


TENDER NO. 5Q/2021/22		 CITY OF CAPE TOWN ISIXEKO SASEKAPA STAD KAAPSTAD	
SCM - 518	Approved by Branch Manager: 03/04/2020	Version: 5	Page 1 of 216

**FRAMEWORK CONTRACT DOCUMENT
(WINNER-TAKES-ALL TYPE)**

FOR THE

**TERM TENDER FOR REPAIR, SERVICING AND MAINTENANCE OF
ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN**

Framework Contract Period: 36 Months from Commencement Date
Works Projects: Above R0 up to R2 000 000

VOLUME 3: DRAFT CONTRACT

ISSUED BY: WATER AND WASTE: WATER AND SANIATION CITY OF CAPE TOWN Water and Sanitation Head Office 8 Voortrekker Road, Corner of Voortrekker Road and Mike Pienaar Blvd. BELLVILLE 7530	COMPILED BY: ENGINEERING AND ASSET MANAGEMENT DESIGN AND CONTRACTS: Water and Sanitation Head Office 8 Voortrekker Road, Corner of Voortrekker Road and Mike Pienaar Blvd. BELLVILLE 7530	<table border="1"> <tr style="background-color: #cccccc;"> <td>For official use.</td> </tr> <tr> <td>TENDER SERIAL No.:</td> </tr> <tr> <td>SIGNATURES OF CITY OFFICIALS AT TENDER OPENING</td> </tr> <tr> <td>1.</td> </tr> <tr> <td>2.</td> </tr> <tr> <td>3.</td> </tr> </table>	For official use.	TENDER SERIAL No.:	SIGNATURES OF CITY OFFICIALS AT TENDER OPENING	1.	2.	3.
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1.								
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July 2021

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

FILE REFERENCE NO:

Part C1: Agreements and Contract Data

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CITY OF CAPE TOWN

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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.

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 exceed R0 and not exceed R2 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 : WATER AND WASTE: WATER AND SANITATION, 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
 WATER AND WASTE: WATER AND SANITATION

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: Qaasim Soeker (Professional Officer: Mechanical Engineer- WATER AND WASTE: WATER AND SANITATION)
Address: Water and Sanitation Head Office
8 Voortekker Road , Corner of Voortrekker Road and Mike Pienaar Blvd
Belville
7530
Tel: 021 400 2268
E-mail: qaasim.soeker@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 "Purchase Order" means the official purchase order created and released on the City of Cape Town's SAP System.

1.1.1.40 "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).

1.1.1.41 "Standby Panel" means a number of contractors appointed by the Employer under the Framework Contract to be available to execute Works Projects as and when they arise, on a "winner-takes-all" basis as stated in the Contract, in the order of their ranking in terms of the Framework Contract tender evaluation, and then only if the Winner has refused a work opportunity (or if his offer is non-responsive/invalid).

1.1.1.42 "Winner" means the Contractor appointed by the Employer under the Framework Contract to be available to execute Works Projects as and when they arise, on a "winner-takes-all" basis as stated in the Contract, and who will be allocated work on an on-going basis, unless he refuses a work opportunity (or if his offer is non-responsive/invalid), for the duration of the term tender contract.

- 1.1.1.43 **"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.
- 1.1.1.44 **"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.
- 1.1.1.45 **"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: Qaasim.Soeker@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 COCT'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 in areas within four regions identified within the City of Cape Town municipal area and outlined in clause C.1.6.1 in Part T1.2 Tender Data, on a "winner-takes-all" basis as described therein.

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

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 **36 months** 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 as either the Winner or to a Standby Panel, if applicable, 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 in the Health and Safety Specification in Part C3.5 in the Scope of Work)
- b) Performance 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 invited contractor 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) Method statement
- d) Risk assessment if on site work is to be performed.

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)

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) Not used

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 is **1% of the works package value** per day.

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 **12 months**.

Clause 6.2.1:

The security to be provided by the Contractor shall be a blanket performance guarantee of R430 000.00. 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 the balance, 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.

These rates which are stated on the Price Schedule shall be adjusted on each anniversary of the date of contract commencement (recalculation date). For the purpose of contract price adjustment, the following general provisions shall apply in all cases:

- a) The rates submitted will be firm for the first 12 months after commencement of the contract.

CPA for year 2 will be calculated in month 12 based on current indices for month 11, and will be applicable for the next 12 months thereafter, with the base month being one month prior to the month in which the tender closed.

CPA for year 3 will be calculated in month 24 based on current indices for month 23 and will be applicable for the next 12 months thereafter, with the base month being the 11th month from commencement of the contract.

- b) Adjustments for changes in cost shall be calculated as if the Works are executed within the time for completion and no additional costs due to any work being executed outside the

time for completion shall be payable unless the Engineer allows an extension of time in accordance with the relevant Clauses.

- c) Claims for adjustments for changes in cost shall be supported by such documentary evidence that may be required by the Engineer. Failure to render this information may result in the rejection of claims for price adjustment.
- d) No claims for adjustments for changes in cost will be accepted which are submitted later than 28 days after the date of issue of the Completion Certificate.

Labour and Materials

Permissible Adjustments

Adjustment to the Contract Price for the design, manufacture, painting, testing, supply, delivery, offloading and storage of Plant and Materials manufactured in the Republic of South Africa, shall be allowed **only** for variations in the cost of labour and material based on the indices published by the Steel and Engineering Industries Federation of South Africa (SEIFSA) using the applicable method described below

For the purpose of this Sub-Clause, Preliminary and General items are included with Labour and material for the sake of convenience, and which otherwise have no relationship with each other. General Items shall comprise General Requirements and Conditions, Health and Safety, Environmental Management, Sundries, and any other items so described or implied in the Schedules of Rates to be adjusted under this Sub-Clause.

The following SEIFSA tables shall be regarded as relevant to Mechanical and Electrical Works in this Contract:

Table C3 Index of actual labour cost

Table G2 Construction input price index (Materials purchased by type of service), Other structures

Method of Price Adjustment

Labour and Materials

$$A = a + b \frac{L_n}{L_o} + c \frac{M_n}{M_o} - 1$$

where :

A = Adjustment Factor rounded off to the sixth decimal place

a = 0.10 Fixed coefficient (non-adjustable portion)

b = 0.25)

c = 0.65) Coefficients (sum of these coefficients shall be 0,90)

L_n = Current labour index in Table C3

L_o = Base labour index in Table C3

M_n = Current materials index in Table G2

M_o = Base materials index in Table G2

Labour only

$$A = a + b \frac{L_n}{L_o} - 1$$

where A = Adjustment Factor rounded off to the sixth decimal place

a = 0.10 Fixed coefficient (non-adjustable portion)

b = 0.90

L_n = Current labour index in Table C3

L_o = Base labour index in Table C3

Materials only

$$A = a + c \frac{M_n}{M_o} - 1$$

Where:

A = Adjustment Factor rounded off to the sixth decimal place

a = 0.10 Fixed coefficient (non-adjustable portion)

c = 0.90)

M_n = Current materials index in Table G2

M_o = Base materials index in Table G2

The value of any Plant and Materials imported from outside South Africa inserted on the schedule titled "**Price Basis for Imported Plant and Material**" and subject to Sub-Clause 13.8.2.2(a) shall be deducted from the total values to be adjusted by the SEIFSA Index adjustment. Any Plant and Materials not inserted in Schedule 20 shall be deemed to be manufactured in South Africa for the purposes of Contract Price Adjustment.

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 either an amount of **5% (Works Projects exceeding R1 000 000)** 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 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 **R2 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 for all regions within the CoCT 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 9.2.1.3:

9.2.1.4 The Contractor has consistently failed to attend compulsory Works Project meetings, has consistently refused work opportunities, or has had a Works Project contract terminated by the Employer, then the Employer may, at its sole discretion, terminate the Framework Contract forthwith in its entirety, or with respect to a particular region.

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.

Clause 12 Establishment of a fully compliant workshop and storage facility inclusive of services and products as specified within the Cape Metropole, within thirty (30) days from commencement of contract

Clause 12.1 The contractor must within 30 days from commencement of the contract, establish a Workshop and

storage Facility within the Cape Metropole area which meets the requirements set out in the Specifications in full, and otherwise meets the requirements necessary for the contractor to render the services contemplated in this contract and to meet its obligations. This workshop and storage facility may belong to the Tenderer or any of his Joint Venture parties or sub-consultants or subcontractors.

- Clause 12.2 The City of Cape Town shall perform a minimum of one (1) technical assessment of the Workshop and Storage Facility mentioned in clause 12.1 above, to confirm that it complies with the requirements set out in the Specifications and otherwise meets the requirements necessary for the contractor to render the services contemplated in this contract and to meet its obligations. Only once the technical compliance of the Workshop and Storage Facility has been confirmed in full by the City of Cape Town, after the aforementioned technical assessment, will work be allocated and/or products be procured from the contractor in terms of this contract. Should the contractor fail to establish a Workshop and Storage Facility which complies with the aforementioned requirements, within the thirty (30) days mentioned in point a above or a reduced period as contemplated in point c below, this shall be a material breach of the contract and the City shall be entitled to terminate the contract forthwith and without further notice to the contractor. The date on which the aforementioned technical assessment shall be held, will not exceed two weeks from expire of the thirty (30)day period.
- Clause 12.3 The contractor may inform the City of Cape Town that it is ready for the technical assessment referred to in clause 12.2 above, earlier than the thirty (30) day period mentioned in point a above, in which case the contractor shall forfeit the remaining days of the aforementioned period and the City of Cape Town shall be entitled to conduct the technical assessment at an agreed date and time between the parties, which shall not exceed two weeks from receipt from the contractors notification in terms of this clause.
- Clause 12.4 The contractor shall cooperate fully and in good faith with the City of Cape Town in arranging for and assisting the City of Cape Town with the technical assessment referred to in clause 12.2 above, including but not limited to providing the City of Cape Town with access to all parts of the Workshop and Storage Facility during that assessment and demonstrating to the City all aspects of the facility relevant for the aforementioned technical assessment.
- Clause 12.5 Notwithstanding the contents of clause 12.1 to clause 12.4 above, the City of Cape Town reserves the right, at its sole discretion and on fourteen (14) days notice, to perform technical assessments of the Workshop and Storage Facility during the tenure of the contract as and when required, to ensure that the Workshop and Storage Facility meets the requirements set out in the Specifications in full, and otherwise meets the requirements necessary for the contractor to render the services contemplated in this contract and to meet its obligations. Should the outcome of the technical assessment be that the Workshop and Storage Facility is not compliant with the aforesaid requirement, this shall be a material breach of the contract.

Clause 12.6 Key personnel will be expected to operate out of the local workshop, as the exigencies of this project require. The address of the local workshop must be indicated on SCHEDULE 14: DETAILS OF TENDERER'S WORKSHOP AND STORAGE FACILITIES and which will be regarded as the domicilium citandi et executandi for the purpose of any contract arising from this tender submission.

Clause 12.7 The contractor shall submit to the City of Cape Town all documents as requested in the Specification as well as the responsive criteria mentioned in the tender document. All qualified staff employed by the contractor, Call-out vehicles (owned or leased) as well as tooling and equipment specified must be available for use by the contractor within thirty (30) days from commencement of the contract.

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 a Works Project contract document, applying the tendered rates in order to arrive at a financial offer, receiving the contractor's Works Project contract document, and allocating the Works Project to the contractor, on a "winner-takes-all" basis as follows: "whereby the work will always be offered and, if accepted, allocated to, the highest ranked tenderer ("the winner") in the framework contracts, and only if he refuses (or if his offer is non-responsive) will the work be offered to the next highest ranked tenderer "stand-by".

In terms of the foregoing, "the contractor" in the procedures below is the contractor under consideration (starting with "the winner") for allocation of the Works Project.

The procedures are summarised under the stages below, wherein the Employer (acting through his agent) shall

Stage 1: Employer prepares Works Project contract document and prices bills of quantities using the contractor's rates

- a) select a Work Area for the execution of the Works Project;
- b) prepare a Works Project contract document, including Bills of Quantities and Scope Work therein; and
- c) compile priced bills of quantities using his framework contract rates;

Stage 2: Contractor collects copy of Works Project contract document and attends a Works Project meeting

- d) make available to the contractor a copy of the Works Project contract document with the Bills of Quantities priced by the Employer;
- e) simultaneously, invite the contractor to attend a compulsory Works Project meeting;
- f) conduct the Works Project meeting, including discussing any issues the contractor may have (this may result in changes being made to the Works Project contract document and it being re-issued); and
- g) receive any Refusal Notice from the contractor timeously after the meeting;

Stage 3: Contractor submits completed Works Project contract document and Employer allocates Works Project

- h) if the contractor who attended the Works Project meeting did not submit a refusal notice, request him 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
- i) test submission for completeness and allocate the Works Project to the contractor or, if his offer is non-responsive, repeat the processes in h) and i) with the contractor on the standby panel with the next highest ranking.

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 the contractor for this specific Works Project.

Stage 2

The Employer shall invite the contractor under consideration to attend a compulsory **Works Project meeting** at a time and venue disclosed in writing by the Employer.

The Employer shall issue the invitation **three (3)** working days prior to the meeting date, and simultaneously make available to the contractor his individually priced Works Project contract document.

The Employer shall conduct the compulsory Works Project meeting on the date specified. The purpose of this meeting is to inform the contractor of the Scope of Work required in the Works Project. The meeting shall furthermore serve to answer any queries the contractor 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 as in f) above). 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** 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 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). The contractor who **refuses** will be required to complete and return the Works Project Acceptance/Refusal Notice, either by fax or email, to the Employer within **five (5)** working days after the compulsory Works Project meeting.

Stage 3

The Works Project contract document shall be completed, signed and returned by the contractor to the Employer's agent's offices no later than **five (5)** working days after the date of the compulsory Works Project meeting or after receipt thereof if changes thereto were required (refer to f) above).

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 contractor who accepts, and the contractor may be requested by the Employer to complete and/or sign his submission, if necessary, should he 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) within the time stated herein, will be **excluded** from further participation in the Works Project allocation process.

