the locations of the Water and Sanitation infrastructure in the field, as supplied to them by the CCT, before the start of construction and to immediately bring any discrepancies/ anomalies to the attention of the Water and Sanitation department.
<input type="checkbox"/>	4.2 Post construction survey of the centre points of all surface features (valves, fire hydrants, manholes, meter positions etc), including pipe bends, endcaps, tee's and crosses as part of "as built" information.

<input type="checkbox"/>	4.3 Reference points such as "Town Survey Marks" and "Working Stations" used during As-Built survey to be listed on the plan in the following format: Name, Y coord, X coord, Z value, Description
<input type="checkbox"/>	4.4 Height values must be referenced to Mean Sea Level (MSL) if MSL control points are available.
<input type="checkbox"/>	4.5 Surveyor signature to be present on all As Built plans
<input type="checkbox"/>	<b>4.6 "As Built" to be completed and handed over on final inspection to the person representing the City of Cape Town. As Built completion and acceptance by the CCT is a requisite before the release of the final contract payment.</b>
<input type="checkbox"/>	The complete electronic data set must be provided in CD/DVD/USB Media with the name of the development, the mother erf number and the consultants company name and contact details clearly indicated on both the cover and the CD disk.
<b>CHANGE LIST</b>	
<b>Page</b>	<b>Reason for change   Version   Reviewer   Release Date</b>
All	Original Development   0   Alwyn Smit & Tiaan van Lill   2018-08-17

**ANNEX 7**



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## Part C4: Site information

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**CITY OF CAPE TOWN**

**DIRECTORATE: WATER AND WASTE**

**CONTRACT NO. 104Q/2021/22**

**TERM TENDER FOR TRENCHLESS REHABILITATION OF SEWERS BY CURED-IN-PLACE PIPE LINING CITYWIDE**

## **C4 Site Information**

### **CONTENTS**

1. GENERAL
2. WORKS PROJECTS

#### **1. GENERAL**

The sites for the Works are those areas which may be identified within the City of Cape Town municipal area in which Works Projects are to be executed. The sites will be specific where sewer pipes are rehabilitated by means of Cured in Place Pipe Lining method.

#### **2. WORKS PROJECTS**

Site specific information will be specified, as required, in the Works Project contract document for a particular Works Project. An example of such a Works Project Document is available upon request to the Employer.