Acceptance of the 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 be in the **value range** of above R0 up to R2 000 000 (including contingencies and VAT, but excluding contract price adjustment, if applicable).

Working days for these procedures are Mondays to Fridays.

SPECIAL MATERIALS SCHEDULE

Not Applicable to this Tender

Special Material	Unit	Base Price

ADVANCE PAYMENT SCHEDULE

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.

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.

Plant and materials which have been manufactured and are stored at places other than the Site:	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:

Conditions:

- 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.
- 2) Advance payment for the purposes of deposits will only be provided up to a limit of 20% of the value of any one item being claimed.
- 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.
- 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.

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

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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:

"Works" means: Works Projects which may be allocated individually or as a whole as the context provides, under Framework Contract No. 5Q/2021/22: Term Tender for FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN.

"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 R430 000.00.

Amount in words: Four Hundred and Thirty Thousand Rands

"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, whereafter 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 (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 (Priviously Zurich Insurance Co)
Coface s.a.
Compass Insurance Co.
Constantia Insurance Co.
Credit Guarantee Insurance Co.
Guardrisk Insurance Co.
Hollard Insurance Company Ltd.
Infiniti Insurance Limited
Lombard Insurance
New National Assurance Co.
PSG Konsult Ltd (Previously Absa Insurance Co)
Regent Insurance Co.
Renasa Insurance Company Ltd.
Santam Limited

CITY OF CAPE TOWN

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENANCE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

C1.4 Form of Advance Payment Guarantee

ADVANCE PAYMENT GUARANTEE

Not applicable to this tender

Schedule of Plant and materials

Not applicable to this tender

CITY OF CAPE TOWN

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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 aton 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

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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.: 5Q/2021/22

CONTRACT TITLE: REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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 Date.....
CONTRACTOR

CITY OF CAPE TOWN

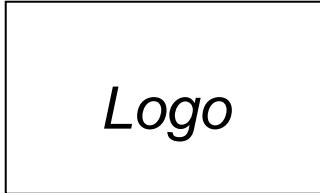
WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENANCE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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.: 5Q/2021/22

CONTRACT TITLE: REPAIR , SERVICING AND MAINTENANCE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENANCE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

C1.8 Contract of Temporary Employment as Community Liaison Officer

NOT APPLICABLE TO THIS CONTRACT

CITY OF CAPE TOWN

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

C1.9 Works Project Acceptance / Refusal Notice

Should the contractor accept the work opportunity, he shall do so on this form as part of his Works Project offer.

Should the contractor wish to refuse the work opportunity, he shall do so on this form, which must be returned to the offices of the Employer's agent as soon as possible, but not later than the date for submission of the offer.

The contractor who fails to submit a refusal notice, or an offer, by the due date will be **excluded** from further participation in the work allocation process.

I/We herewith

Accept	<input type="checkbox"/>	}	Tick applicable box
Refuse	<input type="checkbox"/>		

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.

CONTRACTOR'S NAME:

AUTHORISED CONTACT PERSON (NAME):

SIGNATURE:

DATE:.....

Part C2: Pricing Data

	Pages
C2.1 Pricing Assumptions.....	133 – 135

CITY OF CAPE TOWN

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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. Not applicable to this tender
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 measurement and payment clauses in a specification in which further information regarding the scheduled items is given, are referenced under "Item" (pay items) in the Schedules of Rates. The referenced clauses 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 first two digits of the specifications, e.g. 13 for COLTO Section – 1300.
4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
5. 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).
6. 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 or www.iso.org for information on standards).
7. 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.

8. A rate is to be entered against each item in the Schedules of Rates selected by the Tenderer **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.

9. 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 ²	=	square metre	sum	=	lump sum
m ² .pass	=	square metre-pass	MN	=	meganewton
ha	=	Hectare	MN.m	=	meganewton-metre
m ³	=	cubic metre	P C sum	=	Prime Cost sum
m ³ .km	=	cubic metre-kilometre	Prov sum	=	Provisional sum
l	=	Litre	%	=	per cent
kl	=	Kilolitre	kW	=	kilowatt
MPa	=	Megapascal	day	=	Working day
kPa	=	Kilopascal			

10. **Tenderers are to price the entire Scheulde of Rates, in accordance with clauses C.1.6.1 and C.2.10.5 in Part T1.2 Tender Data.**

11. 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.

12. 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 applicable to all regions within the CoCT tendered for (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.

13. Tenderers are referred to clause C.1.6.1 in Part T1.2 Tender Data with regard to working within the boundaries of the four regions identified within the City of Cape Town municipal area, as shown on the drawings and as tabled therein.

Rates submitted in the respective Schedules of Rates shall apply to Works Projects executed anywhere within the City of Cape Town.

14. 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.

15. The procedures for allocation of Works Projects are specified in Part C1.2 Contract Data (refer to Clause 2.6).

16. 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.

17. 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.

18. Tenderers are referred to Clause 6.8.2 in Part C1.2 Contract Data regarding contract price adjustment.

The following bills in Part C2.2 Bills of Quantities are deemed applicable to the following categories for the purposes of Contract Price Adjustment:

NO.	SCHEDULE	CPA CATEGORY
1.	GENERAL OBLIGATIONS	To be proportioned
2.	ACCOMMODATION OF TRAFFIC	Roads and earthworks
3.	OVERHAUL	Roads and earthworks
	ETC	

Part C3: Scope of Work

	Pages
C3.1 Description of the Works.....	137 – 144
C3.2 Engineering	145– 147
C3.3 Procurement	148 – 149
C3.4 Construction	150 – 164
C3.5 Management.....	165 – 206
C3.6 Annexes.....	207 – 214

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
COLTO Standardised Specifications

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

WATER AND WASTE : WATER AND SANITATION needs to source the services of a suitably skilled and adequately resourced service provider for the repair , servicing and maintenance of Archimedes Pumps for the City of Cape Town on an adhoc basis. These Archimedes Pumps are vital to the processes and running of the CoCT treatment processes.

3.1.2. OVERVIEW OF THE WORKS

The City of Cape Town operates various Treatment Plants and Pump Installations across most of the Cape Town Metropolitan area. The infrastructure that makes up the works around the municipal areas in some cases are interdependent and in some cases. stand alone. With the Archimedes Pumps, the operation has an effect both upstream and downstream.

This contract is specifically for the Repairs, Maintenance and Servicing as well as the Provision of spares for the CoCT in line to meet the stated objectives. Services shall be on an as and when required basis as instructed by the Employers Agent. These services will be required to ensure the entire process connected to the Archimedes Pumps run optimally.

3.1.3. EXTENT OF THE WORKS

Work items under this term tender contract may include any one or more of the following:

- Taking of onsite measurements and generating shop drawings
- Supply of and delivery of parts and spares for the various existing Archimedean Screw installations;
- Delivery to and off-loading of equipment to sites advised by the Employer
- Installation of spares and parts at existing installations.
- Dismantling, cleaning, inspection, reporting, repair, servicing, and reconditioning of existing Archimedean Screws;
- Removal of components off site should on site repairs not be feasible.
- Testing of equipment and submission of prescribed test reports and guarantees.
- Provision of all materials, consumables, spares, Service Provider's equipment, supervision, skilled labour necessary to undertake the required work.
- Provide detailed records for the proper reporting and accounting of parts and spares supplied as well as works executed.
- Liaise with the Employer's Representative, follow up with suppliers for all possible warranty claims, charges and adjustments

3.1.4. LOCATION OF THE WORKS

Refer to site information (Part C4) for Water and Sanitation Area Map. Works are located within 3 jurisdiction areas owned and operated by the City of Cape Town. The sites are limited to Wastewater treatment works, with the table below referencing the various Screws currently in service. This table is an overview and does not restrict the works specifically to the plants mentioned below:

Location	Description	Number of Screws	Diameter (mm)	Number of flights	Capacity in L/s	Overall Length(m)
Wesfleur Wastewater Treatment Works	Domestic Inlet Works	2	1200	3	300	11000
	Domestic RAS	4	700	3	95	7300
	Domestic MLSS	2	1000	3	231	6340
	Industrial Inlet Works	2	850	3	130	8605
	Industrial RAS	1	750	3	95	6906
	Industrial MLSS	1	1000	3	231	6905
Bellville Wastewater Treatment Works	Domestic Inlet Works	3	1300	3	300	6000
	Industrial Inlet Works	3	950	2	121	9930
	RAS	4	1400	Unknown	Unknown	10000
	A-Recycle	2	1600	Unknown	Unknown	10000
	Intermediate 1	3	1500	Unknown	Unknown	10000
	Intermediate 2	1	1400	Unknown	Unknown	10000
Cape Flats Wastewater Treatment Works	Inlet Works	4	2500	3	1275	19005
	RAS	12	1400	2	435	8937
Mitchells Plain Wastewater Treatment Works	Bypass Inlet Works	1	1100	3	235	11800
	Intermediate Pump Station Screw pump No 41 & 42	2	1700	3	463	18350
	Intermediate Pump Station Screw pump No 13	1	1300	3	310	10945
	Low Lift Screws	3	1300	3	290	10975
	High Lift Screws	3	1000	3	175	9620
	RAS	6	900	3	132	7790
Melkbosstrand Wastewater Treatment Works	RAS	3	600	3	65	7450
Borcherds Quarry	Inlet Works	2	1800	2	350	17360
	A-Works RAS	2	920	3	188	8405
Athlone Wastewater Treatment Works	Intermediate	3	2590	3	Unknown	11689
Wildevoevlei Wastewater Treatment Works	Inlet Works	2	1400	Unknown	486	14500
	RAS	2	1200	Unknown	150	10000

The following is a detailed breakdown of the screw technical details supporting the above table:

Wesfleur Wastewater Treatment Works	
Domestic Inlet Works	
Manufacturer	Landustrie
Operating speed(rpm)	44
Capacity(l/s)	300
Angle of Inclination (°)	35
Screw Diameter(mm)	1200
Tube Diameter(mm)	610
Tube Length(mm)	11000
Flight Length(mm)	10200
No. of Flights	2
Pitch(mm)	1120
Lift Height(mm)	5810
Motor Power(kW)	30
Domestic Return Activated Sludge (RAS)	
Manufacturer	Landustrie
Operating speed(rpm)	56
Capacity(l/s)	95
Angle of Inclination (°)	30
Screw Diameter(mm)	700
Tube Diameter(mm)	324
Tube Length(mm)	7300
Flight Length(mm)	6600
No. of Flights	2
Pitch(mm)	840
Lift Height(mm)	3575
Motor Power(kW)	5.5
Domestic Mixed Liquor Suspended Solids (MLSS)	
Manufacturer	Hidro-Tech
Operating speed(rpm)	50
Capacity(l/s)	200
Angle of Inclination (°)	30
Screw Diameter(mm)	1000
Tube Diameter(mm)	457
Tube Length(mm)	6316
Flight Length(mm)	5330
No. of Flights	3
Pitch(mm)	1000
Lift Height(mm)	2610
Motor Power(kW)	7.5
Industrial Inlet	
Manufacturer	Hidro-Tech
Operating speed(rpm)	56
Capacity(l/s)	130
Angle of Inclination (°)	35
Screw Diameter(mm)	850
Tube Diameter(mm)	508
Tube Length(mm)	8605
Flight Length(mm)	8170
No. of Flights	3
Pitch(mm)	850
Lift Height(mm)	4675
Motor Power(kW)	11
Industrial RAS	
Manufacturer	Hidro-Tech
Operating speed(rpm)	61
Capacity(l/s)	95
Angle of Inclination (°)	36
Screw Diameter(mm)	750
Tube Diameter(mm)	406
Tube Length(mm)	6906
Flight Length(mm)	6676
No. of Flights	3
Pitch(mm)	750

Lift Height(mm)	Unknown
Motor Power(kW)	5.5
Industrial MLSS	
Manufacturer	Hidro-Tech
Operating speed(rpm)	50
Capacity(l/s)	231
Angle of Inclination (°)	36
Screw Diameter(mm)	1000
Tube Diameter(mm)	508
Tube Length(mm)	6905
Flight Length(mm)	6680
No. of Flights	3
Pitch(mm)	10000
Lift Height(mm)	Unknown
Motor Power(kW)	11

Bellville Wastewater Treatment Works	
Domestic Inlet Works	
Manufacturer	Hidro-Tech
Operating speed(rpm)	42
Capacity(l/s)	300
Angle of Inclination (°)	38
Screw Diameter(mm)	1300
Tube Diameter(mm)	610
Tube Length(mm)	6000
Flight Length(mm)	5000
No. of Flights	3
Pitch(mm)	1300
Lift Height(mm)	3000
Motor Power(kW)	11
Industrial Inlet Works	
Manufacturer	Hidro-Tech
Operating speed(rpm)	52
Capacity(l/s)	121
Angle of Inclination (°)	38
Screw Diameter(mm)	950
Tube Diameter(mm)	508
Tube Length(mm)	9906
Flight Length(mm)	9480
No. of Flights	2
Pitch(mm)	950
Lift Height(mm)	6000
Motor Power(kW)	11
RAS/A-Recycle	
Manufacturer	Unknown
Operating speed(rpm)	33 / 33
Capacity(l/s)	Unknown
Angle of Inclination (°)	Unknown
Screw Diameter(mm)	1400 / 1600
Tube Diameter(mm)	900 / 1100
Tube Length(mm)	10 000 / 10 000
Flight Length(mm)	Unknown
No. of Flights	Unknown
Pitch(mm)	Unknown
Lift Height(mm)	Unknown
Motor Power(kW)	30 / 30
Domestic Intermediate 1 and 2	
Manufacturer	Unknown
Operating speed(rpm)	42 / 42
Capacity(l/s)	Unknown
Angle of Inclination (°)	Unknown
Screw Diameter(mm)	1500 /1400
Tube Diameter(mm)	1300 / 900
Tube Length(mm)	10 000 / 10 000
Flight Length(mm)	Unknown
No. of Flights	Unknown

Pitch(mm)	Unknown
Lift Height(mm)	Unknown
Motor Power(kW)	22 / 22

Cape Flats Wastewater Treatment Works	
Inlet Works	
Manufacturer	Hidro-Tech
Operating speed(rpm)	24.5
Capacity(l/s)	1275
Angle of Inclination (°)	38
Screw Diameter(mm)	2500
Tube Diameter(mm)	1420
Tube Length(mm)	19005
Flight Length(mm)	17476
No. of Flights	3
Pitch(mm)	2500
Lift Height(mm)	Unkown
Motor Power(kW)	220
RAS	
Manufacturer	Spaans Babcock
Operating speed(rpm)	48.92
Capacity(l/s)	435
Angle of Inclination (°)	35
Screw Diameter(mm)	1400
Tube Diameter(mm)	711
Tube Length(mm)	8937
Flight Length(mm)	7820
No. of Flights	Unknown
Pitch	Unknown
Lift Height(mm)	3900
Motor Power(kW)	25.8

Mitchells Plain Wastewater Treatment Works	
Bypass Inlet Works	
Manufacturer	Landustrie
Operating speed(rpm)	49
Capacity(l/s)	235
Angle of Inclination (°)	38
Screw Diameter(mm)	1100
Tube Diameter(mm)	660
Tube Length(mm)	11800
Flight Length(mm)	10880
No. of Flights	3
Pitch(mm)	1005
Lift Height(mm)	6000
Motor Power(kW)	22
Intermediate Pump Station No 41 and 42	
Manufacturer	Unknown
Operating speed(rpm)	31
Capacity(l/s)	610
Angle of Inclination (°)	38
Screw Diameter(mm)	1700
Tube Diameter(mm)	914.4
Tube Length(mm)	18350
Flight Length(mm)	16337
No. of Flights	2
Pitch	Unknown
Lift Height(mm)	9028
Motor Power(kW)	90
Intermediate Pump Station No 13	
Manufacturer	Hallmark
Operating speed(rpm)	41
Capacity(l/s)	310
Angle of Inclination (°)	38
Screw Diameter(mm)	1300
Tube Diameter(mm)	711

Tube Length(mm)	10945
Flight Length(mm)	10275
No. of Flights	3
Pitch(mm)	1300
Lift Height(mm)	Unknown
Motor Power(kW)	30
Low Lift Screw Pump	
Manufacturer	Spaans
Operating speed(rpm)	40
Capacity(l/s)	290
Angle of Inclination (°)	38
Screw Diameter(mm)	1300
Tube Diameter(mm)	610
Tube Length(mm)	10975
Flight Length(mm)	10220
No. of Flights	3
Pitch	1100
Lift Height(mm)	6000
Motor Power(kW)	30
High Lift Screw Pump	
Manufacturer	Unknown
Operating speed(rpm)	44
Capacity(l/s)	175
Angle of Inclination (°)	35
Screw Diameter(mm)	1000
Tube Diameter(mm)	458
Tube Length(mm)	9620
Flight Length(mm)	8456
No. of Flights	Unknown
Pitch(mm)	Unknown
Lift Height(mm)	5500
Motor Power(kW)	18.5
RAS	
Manufacturer	Spaans Babcock
Operating speed(rpm)	47
Capacity(l/s)	132
Angle of Inclination (°)	35
Screw Diameter(mm)	900
Tube Diameter(mm)	406
Tube Length(mm)	7790
Flight Length(mm)	7190
No. of Flights	Unknown
Pitch	Unknown
Lift Height(mm)	Unknown
Motor Power(kW)	11

Melkbosstrand Wastewater Treatment Works	
RAS	
Manufacturer	Lektratek Water Technology
Operating speed(rpm)	79.2
Capacity(l/s)	65
Angle of Inclination (°)	30
Screw Diameter(mm)	600
Tube Diameter(mm)	273
Tube Length(mm)	7450
Flight Length(mm)	6720
No. of Flights	3
Pitch(mm)	540
Lift Height(mm)	Unknown
Motor Power(kW)	4

Borcherds Quarry Wastewater Treatment Works	
Inlet Works	
Manufacturer	Spaans
Operating speed(rpm)	Unknown
Capacity(l/s)	350

Angle of Inclination (°)	40
Screw Diameter(mm)	1800
Tube Diameter(mm)	1110
Tube Length(mm)	17360
Flight Length(mm)	16530
No. of Flights	2
Pitch(mm)	1800
Lift Height(mm)	Unknown
Motor Power(kW)	Unknown
RAS	
Manufacturer	Lekratek Water Technology
Operating speed(rpm)	52
Capacity(l/s)	188
Angle of Inclination (°)	30
Screw Diameter(mm)	920
Tube Diameter(mm)	457
Tube Length(mm)	8405
Flight Length(mm)	7705
No. of Flights	3
Pitch(mm)	920
Lift Height(mm)	Unknown
Motor Power(kW)	11

Athlone Wastewater Treatment Works	
Intermediate	
Manufacturer	Unknown
Operating speed(rpm)	40
Capacity(l/s)	Unknown
Angle of Inclination (°)	36.5
Screw Diameter(mm)	2590
Tube Diameter(mm)	1220
Tube Length(mm)	11689
Flight Length(mm)	9694
No. of Flights	Unknown
Pitch(mm)	Unknown
Lift Height(mm)	Unknown
Motor Power(kW)	132

Wildevoevlei Wastewater Treatment Works	
Inlet	
Manufacturer	Unknown
Operating speed(rpm)	48
Capacity(l/s)	486
Angle of Inclination (°)	30
Screw Diameter(mm)	1400
Tube Diameter(mm)	800
Tube Length(mm)	14500
Flight Length(mm)	14444
No. of Flights	Unknown
Pitch(mm)	Unknown
Lift Height(mm)	Unknown
Motor Power(kW)	55
RAS	
Manufacturer	Unknown
Operating speed(rpm)	40
Capacity(l/s)	150
Angle of Inclination (°)	30
Screw Diameter(mm)	1200
Tube Diameter(mm)	800
Tube Length(mm)	10000
Flight Length(mm)	Unknown
No. of Flights	Unknown
Pitch(mm)	Unknown
Lift Height(mm)	Unknown
Motor Power(kW)	30

The above is based on information on hand , the duty remains with the contractor to confirm dimensions on site before any manufacturing commences to ascertain final dimensions and to ensure new components interface correctly with adjacent components.

3.1.5 TEMPORARY WORKS

Services during this contract will be at the facility identified by COCT where the services are required. Contractors must acquaint themselves with the applicable site conditions. Services and units need to be positioned and operated within approved positions on each site. The Contractor shall occupy only such ground as is necessary to carry out the work. He shall provide and maintain such access to the various sections of the Works as he requires for the proper execution of the work

Facilities are used daily for the pumping of raw sewage. Shut downs for extended time periods will not be allowed. The Contractor shall plan and programmed his work to ensure downstream operations are not affected. Services include the isolation, maintain, temporarily stop and restart the flow of effluent, water, etc., including emptying the structure as and when necessary, making working areas clean and free of sewage and safe for working when needed during works executed on Archimedes Pumps. All work shall be done in constant liaison with COCT for the full duration of the Contract as necessary.

3.1.6 WORKSHOP AND STORAGE FACILITY

Workshop and Storage Facility:

The service provider shall have access to a workshop and storage facility within 100km radius from the Bellville Water and Sanitation Head Office . The minimum requirements for the Workshop and storage facility are as follows:

- A working space designated for Stainless steel only, including, materials, storage, pickle and passivation area etc.
- No signs of possible mild steel contaminants in the fabrication, material or storage area
- Should have suitable lifting equipment (minimum 10 Tons) for the movement of Archimedes Pumps during repair works to be performed at workshop.
- Lathe(Bed Length (Between centres): 2200mm , Swing : 250mm)
- Hard flooring
- Welding Equipment

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

3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Due to this being a maintenance contract , no major design is envisioned , with the City to make available all relevant drawings and manuals where available. Where this is not available the design process is to follow the standard steps as described below wih responsible entity shown;

Description	Responsible
Brief and overall process	Employer
Taking of onsite measurements and generating shop drawings	Contractor
Final design to be approved for construction stage	Contractor
Temporary works	Contractor
Preparation of "as built" drawings	Contractor

All draft drawings are to be issued to the Employer for review and comments prior to final sets being developed. The above is applicable where a new design needs to be done and all designs to be approved by a Professional Technician or higher. Where the contractor is to do engineering designs , these shall be submitted in line with all relevant SANS and engineering standards for engineering drawings.

No capacity increase is expected and all new designs undertaken will be reverse engineered based on current capacity and size and shall be sized to suite interfacing components and infrastructure. This reverse engineering shall be supported by all engineering calculations showing structural capacity for the rated flow rate and subsequent power transmitted. This report shall be signed off by a Professional Technician or higher.

3.2.2 EMPLOYER'S DESIGN

The City will make available all design drawings where this is available. Where none exists , the contractor will have to provide designs that adhere to the following:

- Design submitted to be approved by a Professional Technician or higher
- Design meets the CoCT standard specification for Mechanical works

3.2.3 DESIGN BRIEF

All Archimedes Pumps developed must be as per the current rated capacity and designed in line with the CoCT standard specation for Mechanical Works. In addition , see Clause 3.4.3 for detailed information on details for Archimedes pumps.

3.2.4 DRAWINGS

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 following drawings are applicable to the contract and are issued with this tender document and will form part of the Contract Documents:

Athlone WWTW	
Drawing No.	
1	00004830EL
2	00004842EL
3	00004865EL
4	41065227CF
Bellville WWTW	
1	HT235-10_Screw Pump Fabrication_Domestic Inlet_Bellville W.W.T.W_(Rev 00)
2	HT235-11_Screw Pump Fabrication_Domestic Inlet_Bellville W.W.T.W_(Rev 00)
3	HT235-12_G.A. of 85mm Dia. Bt'm Bearing_Domestic Inlet_Bellville W.W.T.W_(Rev 00)
4	HT235-20_Screw Pump Fabrication_Industrial Inlet_Bellville W.W.T.W_(Rev 00)
5	HT235-21_Screw Pump Fabrication_Industrial Inlet_Bellville W.W.T.W_(Rev 00)
6	HT235-22_G.A. of 85mm Dia. Bt'm Bearing_Industrial Inlet_Bellville W.W.T.W_(Rev 00)
Borcherds Quarry WWTW	
1	41068231CF
2	41068382CF
3	41068383CF
4	41162052CF
5	41705515CF
Cape Flats WWTW	
1	Mechanical Drawings-HT227-10_G.A. Of Archimedean Screw Pumps_Cape Flats_(Rev 02)
2	41066480CF
3	41160668CF
4	41160990CF
Melkbosstrand WWTW	
1	41068934CF
2	41068935CF
3	41068948CF
4	41068949CF
5	41162673CF
Mitchells Plain WWTW	
1	Drawings-HT227-20_G.A. Layout of Archimedean Screw Pumps_Mitchells Plain By-Pass PS_(Rev 03)-Layout1
2	Drawings-HT227-70_Details of 85mm Dia. Bt'm Bearing - Screw Pumps_Mitchells Plain By-Pass PS_Sht 2_(Rev 00)
3	Drawings-HT227-70_G.A. of 85mm Dia. Bt'm Bearing - Screw Pumps_Mitchells Plain By-Pass PS_(Rev 02)
4	Drawings-HT227-70_G.A. of 85mm Dia. Bt'm Bearing - Screw Pumps_Mitchells Plain By-Pass PS_Sht 1_(Rev 02)
5	Drawings-HT227-80_G.A. of Drive Assembly_Screw Pumps_Mitchells Plain By-Pass_(Rev 02)
6	Drawings-HT227-81_Screw Fabrication_Screw Pumps_Mitchells Plain By-Pass_Sht 1_(Rev 00)
7	Drawings-HT227-81_Screw Fabrication_Screw Pumps_Mitchells Plain By-Pass_Sht 2_(Rev 00)
8	HT227-30_G.A. Layout of Archimedean Screw Pumps_Mitchells Plain_Low Level PS_(Rev 01)
9	HT227-31_Screw Pump Fabrication_Mitchells Plain_Low Level PS_(Rev 01)
10	HT227-32_Screw Pump Fabrication_Mitchells Plain_Low Level PS_(Rev 01)
11	HT227-33_G.A. of 85mm Dia. Bt'm Bearing_Mitchells Plain_Low Level PS_(Rev 00)
12	HT227-34_Details of 85mm Dia. Bt'm Bearing_Mitchells Plain_Low Level PS_(Rev 00)
13	HT227-35_Details of Pump Removal Support Base_Mitchells Plain_Low Level PS_(Rev 00)
Wesfleur WWTW	
1	HT235-007_Screw Pump Fabrication_Industrial Inlet_Wesfleur W.W.T.W_(Rev 00)
2	HT235-008_Screw Pump Fabrication_Industrial Inlet_Wesfleur W.W.T.W_(Rev 00)
3	HT235-30_Screw Pump Fabrication - Domestic RAS - Wesfleur W.W.T.W_(REV 00)
4	HT235-31_Screw Pump Fabrication - Domestic RAS - Wesfleur W.W.T.W_(REV 00)
5	HT235-40_G.A Layout of 1000mm Dia. Screw in Steel Trough_Industrial MLSS_Wesfleur W.W.T.W_(Rev 00)
6	HT235-50_Screw Pump Fabrication -Domestic M.L.S.S - Wesfleur W.W.T.W_(Rev 00)
7	HT235-51_Screw Pump Fabrication -Domestic M.L.S.S - Wesfleur W.W.T.W_(Rev 00)
8	HT235-70_Screw Pump Fabrication-Domestic Inlet - Wesfleur W.W.T.W_(Rev 00)
9	HT235-71_Screw Pump Fabrication-Domestic Inlet - Wesfleur W.W.T.W_(Rev 00)
10	HT235-80_G.A Layout of 75mm Dia. Screw in Steel Trough_Industrial RAS_Wesfleur W.W.T.W_(Rev 00)

Once bidders have purchased the tender document. The bidders may request the drawings listed above from the employer's agent (qaasim.soeker@capetown.gov.za). When requesting the drawings , please include proof of purchase of the tender documents.

The drawings, if any, issued with this tender document are included in order to give an overview of the term tender project.

Construction drawings will, in terms of the Conditions of Contract, be issued to the Contractor by the Employer's Agent, as 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.

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.

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

CONTENTS

- 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
- 3.4.5 LOCAL PRODUCTION AND CONTENT
- 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 is a list of Applicable standards and regulations. The works should conform to but not limited to the following:

STANDARD, ACTS , SPECIFICATION	DECRPTION
OHS Act,1993	Occupational Health & Safety Act No. 85 OF 1993, and Regulations
NEMWA Act 59,2008	National Environmental Management Waste Act (NEMWA) 59 of 2008
NEMA Act 107 of 1998	National Environmental Management Act, 1998
SANS 950	Unplasticized polyvinyl chloride rigid conduit and fittings for use in electrical installations
SANS 10121	Cathodic protection of buried and submerged structures
SANS 60529	Degrees of protection provided by enclosures (IP Code)
SANS 10064	The preparation of steel surfaces for coating
SANS 5772	Preparation of steel substrates before the application of paints and related products - Surface roughness characteristics of blast-cleaned steel surfaces - Profile of blast-cleaned surfaces determined by a micrometre profile gauge
SANS 1217	Internal and external organic coating protection for buried steel pipelines
SANS 10120 -2 HC	Code of practice for use with standardized specifications for civil engineering construction and contract documents Part 2: Project specification Section HC: Corrosion protection of structural steelwork
SANS 1200A	Standardized specification for civil engineering construction Section A: General
ISO 9001:2015	Quality Management Systems
AWSD1.1	Structural Welding - Steel
COCT STD MECH SPEC	City of Cape Town Standard Specification for Mechanical Works

3.4.3 PARTICULAR / PROJECT SPECIFIC SPECIFICATIONS

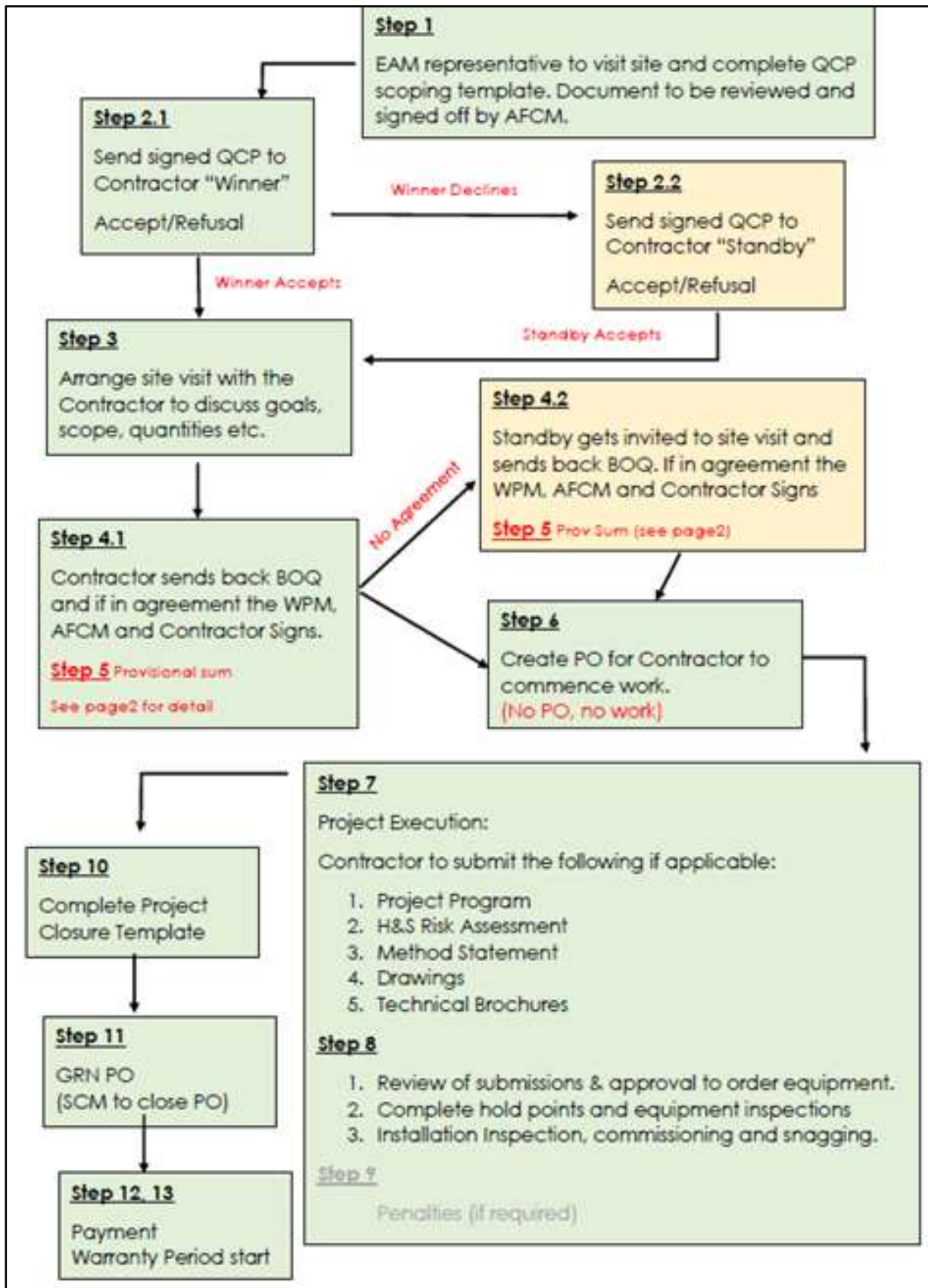
(i) WORKS EXECUTION

WORKS PACKAGE PROCESS FLOW

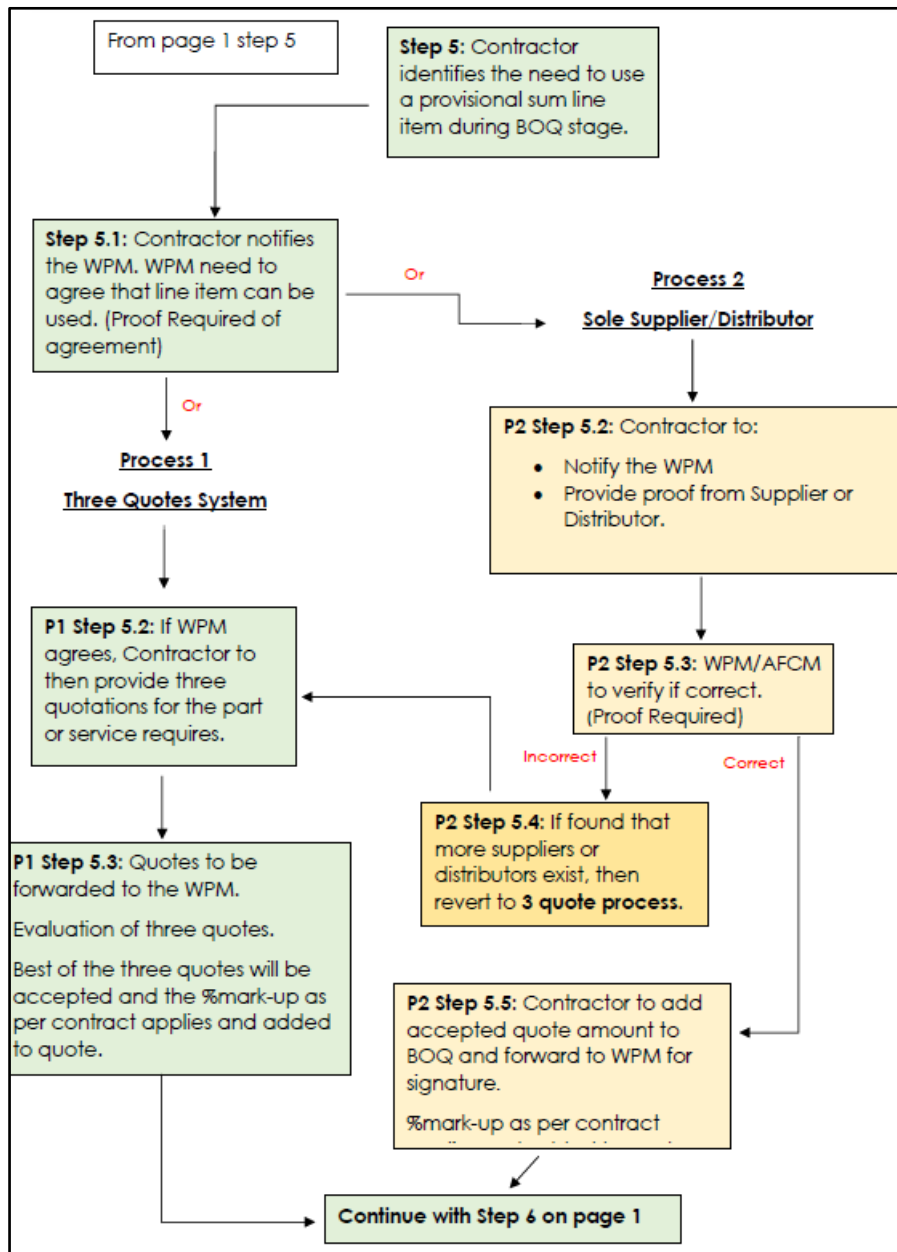
During the execution of works, there is a predetermined and clearly formulated process that needs to be followed and adhered to for each works package executed under this contract. The process is as follows:

1. Scoping Document to be completed by CCT
2. Contractor Accept/Refusal Works Project (Winner / Standby)
3. Site Visit, if required (Contractor and CCT)
4. Contractor and CCT Agree on BOQ Items based on Scoping and SOR (Both)
5. Provisional Sum (If Applicable) – Proof of Three (3) Quotes
6. Purchase Order (CCT)
7. Risk Assessment/Method Statement/Timeline(Supplier)
8. Execution of Works Project
Inspection Hold Point / Quality Control documentation
9. Penalty (If Applicable)
10. Completion Acceptance (CCT)
11. Invoice (Supplier)
12. Payment (CCT)
13. Warranty Period

A more detailed process flow is shown in the graphic below;



If the between the service provider and the CoCT, its agreed that a provisional sum will be utilized, the following additional steps will be required:



PLANT MATERIALS AND TOOLS

All plant, tools, equipment and consumables that are required for undertaking the work shall be provided by the Service Provider and will be included in tender rates. All material, spare parts, components, equipment and accessories necessary for the works shall be supplied and installed by the Service Provider and included in the cost.

PROVISION OF CONSUMABLES

All consumables and lubrications used shall be suitable for application as per the service requirements of the Original Manufacturers specifications as detailed in the Archimedes Pumps maintenance manual. Deviation from this will only be allowed if approved by the Employers Agent.

TREATMENT OF EXISTING SERVICES/UTILITIES

The service provider shall familiarise himself with all existing services and liaise with all relevant authorities for the location and detection of existing services/utilities. The Service Provider shall also use all necessary means to locate and expose services/utilities without damage to such services/utilities, should it be necessary.

DAMAGE TO SERVICES/UTILITIES

The service provider shall ensure that his employees do not interfere with, or cause damage to any existing services/utilities that may or may not hinder the operation of the Works and he shall instruct them to refrain from entering areas where they are not required to carry out any work related to the contract.

REINSTATEMENT OF SERVICES/UTILITIES AND STRUCTURE DAMAGED DURING EXECUTION OF THE WORKS

The service provider shall be responsible for the reinstatement of all services/utilities damaged as a result of his activities while on site. All reinstatement and repair costs shall be fully borne by the service provider no claims against the City of Cape Town will be entertained.

(ii) UTILITIES AND FACILITIES PROVIDED BY THE EMPLOYER

WATER SUPPLY

It is not expected that the Service Provider may need to obtain his own connection points from the Municipality's Water Supply for the execution of this Works as most sites will have connection points available.

Where water connection point is available these points will be allocated by the COCT with detail of: location, water quality, approximate pressure, source.

Western Cape government and COCT, during the drought, issued by-laws restricting the use of potable water. These regulations need to be adhered to. Wherever possible, Treated Effluent should be used.

The Service Provider shall make himself thoroughly acquainted with the regulations relating to the use of water and shall take adequate measures to prevent the wastage of water.

The City of Cape Town accepts no responsibility for the shortage of water due to any cause whatsoever, nor additional costs incurred by the Service Provider as a result of such shortage where municipal water is available. No direct payment will be made for any costs incurred neither for the provision of a water supply point nor for the cost of water drawn.

On sites where no municipal water is available the Service provider will allow for a mobile water tanker with pressure pump and will be charged separately as indicated in the Bill of rates.

POWER SUPPLY

The Service Provider may use the City of Cape Town's existing electricity supply and shall not be charged for reasonable use for the execution of tasks that fall under this Contract.

Where available the Electricity connection point, phase, source, will be allocated by the COCT.

The City of Cape Town accepts no responsibility for the availability, or lack of electricity. Where needed mobile generators will be supplied by the service provider.

LAYDOWN AND STORAGE AREA ON SITE

It is not expected that the Service Provider may need or require storage areas under this Contract on site. However, if storage areas are required, these areas will be provided on the various sites and shall be indicated to the Service Provider on an ad hoc basis.

The Service Provider shall confine his storage of materials to the areas designated. On completion of the Works, the surface of the areas utilised shall be re-instated.

The Service Provider shall continuously clear up and make good when any service or facility is no longer required. He shall leave the employer's facilities in the condition they were before the Service Provider first made use of them.

The Service Provider shall continuously clear and dispose of waste and surplus materials to maintain the site in a tidy and safe state.

LIFTING DEVICES ON SITE

Where gantries and overhead crawl beams are available the service provider may make use of these facilities adhering to the Safe Loading Limitations and safe lifting practices as stipulated by the OHSAct.

(iii) FACILITIES PROVIDED BY THE SERVICE PROVIDER

SITE OFFICE

Due to the nature of work of be undertaken under this contract, no site office will be required.

LABOUR

The service provider is responsible for providing all labour necessary identified for individual works package. This labour shall be competent and relevantly trained for the work to be undertaken.

VEHICLES AND EQUIPMENT

The Service Provider shall be responsible for supplying transport for employees, equipment and goods for the duration of the Contract.

COMMUNICATION

The Service Provider shall ensure that he is reachable by telephone, email and a cellular telephone connection to ensure that he can be reached during normal working hours, an emergency contact will be provided for after hour availability.

CoCT shall furnish the Service Provider with a list of contact details of all his operating personnel at the various installations.

SITE ACCESS

Access to site shall be limited to the Service Provider and his personnel. The Service Provider shall be responsible to control unauthorized entry to the site and shall inform the Employer of any breach of such rules. The site shall be managed and used for its intended purpose.

Sites vary in access control between large and smaller operating plants. The service provider shall ensure that all personnel adhere to the site-specific health, safety and security requirements, procedures and protocols.

TRANSPORT, SAFEKEEPING AND STORAGE

Equipment shall be as complete as possible before removal from site. Stripped equipment shall be assembled as far as possible. Equipment may have been stripped to assess damage. Loose components e.g., keys, shall be tied or taped to the equipment to prevent loss. Equipment shall be properly marked and tagged with the appropriate address and functional location it has been removed from.

Equipment shall be placed on a pallet or dunnage and securely strapped down. Suitable shock absorbing material shall be used between the module and the pallet/dunnage, e.g. rubber mountings, conveyor belting, or rubber sheeting. The Service Provider shall provide transport that is capable of handling the equipment safely, is roadworthy and has an up-to-date service record. Proof shall be submitted to City of Cape Town on request. The Service Provider shall provide up to date inspection log sheets for cranes, slings, tie down straps and all other lifting equipment as required by the OHS Act of 1993, which is specified elsewhere in the document.

Notwithstanding the above the Service Provider shall submit a safety management plan or policy governing maintenance of equipment and facilities.

Motors and other equipment shall be tied down to prevent any movement or toppling over during transport. Damage to equipment during transport shall be for the account of the Service Provider. Equipment that is returned shall be suitably protected against the elements. Protection like plastic shrink wrap is acceptable. The Service Provider shall submit a plan of where equipment will be stored prior to the stripping process. The plan shall indicate protection against inclement weather and access by third parties. The forming of condensation or ingress of moisture shall be prevented at all times.

The area shall have a concrete floor and equipment shall be stored on the floor on wooden pallets or rubber mats. Where applicable spares shall be kept on shelves on site.

Components belonging to the same module shall be stored next to the module.

Each item in the storage area shall have a label affixed to it with the following information:

- Serial number
- Description of material/equipment
- Date of removal from service
- Site it was removed from if applicable.
- Contact person of the Employer
- Any additional information which the Service Provider might deem necessary.

The appointed bidder will be entirely responsible for the safe custody and transportation of equipment and materials from the time and day the removed equipment or materials are received by the Service Provider, either at COCT site or at the Service Provider's site of work, up to the time of delivery back. Please note that the Service Provider/s will be responsible in the event of theft, vandalism or damage, the replacement of any material issued to him/her by COCT, until such time as the equipment has been delivered to COCT.

The Service Provider must therefore ensure that he/she is adequately insured against any such possible occurrences.

ABNORMAL LOAD

The service provider is responsible for ensuring adherence with all requirements for the transporting of an abnormal load to and from site. The abnormal load must be transported in accordance with the National Road Traffic Act (Act No. 93 of 1996) with all permits and signage required to be provided by the service provider at his/her cost.

SITE LIFTING EQUIPMENT

Where there is no or insufficient lifting equipment available on site by the CoCT, the service provider is responsible for ensuring that sufficient lifting equipment is available to perform the works.

DELIVERY PERIOD AND TIMES

All scheduled supply, delivery, service, repair and maintenance work must be completed in an agreed time frame and within normal working hours. Overtime and after-hours work shall only be considered if instructed by the Employer's Agent.

MANAGEMENT OF REDUNDANT EQUIPMENT

All replaced parts and components will be returned to the COCT site where it originates from. The Contractor shall keep a record of all scrap generated by the replacement of parts. This record shall refer to the serial number it is generated from.

Scrap shall be stored separately and shall be delivered to site indicated by the Employer's Representative.

The Loss Control section within Water and Sanitation Services will advise on how the scrapped assets will be disposed of. The Engineering and Asset Management maintenance department will be responsible to co-ordinate and manage the scrapping of equipment on behalf of the client branches since the maintenance department is the first of line contact with the contractor.

Any equipment deemed as uneconomical to repair will be assembled and returned to the depot or site from which it was collected.

ADVERTISING RIGHTS

All notices, signs and barricades, as well as advertisements, may be used only if approved by the City of Cape Town. The Service Provider shall be responsible for their supply, erection, maintenance and ultimate removal.

ALTERATIONS, ADDITIONS, EXTENSIONS AND MODIFICATIONS TO EXISTING WORKS

No alterations, additions, extension and modifications to existing Works will be required under this Contract, unless specifically instructed so by the City of Cape Town.

(iv) MANAGEMENT

IDENTIFICATION OF SERVICES REQUIRED

The Service Provider shall be notified by the Employer's Representative if any services are required. The Employers Agent will inform the service provider of any part or spares requirements to be delivered to the municipal Depots or to the sites or of specific Archimedes Screw Pumps that need to be serviced, repaired and maintained.

Due to the uncertainty and fluctuation of the Municipality's requirements, no indication can be given as to the quantities of the above-mentioned items which will be required under this contract. The Service Provider will therefore be required to supply the requirements in such quantities as may be required by the Municipality from time to time. When supplies are required, the Municipality will endeavour to place orders on an as- and- when- required basis, as far in advance as possible.

WORKS NOT TO INTERFERE

The various operations that make up the Works will be operational throughout the Contract. The Service Provider shall ensure that the Works do not affect operations without good reason and that there is access at all times.

The above is dependent on the extent and nature of works to be undertaken and sufficient planning and consultation needs to be done by the Employers Agent and the service provider to ensure that there is no interference in the works operations, with pumps available, if necessary, to compensate for the absence of the Archimedes Pumps if necessary.

(v) **QUALITY**

DATA PACKS

At the end of the Project the Service shall prepare and submit the following Quality Data Pack which shall include the following:

- Method Statement
- Manufacturing and Installation QCP (See 5.5.2), including Review, Hold and Witness Points
- Material Certificate (Where applicable)
- Welding procedure in line with manufacturing method statement
- Welders Certificates
- Test Certificates/Reports (Including calibration certificates, where applicable)
- Commissioning Report
- Snag List as Identified by the Employer

The time and date of any test(s) that the Employer's agent or Authorised Person will witness, must be mutually agreed upon.

QUALITY CONTROL PLAN

The service provider, upon request by the Employer's Agent, shall develop a manufacturing and installation QCP for the approval by the CoCT prior to commencing any works. This shall detail and include all hold and witness points. These hold and witness points shall make allowance for City representation where necessary.

In the event that tests fail the Service Provider shall be required to perform such tests again at his own cost. The cost of the Employer's Representative, or his representative, to witness the retest shall be for the Service Provider's account

APPROVAL OF EQUIPMENT

The equipment and material will be accepted at the place of delivery only with regard to the number and outward appearance of the packaging and not withstanding any receipt that may be given, these items will remain liable to rejection on or after arrival at the place to which they were consigned, if not in accordance with the Contract.

Rejected items will be held at the risk and expense of the Bidder/Service Provider/Seller, who before such items are replaced, will pay full railage, shippage or airfreight from the place of delivery to the place rejected; also handling charges, storage and customs duty, if any. Rejected items will, if required, be replaced by the Service Provider/Seller immediately on receipt of notification of the rejection.

QUALITY CONFORMANCE

Wherever applicable the material is to comply with the relevant South African Bureau of Standards or to British Standard Specifications, where no SANS standards exist.

Materials wherever possible, must be of South African manufacture.

CALLING FOR SAMPLES

The Employer's Representative may call for samples of equipment, fittings or parts offered to be submitted. The Service Provider shall confirm the availability of such fittings and/or equipment. The approval of these fittings shall in no way reduce the Service Provider's liability to provide a complete and proper installation of the highest quality.

Unless otherwise stated in writing all equipment supplied by all parties shall be new and unused.

UNIFORMITY

All items of the same type of equipment shall where possible be of the same make and type throughout the installation to ensure interchange ability and uniformity. Parts and pieces of equipment belonging logically together shall be from the same supplier. Manufacturers Specification, codes of practices and installation instructions

All equipment and materials shall be installed, serviced and repaired strictly in accordance with the Original Equipment Manufacturer (OEM) specifications, instructions and codes of practice.

QUALITY MANAGEMENT

The service provider will indicate their in-house quality control procedures that is followed. This must be supported by the relevant certificate proving valid accreditation.

(vi) GENERAL SPECIFICATION FOR WORKS

GENERAL

This generic specification for Archimedean screw pump systems shall apply whenever it is relevant for service or repairs, subject to client's requirements and functionality of the said equipment.

All detailed design information including the materials used for construction, tolerances, dimensions, assembly instructions, maintenance information etc. shall be obtained from the As Built drawings, original equipment manufacturers manuals and other documents available to the Employer's Representative. These documents shall be requested prior to any work commencing on site. Where there are discrepancies between this specification and as built or OEM manuals, the as built and OEM manuals will take preference.

a) DESIGN CAPACITY (D26.1.1 – REFERENCE TO COCT STD SPECIFICATION FOR MECHANICAL WORKS)

Details of screw pump duties will be provided by COCT as these are site specific and the type of pump and materials of construction shall at all times be selected to suit the fluid to be pumped and the performance requirements.

While the pumps serviced and repaired shall be arranged to suit this duty, allowance shall be made to permit the pump capacity (speed) to be increased by at least 20 % in the future should this be found to be necessary. Motors, gearboxes, couplings, vee-drives, etc., shall accordingly be rated to suit such an increased duty.

b) DESIGN DETAILS (D26.1.2)

The central tube, end plates, shafts and fixing arrangements shall be designed to prevent distortion and fatigue in accordance with accepted standards of design. Design, fabrication and the assessment of design life shall be in accordance with BS 5400, as applicable. Other equivalent standards may be used but shall be clearly indicated by the Supplier. Stress calculations shall not include any allowance that might be claimed by the attachment of the flights to the centre tube or to buoyancy when the screw is lifting liquid. The Supplier shall provide details of their design calculations and design parameters.

c) FLIGHT AND FLIGHT EDGING

A width of at least 50 mm of the screw blade outer and leading edges shall consist of an approved corrosion and abrasion resistant material which shall be welded to the main part of the screw blade. Screw blades shall be evenly spaced and accurately machined to a cylindrical shape. The concentricity of the diameter of the flights shall be within 5mm along the entire length of the screw.

d) WELDING

Welding shall be carried out by the submerged arc or inert gas protected process. Welded joints, shall as far as possible be kept out of the central section of the screw tube. Attachment of the flights shall be by continuous fillet welds on both sides of the flight plating interrupted where it intersects centre tube welds. Structurally critical welds shall not be ground smooth with only weld spatter removed before painting. All welding shall be in conformance to AWS D1.1 or another acceptable standard.

e) STUB SHAFTS

Stub shafts shall not have any abrupt changes of section and shall be readily removable for replacement. The fixing arrangements for stub shafts and end covers shall be air and watertight. All other joints, spigots, threads and crevices of any nature shall also be sealed during assembly using flexible sealants to prevent the ingress of water, moisture or air.

The concentricity of the stub shafts relative to the outer diameter of the flights shall be within 5mm. this shall be supported by the relevant test report. Any deviation must be approved by the delegated CoCT personnel.

f) UPPER BEARING

The upper bearing shall be mounted on a rigid support frame which shall also seal the opening in the motor room wall. Cover plates shall be removable. Components sealed inside the building may be hot-dip galvanized and painted carbon steel, but all exposed metal shall be EN Grade 1.4401 (316) stainless steel.

The upper bearing shall be designed to take the axial thrust and the applicable radial load. It shall be possible to easily dismantle and replace this bearing assembly without removing the stub shaft. Means for supporting and holding the screw pump while this is done shall be provided. The bearing arrangement shall be grease lubricated and fitted with seals on both ends. Care shall be taken to ensure that the greasing point is readily accessible. Bearings shall be designed for an L10 life in excess of 100 000 hours.

g) BOTTOM BEARING

The bottom bearing shall be a sleeve bearing of the grease-lubricated, heavy-duty type mounted in a cast iron housing. The bearing shall be sealed against the ingress of liquids. The design shall be such that rags and similar material do not accumulate around the bearing. The bottom bearing shall be continuously grease lubricated by a grease pump when the screw pump operates. The bearing and seals shall be easily removable.

h) FASTENERS

All fasteners and anchor bolts in the trough or exposed on the outside of the building shall be of EN Grade 1.4401 (316), or better, unless high tensile fasteners are necessary in which case they shall be painted as for the screw pumps. Please note that cap head screws are not acceptable.

i) GREASE PUMP AND CONFIGURATION (D26.1.3)

The grease pump for lubricating the screw pump's bottom bearing may be driven by the main screw pump motor or by a separate motor. In the latter case, the main screw pump motor must be so interlocked that it cannot operate unless the grease pump operates.

Suitable facilities shall be provided so that the grease pump can be used for priming the grease pipework without running the main screw pump motor.

The output from the grease pump shall be adjustable between maximum and zero. The amount of grease required by the bearing and the maximum output from the pump shall be determined from site.

The grease container shall have a capacity of more than 1 kg and an indicator shall be provided to indicate the grease level. The container shall be easy to refill without stopping or affecting the operation of the pump. The pump shall be provided with a feature that will release any air trapped in the grease during filling.

j) GREASE PIPEWORK (D26.1.4)

The grease shall be piped to the bottom bearing using high pressure nylon tube with EN Grade 1.4401 (316) stainless steel fittings or stainless-steel tube. The tube shall be enclosed in a rigid polyethylene pipe duct which shall be installed down the side of the trough behind the splash plates.

A device shall be provided to allow the Operator to confirm the grease flow in the pipeline.

k) CORROSION PROTECTION OF SCREW (D26.1.5)

The screw drum and blades shall be protected against corrosion by applying the System for Large Immersed Steel Fabrications (not requiring a decorative finish) Clause D14.5.4 of the Standard Specifications for Mechanical Works, i.e. polyamine/amide cured coal tar epoxy. The coating shall cover the abrasion and corrosion resistant material used on the screw blade outer and leading edges.

l) PAINTING SYSTEM (D5.5.3)

The following system is recommended for steel structures subjected to immersion, semi – immersion and non-immersion:

Step	Preparation / Coating Method	Minimum dft (µm)
1	Blast steel surface to ISO-Sa3 in accordance with ISO 8501	
2	Coat of polyamine/amide cured coal tar epoxy.	140
3	Coat of polyamine/amide cured coal tar epoxy.	140
4	Coat of polyamine/amide cured coal tar epoxy.	140
	Total Thickness	420
Each coat shall preferably be of a different colour. Two coats will be acceptable if recommended by the paint manufacturer.		

m) MATERIALS OF CONSTRUCTION

The following are the recommended materials to be utilised during the manufacturing of the works:
This Clause shall be read in conjunction with the requirements of the Standard Specification for Mechanical Works.

The schedule below indicates the materials of construction, etc., upon which the main Tender offer shall be based.

- **Screw tube:** Carbon steel with 304 L stainless steel tip.
Inside: If tube flange has a large opening, spray coat with Tectyl or equal approved mastic sealer. If tube is closed, drill and tap 15 mm hole, pour machine oil inside and rotate tube to wet surface. Drain off excess oil and fit 15 mm stainless steel plug.
- **Screw** S355JR Steel with SS304L Flight Tips.
- **Splash guard:** 304 L stainless steel plate of minimum thickness 3 mm.
Splash guard anchor brackets 316 L stainless steel plate of minimum thickness 8 mm and clamp plates. Or GRP as per site specific requirements.
- **Top bearing housing:** Cast Steel, painted system for Cast Iron Components.
Top bearings: Alloy steel of highest quality, with steel or brass cages. Bearing suppliers shall be "SKF", "FAG", "NSK" or equivalent approved.
- **Bottom bearing housing:** Cast Steel, painted system for Large Immersed Painted Fabrications (non-chalking surface).
- **Bottom bearing wearing parts:** Phosphor bronze / Vesconite(Or similar approved)
- **Seals:** Elastomer seals with dust lip.
- **Grease lubrication piping:** 316L Stainless steel with 316 L stainless steel clamps and anchor bolts.
- **Fasteners and anchor bolts:** 316 L Stainless steel. Coated High Tensile Bolts to be used for stub-shaft to screw connection

n) BLAST CLEANING OF COMPONENTS

Before coating, all new steel surfaces shall be abrasive blast cleaned in accordance with Section 4.3 of SANS 10064 to a preparation grade of ISO-Sa3 in accordance with ISO 8501. The blast profile, measured in accordance with SANS 5772 (dial gauge), shall be in the range of 50 to 75 µm. The abrasive shall comply with SANS 10064 and shall be free from all traces of oil, grease, foreign matter and corrosive contaminants such as chlorides, etc. The blasted surface shall be cleaned and degreased as required. The prepared surface shall be given the first coat of the painting system within 4 hours after blasting.

In instances where stainless steel and 3CR12 are to be painted, the surface shall be suitably abrasive blasted prior to primer application.

o) REFURBISHING OF SCREW AND EQUIPMENT

The Service Provider shall provide all mechanical plant required to recondition the screw pump for the full duration of the works to be done. The Service Provider will make available high-pressure water jet blasters to jet blast rust sealing and caulking from the bolts or fixing system.

The Service Provider shall inspect all rotating elements, top and bottom bearings including pedestals, grease pumps, screw shaft, blades, frames etc. of the screw pump system for conformance to original design tolerances and operation with the existing operations and maintenance manual.

Blast cleaning of the screw pump body, frames etc., Restoring and/or, if necessary, part renewal of the flights of the screw pump adjustment of the outside diameter on a lathe to the required size Checking the roundness of the screw pump and balancing and re-machining the flanges in accordance with original design tolerances and replacement of all fasteners.

Corrosion protection coating is applied to all steel elements as per the original design drawings and documents as well as the City of Cape Town's Standard Specification for Mechanical Works. The screw pump must be operational after re-installation. Screw pumps need to be tested after installation. An Inspection report shall be made out per screw pump reconditioned.

Where the operation of a facility or system is required to be continuous water and wastewater shall be managed to ensure an operational facility.

p) SCREEDING

Rough pre-cast surfaces to be thoroughly cleaned to remove all dirt, oil, grease and dust. Ensure that the trough is rough and wet enough for proper attachment of the final screed.

Suggested Screed Mix:

- Ordinary Portland cement : 1 part
- Washed sand (having particle size of 1/8" max.): 2½ parts
- Sika Latex (1 part per 40 parts water)
- Slump of 25 to 40mm

Wood frames and shuttering to be placed before work commences to contain screed.

To ensure a bond between concrete and screed apply a bonding agent coat of Sealocrete or similar approved product and apply to manufacturer's specification.

Vibratory screeding beams may be used to form the trough. It is recommended that screeding be done from the base of the screw and worked in sections. After screeding the concrete should be covered by tarpaulin (plastic) to prevent the screed from drying too quickly. If required water can be sprayed on the screed provided the screed is sufficiently cured to prevent it from sagging.

Remove any screeding motors or bars and all forms/shuttering. Remove any blocks preventing rotation of the screw. Rotate screw by hand to check for points of interference.

q) SPLASH GUARDS

- Splash guards may be installed after screeding operations conclude.
- Splash guards are an extension of the trough and must be installed as per design.
- Check that the screw can be rotated freely without interference.

r) REPAINTING ON SITE

The suggested method of repainting small corrosion spots during installation of new or refurbished units are as follow: Remove all foreign matters like oil, grease, dirt, salts, etc. by suitable means from the area to be treated, including a sufficient surrounding area. Hand/mechanical clean the rusted spots to the minimum standard ISO 8501.

Feather the edges of the surrounding coating system and make sure the overlap areas is roughened up in order to improve adhesion and to make sure the surrounding remaining coating system is sound and properly adhering. Use ,1 Coat - Amerlock 400C, or similar approved, fast dry epoxy with minimum dry film thickness of 100 microns.

Repainting shall only commence after any screeding or other installation procedures.

s) SUNDRY CONCRETE WORKS

Aggregates for watertight concrete shall be granites from a commercial source with a known low-alkali content. The material used for grouting shall be a non-shrink, cementations grout (ABE Duragrout 1000, or equivalent). ABE Epidermix 324, or equivalent, is acceptable if the Service Provider's design requires an epoxy grout to be used.

For minor concrete works (plinths):

After shuttering by the Supplier, both upper and bottom bearings can be grouted. Use of special chemicals to speed up hardening is not recommended unless special non-shrinking concrete is used due to the risk of shrinking

(i) **MEASUREMENT AND PAYMENT**

A1 - On site Operation: Mobile Plant, Tools and Equipment

Unit: hour (Hr)

Plant and equipment are the tools required to complete the works. Plant and equipment can typically include: mobile crane, generator and mobile pumpset.

The unit of measurement shall be an hourly rate to establish, operate and de-establish mobile plant, tools and equipment required for the Works. All equipment used and claimed for must clearly be stated in the Works Package and Works Programme.

The rate shall include charges for overheads, fuel, maintenance, charges and profit including woven slings, steel rope, steel chains, shackles etc. as required for rigging and lifting. The requirements for rigging and lifting equipment shall be the responsibility of the Service Provider. The rates for plant shall, in addition, cover the cost of insurances, hiring where required, consumable stores, operating fuel and maintenance.

A2 - Transport Charges

Unit: kilometre (km)

The unit of measurement shall be a kilometre rate for the transport and delivery of materials, equipment, mobile plant and labour to site and workshop as ordered by the Employer's Agent.

The rate shall include charges for overheads, fuel, driver, delivery, loading, offloading, maintenance of vehicle, and profit.

Where the rate indicates abnormal load, this shall include all necessary permits, signage to ensure compliance to the National Road Traffic Act (Act No. 93 of 1996).

A3 - Labour charges

Unit: hour (Hr)

The unit of measurement shall be an hourly rate to supply the required labour. The unit rates for labour and plant, or the percentage allowances for addition to the net cost of labour and materials shall cover overhead charges and profit, site supervision and site staff, insurances, holidays with pay, and use and maintenance of tools and equipment.

The rates or allowances shall also cover travelling allowances or travelling costs, lodging allowances and any other emoluments and allowances payable to the workmen. Separate items will be listed in the Bill of Rates for different labour types and working hours.

A4- Cleaning of structures

Unit: m3

The unit of measurement shall be per meter cubed of material removed.

The rates shall include all equipment and materials required to clean dirt, sand, sludge etc. from channels, chambers and other structures as and when necessary and disposal at an approved site. The rates shall include all loading and offloading of materials (transport measured elsewhere).

B1 - Supply of spares

Unit: No/m/m2

The unit of measurement shall be the quantity of spares supplied.

The tendered rates shall include full compensation for the supply into storage or on the site, etc., as well as all royalties, patent rights, etc. Separate items will be listed in the Bill of Rates for different types and sizes of equipment.

B2 - Supply of Archimedean Screws and Ancillary Components

Unit: No

The unit of measurement shall be the number of Archimedean screws and equipment supplied.

The tendered rates shall include full compensation for the design, manufacture, manufacture to existing designs, corrosion protection, testing, etc., as well as all royalties, patent rights, etc., for a complete operating Archimedean Screw, supports, bearings, stub shafts etc. corrosion protection etc., as specified. All new supplies shall be accompanied by a technical data sheet. and the Manufacturer's installation, operation and maintenance instructions.

Separate items will be listed in the Bill of Rates for different types and sizes of equipment.

B3 - Refurbishment of Stainless-steel Splash guard**unit: Kg**

The unit of measurement shall be the kg of screw splash guards refurbished.

Blast cleaning of the screw pump Guard and Trough, Restoring and/or, if necessary, part renewal of the stainless-steel splash guard adjustment of the inside diameter on a lathe to the required size in accordance with original design tolerances, including pickling and passivating the materials.

B4 – Supply of Stub Shaft Material**Unit: kg**

The unit of measurement shall be for the supply of the raw material including all labour and subsequent equipment and machinery as needed to machine to size.

B5- Mark-up rates**Unit: %**

The unit of measurement shall be a % Mark up on items provided utilizing the provisional sum.

B6 - Supply and Fitment of Flights / Flight Tip Material**Unit: m**

The unit of measurement shall be per metre of steel and include all costs associated with supply, rolling to profile and labour for the welding of sections onto damaged steel profiles.

C1 - Alignment of screw pumps**Unit: Hr**

The unit of measurement shall be based on the time needed to align the Archimedes Pump Drive End with Gearbox, Post Installation and shall include all labour necessary to perform alignment.

C2- Re-screed screw pump trough**Unit: m²**

The rates shall include the re-screed of screw pump troughs and sump and prepare all areas to receive screw pump and all components complete and remove all building rubble off site. The rate shall include any necessary formwork that is necessary to execute the works.

C3 – Repair of Concrete**Unit: m³**

The rate shall include all costs associated with the supply , labour and all necessary formwork necessary to institute the concrete repair works.

3.4.4 WAYLEAVES, PERMISSIONS AND PERMITS

The Contractor shall be responsible for obtaining all of the necessary wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall ensure that any wayleaves, permissions or permits obtained by the Employer's Agent prior to the award of the contract are transferred into the Contractor's name.

The Contractor shall abide by any conditions imposed by such wayleaves, permissions or permits.

The Contractor shall ensure that all wayleaves, permissions and permits are kept on site and are available for inspection by the relevant service authorities on demand.

The Contractor shall also ensure that any wayleaves in respect of electricity services are renewed timeously every three months.

3.4.5 LOCAL PRODUCTION AND CONTENT

The Contractor will be required to comply with all requirements as stated in this document.

3.4.6 UNIVERSAL ACCESS

In pursuit of becoming a fully accessible city, the City of Cape Town expects all Consultants and Service Providers to design and construct to SANS Standards for accessible Design, and any relevant City of Cape Town documents as may be relevant, and to exhibit a commitment to employing Universal Design Principles in their design, construction, service and product delivery of construction projects. This applies to all projects whether new, temporary, upgrades or rehabilitation works.

The contractor will engage with project representatives and the COCT's Universal Accessibility Department on how Universal Design Principles will enhance accessibility, within this project, that meets a variety of needs and creates a city that is accessible to everyone.

C3.5 Management

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- 3.5.1. FORMS FOR CONTRACT ADMINISTRATION
- 3.5.2. PARTICIPATION OF TARGETED LABOUR
- 3.5.3. COMMUNITY LIAISON OFFICER
- 3.5.4. PARTICIPATION OF TARGETED ENTERPRISES
- 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_L) 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_E) 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 (CPGL) is

0 %

The minimum CPGL 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 CPGL 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 CPGL on that particular Works Project, then the Employer's Agent, at his/her sole discretion, may reduce such minimum CPGL 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 (CPGL)**” 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_L 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_L^S = the specified minimum targeted labour contract participation goal (expressed as a percentage).

CPG_L^A = 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 **R360.00** 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_E) 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_E.

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_E)**” 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_E 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_E.

3.5.4.4 Contract participation goal credits

Credits towards achieving the minimum CPG_E 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_E.

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_E^S = the specified minimum targeted enterprises contract participation goal (expressed as a percentage).

CPG_E^A = 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.

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.

E5 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)**

E5.1 Fuel (petrol and diesel) and oil

E5.1.1 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.

E5.1.2 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.

E5.1.3 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.

E5.2 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 ablution 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 ablution 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.

E5.3 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.

E5.4 Solid waste management

E5.4.1 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.

E5.4.2 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.

E5.5 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.

E5.6 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.

E5.7 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.

E5.8 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.

E5.9 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.

E6 CONSTRUCTION

E6.1 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:

TRANSGRESSION	MAXIMUM FINE PER INCIDENT
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:5Q/2021/22

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):

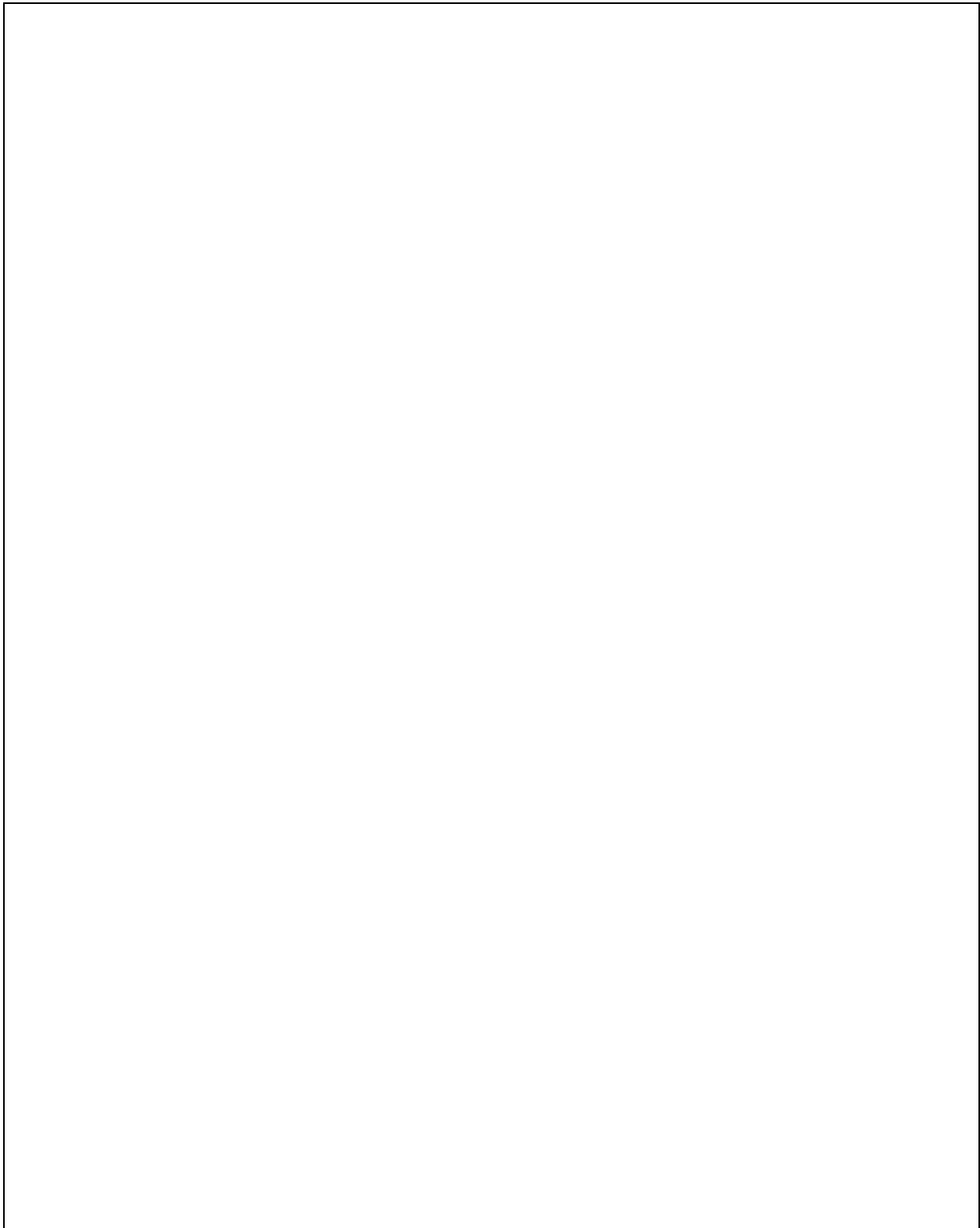
WHERE THE WORKS ARE TO BE UNDERTAKEN (where possible, provide an annotated plan and a full description of the extent of the works):

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:5Q/2021/22

















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 & 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 Do not throw oil, petrol, diesel, concrete or rubbish in the stream Do not work in the stream without direct instruction 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 & leftover food into rubbish bins</p>
	
<p>Protect animals on the site 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 Do not pick flowers</p>	<p>Always keep to the speed limit Drivers - check & report leaks Ensure loads are secure & do not spill</p>
	
<p>Put cigarette butts in a rubbish bin Do not smoke near gas, paints or petrol Do not light any fires without permission Know the positions of fire fighting equipment Report all fires</p>	<p>Know all the emergency phone numbers</p>
	
<p>Do not burn rubbish or vegetation without permission</p>	<p>Fines of between R1000 and R5000 Removal from site Construction may be stopped</p>
	
<p>Work with petrol, oil & diesel in areas marked for this Report any petrol, oil & diesel leaks or spills Use a drip tray under vehicles & machinery Empty drip trays after rain & do not throw this water into a river</p>	<p>Report any breaks, floods, fires, leaks and injuries to your supervisor Ask questions!</p>
	
<p>Try to avoid producing dust - wet dry ground & soil</p>	
	
<p>Do not make loud noises around the site, especially near schools and homes 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.

H: HEALTH AND SAFETY SPECIFICATION

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H: HEALTH AND SAFETY SPECIFICATION

For use with the General Conditions of Contract for Construction Works, Third Edition, 2015.

H1 DEFINITIONS

For the purposes of this Specification, the definitions given in the Occupational Health and Safety Act, 85 of 1993 and the Construction Regulations, 2014, and the following definitions, shall apply:

- a) "Construction Regulations, 2014" means the Construction Regulations (GNR. 84 of 7 February 2014) published in terms of the OHS Act.
- b) "Contractor" means the Principal Contractor as defined in the Construction Regulations, 2014.
- c) "Employer" means the Client or his agent as defined in the Construction Regulations, 2014.
- d) "Employer's Agent" means the person/firm so named in the Contract Data whose function is to administer the Contract as agent of the Employer, acting through, if appointed, a Health and Safety Agent.
- e) "OHS Act" means the Occupational Health and Safety Act, 85 of 1993.
- f) "subcontractor" means any contractor employed by the Contractor to perform construction work.

H2 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 Archimedes Pumps maintenance and operations, including approved respirators, disposable organic vapour cartridges, life jackets and rescue devices.

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).

H3 SCOPE

In terms of the OHS Act and the Construction Regulations, 2014 the Employer must provide the Contractor with a Health and Safety Specification, to which the Contractor must respond with a Health and Safety Plan for approval by the Employer.

The purpose of this Specification is to ensure that a contractor entering into a contract with the Employer maintains an acceptable level of compliance with regard to health and safety issues during the performance of the Contract. In this regard the Health and Safety Specification forms an integral part of the Contract and the Contractor shall ensure that his subcontractors and/or suppliers comply with the requirements of this Specification.

H4 INTERPRETATION

The OHS Act and its associated regulations shall have precedence in the interpretation of any ambiguity or inconsistency between it and this Specification.

Responsibility for health and safety relating to the Works lies with the Contractor as described in this Specification. Nothing stated in or omitted from this Specification shall in any way limit the Contractor's obligations and liabilities in terms of the OHS Act.

H5 GENERAL REQUIREMENTS

The Contractor shall:

- a) create and maintain a safe and healthy work environment;
- b) execute the Works in a manner that complies with all the requirements of the OHS Act and all its associated regulations, and in so doing, minimize the risk of incidents occurring; and
- c) respond to the instructions issued by the Employer's Agent through the Employer's Agent's Representative, except in the case of a health and safety issue which requires the Contractor's immediate attention, in which case the Employer's Health and Safety Agent can issue an instruction directly to the Contractor.

H6 ADMINISTRATION

H6.1 Application for construction work permit

Not applicable

H6.2 Notification of intention to commence construction work

The Contractor shall notify the Provincial Director of the Department of Labour in writing using the pro forma contained in Annexure 2 of the Construction Regulations, 2014 before construction work commences, and retain a copy of such notification in the health and safety file, if such work will:

- a) involves the demolition of a structure exceeding a height of 3m;
- b) involves the use of explosives to perform construction work;
- c) involves the dismantling of fixed plant at a height greater than 3m;
- d) exceeds 30 days or will involve more than 300 person days of construction work; and includes:
 - i) excavation work deeper than 1m; or
 - ii) working at a height greater than 3m above ground or a landing.

The Contractor shall ensure that no work commences on an electrical installation which requires a new supply or an increase in electricity supply before the person who supplies or contracts or agrees to supply electricity to that electrical installation has been notified of such work.

The Contractor shall ensure that no asbestos work is carried out before the Provincial Director of the Department of Labour has been notified in writing.

H6.3 Occupational Health and Safety Agreement

The Contractor shall enter into an Agreement with the Employer before the commencement of the Works on Site.

H6.4 Good standing with the Compensation Fund or a licensed compensation insurer

The Contractor shall provide the Employer's Agent with a letter of good standing from the Compensation Commissioner or a licensed compensation insurer before the commencement of the Works on Site.

H6.5 Emergency procedures

The Contractor shall submit for acceptance to the Employer's Agent a health and safety emergency procedure, which includes but is not limited to fire, spills, accidents and exposure to hazardous substances, which:

- a) identifies the key personnel who are to be notified of any emergency;
- b) sets out details of available emergency services, including contact particulars; and
- c) the actions or steps which are to be taken during an emergency.

The Contractor shall within 24 hours of an emergency taking place notify the Employer's Agent in writing of the emergency and briefly outline what happened and how it was dealt with.

H6.6 Health and safety file

The Contractor shall ensure that a Health and Safety file, which shall include all documentation required in terms of the provisions of the OHS Act, the Construction Regulations, 2014 and this Health and Safety Specification, is open and kept on Site at all times.

The Health and Safety file shall be made available for inspection by any inspector, subcontractor, the Employer, the Employer's Agent, the Employer's Health and Safety Agent, or employee of the Contractor, upon the request of such persons.

The Contractor shall hand over the Health and Safety file to the Employer's Agent upon Works completion of the Contract and, if applicable, a certificate of compliance accompanied by a test report for the electrical installation in accordance with the provisions of the Electrical Installation Regulations, 1992.

H6.7 Health and safety committee

Where applicable, the Contractor shall establish a health and safety committee, and shall convene health and safety meetings as provided for in the OHS Act. The Employer's Agent or the Employer's Health and Safety Agent shall be invited to attend such meetings as an observer.

The Contractor shall ensure that minutes of the health and safety committee meetings are kept.

H6.8 Inspections, formal enquires and incidents

The Contractor shall inform the Employer's Agent:

- a) beforehand of inspections, investigations or formal inquiries of which he has been notified by an inspector; and
- b) as soon as reasonably practicable of the occurrence of an incident (as defined in the OHS Act) on the Site.

The Contractor shall record all incidents and notify the Employer's Agent of any incident, except in the case of a traffic accident on a public road, as soon as possible after it has occurred and report such incident to an inspector as designated in terms of the OHS Act.

The Contractor shall investigate all incidents and issue the Employer's Agent with copies of such investigations.

H6.9 Personal protective equipment and clothing

The Contractor is required to identify the hazards in the workplace and deal with them appropriately. He must either eliminate hazards or, where impracticable 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. The contractor is to provide each employee working in excavations or manholes with gas detection equipment that has been calibrated, maintained and regularly serviced. Proof of issue and service records of gas detectors to be placed in the HSE file.

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 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 as per GSR 2(6) at all times.

Employees shall comply to OHS Act Section 14(b) and (c) and do not have the right to refuse to utilise or wear the equipment prescribed by the employer and, if it is impossible for an employee to use or wear prescribed protective equipment through health or any other reason, the employee may not be allowed to continue working under the hazardous condition/s for which the equipment was prescribed.

The Contractor may not charge any fee for protective equipment prescribed by him/her but may charge for 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 equipment leading to early failure
- Where the employee has lost the 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 with the Contractor company name and employees name

Specialised PPE requirements:

- Respirators and breathing equipment when working with or when exposed to raw sewage
- Daily supply of organic filters for respirators
- Life jackets
- Face shields compatible with respirator system used
- Impermeable/water resistant overalls when exposed to 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 fall risk position.

H7 APPOINTMENTS

H7.1 Appointment of construction manager

The Contractor shall, prior to commencing the Works on Site, appoint a full-time competent person as the construction manager, with the duty of managing all construction work on a single site, including the duty of ensuring occupational health and safety compliance. In the absence of the construction manager an alternative must be appointed by the Contractor.

The Contractor may, having considered the size of the project, appoint, in writing, one or more assistant construction managers for different sections thereof.

No construction manager may manage any construction work on or in any construction site other than the Site in respect of which he or she has been appointed.

H7.2 Appointment of construction supervisor, and health and safety officers

The construction manager shall appoint a competent employee(s) in writing as the construction supervisor(s) for the Site, who will be responsible for construction activities and ensuring occupational health and safety compliance on the construction site. The Contractor may, having considered the size of the project, appoint, in writing, one or more competent employees to assist the appointed construction supervisor(s).

The Contractor may, having considered the size of the project, the degree of danger likely to be encountered or the accumulation of hazards or risks on the Site, appoint a full-time or part-time construction health and safety officer in writing, who has in the Contractor's opinion the necessary competencies and resources, to assist the Contractor in the control of all health and safety related aspects on the Site.

The Contractor shall compile and maintain an organogram which outlines the roles and responsibilities of the construction supervisor's assistants, and health and safety officers.

H7.3 Other competent persons

The Contractor shall appoint in writing competent persons to supervise or inspect, as relevant, any of the following:

- a) temporary works operations;
- b) excavation work;
- c) demolition work;
- d) scaffolding work operations;
- e) suspended platform work operations;
- f) rope access work;
- g) material hoists;
- h) operation of bulk mixing plant;
- i) explosive activated fastening device;
- j) cranes;
- k) construction vehicles and mobile plant (equipment);
- l) the stacking and storage of articles on the Site; and
- m) fire equipment.

The Contractor shall appoint in writing competent persons to:

- n) induct employees in health and safety; and
- o) prepare a fall protection plan.

H7.4 Health and safety representative(s)

The Contractor shall appoint in writing, if necessary in terms of the OHS Act, a health and safety employee representative(s), whose duties shall be as described in the OHS Act.

H7.5 EMPLOYER'S HEALTH AND SAFETY AGENT

The Employer's Health and Safety Agent shall:

- a) audit the Contractor's compliance with the requirements of this Specification prior to the commencement of any physical construction activities on the Site;
- b) accept or reject all safety plans, giving reasons for rejecting such plans;
- c) monitor the effective implementation of all safety plans;
- d) conduct periodic and random audits on the health and safety file to establish compliance with the requirements of this Specification and the Contractor's health and safety plan; and
- e) visit the site at regular intervals to conduct site inspections, and based upon such visits issue, wherever necessary, any notices and/or instructions to the Contractor or any of the Contractor's subcontractors with a copy to the Employer's Agent and, where relevant, to the Contractor.

The Contractor shall invite the Employer's Health and Safety Agent to audit compliance with the requirements of this Specification before commencing with any new construction activity on the Site.

The Contractor shall permit the Employer's Health and Safety Agent to audit the Contractor's compliance with the approved Health and Safety Plan, and shall provide any assistance and/or documentation as may be required in this regard.

H8 CREATING AND MAINTAINING A SAFE AND HEALTHY WORK ENVIRONMENT

H8.1 General

The Contractor shall with respect to the Site and the construction works that are contemplated:

- a) cause a preliminary hazard identification to be performed by a competent person before commencing any physical construction activity;
- b) evaluate the risks associated with such work constituting a hazard to the health and safety of such employees and the steps that need to be taken to comply with the OHS Act; and
- c) as far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure.

The Contractor shall ensure that:

- d) all reasonably practicable steps are taken to prevent the uncontrolled collapse of any new or existing structure or any part thereof, which may become unstable or is in a temporary state of weakness or instability due to the carrying out of construction work;
- e) no structure or part of a structure is loaded in a manner which would render it unsafe;

- f) relevant information, if any, provided by the designer of the structure is taken into account in the risk assessment; and
- g) the designer of any temporary works complies with the requirements of regulation 6(2) of Construction Regulations, 2014.

The Contractor shall carry out regular inspections and audits to ensure that the Works are being performed in accordance with the requirements of this Specification and the Contractor's health and safety plan

H8.2 Risk assessment

The Contractor shall before the commencement of any construction work on Site and during such construction work, cause risk assessment(s) to be performed by a competent person appointed in writing. Such assessment(s) shall as a minimum:

- a) identify the risks and hazards to which persons may be exposed to;
- b) analyse and evaluate the identified risks and hazards based on a documented method;
- c) document a plan of safe work procedures, including the use of any personal protective equipment or clothing and the undertaking of periodic "toolbox talks" or inductions before undertaking hazardous work, in order to mitigate, reduce or control the risks and hazards that have been identified;
- d) provide a monitoring plan; and
- e) provide a review plan.

The Contractor shall ensure that as far as is reasonably practicable, ergonomic related hazards are analysed, evaluated and addressed in the risk assessment.

The Contractor must review the relevant risk assessment -

- f) where changes are effected to the design and or construction that result in a change to the risk profile; or
- g) when an incident has occurred.

H8.3 Health and safety plans

The Contractor shall prior to commencing the Works to which this Specification applies, submit to the Employer's Health and Safety Agent for approval a suitable and sufficiently documented health and safety plan, based on this Specification and the risk assessment that is conducted.

The health and safety plan shall include, but not be limited to, the following:

- a) The safety management structure, including the names of all designated persons such as the construction supervisor and any other competent persons;
- b) Safety method statements and procedures to be adopted to ensure compliance with the OHS Act; Construction Regulations, 2014 and this Health and Safety Specification;
- c) The provision and use of temporary services;
- d) Personal protective equipment, devices and clothing required;
- e) Emergency procedures;
- f) Provision of workers' welfare facilities;
- g) Induction and training;
- h) Arrangements for monitoring and control to ensure compliance with the safety plan; and
- i) Provision and maintenance of the health and safety file and all other relevant documentation.

The Contractor shall provide each subcontractor with the sections of this Health and Safety Specification pertaining to the construction work to be performed by that subcontractor. The subcontractor shall provide the Contractor with a health and safety plan pertaining to his work, for incorporation into the Contractor's health and safety plan.

The Contractor shall discuss the submitted health and safety plan with the Employer's Health and Safety Agent, modify such plan in the light of the discussions and resubmit the modified plan for approval.

The Contractor shall apply the approved health and safety plan from the date of its approval and for the duration of the Works to which this Specification applies.

The Contractor shall conduct periodic audits for compliance with the approved health and safety plan at intervals agreed upon with the Employer's Health and Safety Agent, but at least once every month.

The Contractor shall update the health and safety plan whenever changes to the Works are brought about.

H8.4 Responsibilities towards employees and visitors

The Contractor shall, as far as is reasonably 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 or safe work procedures.

The Contractor shall ensure that all employees under his control are informed, instructed and trained by a competent person regarding any hazard and the related work procedures before any work commences, and thereafter at such times as may be determined in the risk assessment.

The Contractor shall cause a record of all induction training to be kept, which indicates the names, identity numbers and job description of all those who attended such training.

The Contractor shall not allow or permit any employee to enter the Site, unless such person has undergone health and safety induction training pertaining to the hazards prevalent on the Site at the time of entry.

The Contractor shall ensure that all of his employees have a valid medical certificate of fitness specific to the construction work to be performed and issued by an occupational health practitioner on the prescribed form.

The Contractor shall ensure that each visitor to the Site, save where such visitor only visits the site office and is not in direct contact with the construction work activities:

- a) undergoes health and safety instruction pertaining to the hazards prevalent on the Site; and
- b) is in possession of and using the necessary personal protective equipment.

The Contractor shall cause a record of all induction training to be kept in the Health and Safety file.

The Contractor shall provide suitable on-site signage to alert workers and visitors to health and safety hazards and requirements. Such signage shall include but not be limited to:

- c) prohibited unauthorized entrance;
- d) signage to indicate what personal protective equipment is to be worn; and
- e) activity related signs.

The Contractor shall not permit any person who is or who appears to be under the influence of intoxicating liquor or drugs, to enter or remain at a workplace.

H8.5 Subcontractors

The Contractor may only subcontract work in terms of a written subcontract and shall only appoint a subcontractor should he be reasonably satisfied that such a subcontractor has the necessary competencies and resources to safely perform the work falling within the scope of the subcontract.

The Contractor shall ensure that all of his obligations in respect of subcontractors in terms of the Construction Regulations, 2014 are adhered to.

H8.6 Work permits and wayleaves

The Contractor shall be responsible for obtaining all the wayleaves, permissions or permits applicable to working near any existing services or other infrastructure on Site, and shall abide by the safety conditions imposed by such wayleaves, permissions or permits.

H8.7 Access to the Site

The Contractor shall ensure that access to the Site is strictly controlled and that, where possible, only authorised persons are permitted onto the Site.

The Contractor shall control the access to Site of his own personnel and equipment, and that of his subcontractors and suppliers, in such a way so as to ensure that the safety of all public pedestrian and vehicular traffic is not compromised.

H8.8 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 or safety of any person was endangered
- Where a dangerous substance was spilled
- The uncontrolled release of any substance under pressure took place
- Machinery or any part of machinery fractured, or failed resulting in flying, falling or uncontrolled moving object
- Machinery ran out of control

Where any of the abovementioned reportable incidents has occurred, the Contractor shall report to **the Client, The Clients H&S Agent** and the Provincial Director of the Department of Labour immediately by telephone, fax or email. The Contractor is required to provide **the Client and The Clients H&S 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 The Clients H&S 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 The Clients H&S 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 H&S Agent**

H8.9 First aid and emergency procedures

The Contractor shall, where more than five employees are employed at a workplace, provide a first aid box or boxes at or near the workplace, which shall be available and accessible for the treatment of injured persons at that workplace. Such first aid boxes shall contain suitable first aid equipment.

The Contractor shall ensure, where there are more than 10 employees employed on the Site, that for every group of up to 50 employees at that workplace at least one person is readily available during normal working hours who is in possession of a valid certificate of competency in first aid.

The following information shall be conspicuously posted in the offices of the Contractor for the duration of the Contract:

- a) Telephone numbers of emergency services;
- b) The names of all safety representatives and safety officers; and
- c) The name(s) of the competent first aider(s).

The Contractor shall post, in prominent places, notices indicating where the first aid box(es) is/are kept, as well as the name of the person in charge of the first aid box.

H8.10 Housekeeping

The Contractor shall ensure, *inter alia*, that suitable housekeeping is continuously implemented on the Site, including provision for the:

- a) removal of scrap, waste and debris, and materials which are no longer required for use, at appropriate intervals (in accordance with Construction Regulation 27); and
- b) proper stacking and storage of materials and equipment (in accordance with Construction Regulations 27 and 28).

H8.11 Fire precautions

The Contractor shall ensure that all appropriate measures are taken to minimise the risk of fire and that appropriate procedures and equipment are in place to deal with the event of a fire, all in accordance with Construction Regulation 29 and the Environmental Management Specification in Part C3.5 of the Scope of Work.

H8.12 Facilities for workers

The Contractor shall provide ablution facilities and eating areas all as specified in the Environmental Management Specification in Part C3.5 of the Scope of Work.

H8.13 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.

H8.14 High Pressure Water Blast Cleaning

Safety Precautions

The pump shall be equipped with one or two pressure gauges, to indicate the pressure being developed. The equipment should not be used if the pressure gauges are defective.

The hose, as well as all pipes and fittings must be designed to withstand the maximum operating pressure of the pump with a safety factor of at least four.

When laying hose, handle it with care, avoiding sharp bends. Support the hose by suitable means when above ground level. Hoses must not be left where they can be driven over and damaged.

Defective hoses and fittings shall never be used.

Particular attention shall be given to the fittings due to the possibility of thread wear and damage caused by wrenches. Daily inspections shall be carried out by the contractors foreman to check for damaged hoses etc.

The high-pressure water hoses shall be marked with the maximum permissible operating and test pressures.

The fail-safe valve, which is also frequently called a "dump valve" or "deadman control" shall be attached to the lance and shall be under the control of the operator. This valve is designed so that the high-pressure stream is actuated by a squeeze action of the hand. When the handle is released, water is diverted from the high velocity nozzle to a large reservoir, which then drops the pressure immediately to a safe level. Generally it is preferable if only the operator handling the lance, controls this fail-safe valve.

A workman shall never be allowed to use high pressure cleaning equipment unless he is aware of the hazards involved. He shall be trained in the safe operation of the equipment, be supplied with all the protective equipment and clothing required and know correct shutdown procedure in the event of any malfunction. He must be a registered operator who has stated in writing that he understands the operating procedures, safety procedures and hazards.

Eye and face protection, preferably a full face shield, safety hat, rain suit, heavy PVC apron, rubber boots with steel toes, waterproof gloves, and ear protection and any other equipment deemed necessary must be worn at all times when operating the equipment.

The pumps, drivers and the water action generate high noise levels. The severity will be determined by such factors as water pressure, area enclosure and location of the cleaning area. The maximum level normally acceptable is 85 dB for persons working Without ear protection. Ear protection shall be worn at all times by the operator and any persons in the vicinity.

One person shall be assigned to operate the pump unit and be trained in all aspects of machine operation. It is essential that he/she is fully aware of the importance of not allowing himself/herself to be distracted since he is in a position to serve as the safety observer for the operation.

Each workman involved in the operation - pump operator, lance operator and helper - shall work as a team and be capable of carrying out all tasks.

The lance develops high velocities at the nozzle tip. Therefore the operator shall be instructed never to direct the lance toward himself or other person. He and the contract supervisor must understand that "horseplay" could have very serious consequences and can result in immediate dismissal.

Only clean water shall be used at all times.

If raw water is used which contain high residuals of nitrogen and ammonia gases, break, "break point" chlorination can occur and free chlorine is sometimes liberated. Under these conditions, (of high residuals) the operator shall be especially alert to any evidence of chlorine liberation.

Respirators for the operators and a ventilation system for the general area shall also be provided if deemed necessary due to enclosed or confined work area.

Barricades and warning signs shall be placed at least 10 meters from the cleaning operation to keep-involved personnel out of the area.

No portion of the human body shall ever be placed in front of the Jet, because no satisfactory protective clothing has yet been developed to protect personnel from high-pressure water jets.

Supervisors and operators shall be alert for conditions which could present special hazards, such as:

- Possible water contact with electrical equipment
- Rubber clothing which has become torn
- Pollution caused by chemical or oily wastes

It is recommended that the following tests be made before resuming each job:

- Run the pump without the lance to completely wash out the hose
- Use a tip cleaner on each orifice and make sure it is open, then measure each opening to make sure it is the correct size. If nozzles are eroded to a larger size the lanceman may not be able to adequately control the lance due to the reaction force.

Due to the extremely dangerous nature of hydro blasting the safest approach to every task shall be adopted at all times.

Flexible lances shall only be allowed if no other safer alternative is available and approval has been obtained prior to each application.

Approval to use flexible lances shall only be granted subject to the submittal by the contractors of

- a) Additional safety precautions.
- b) Proof of all operators been informed of the dangers regarding the specific task.
- c) No other safer alternative available.

Back flow arrestors shall be used every time flexible lances are allowed to be used.

All personnel involved in hydro blasting shall be informed of the possibility of blow back and the corresponding potential danger involved prior to any cleaning exercise.

Process equipment shall be dismantled to the safest state possible for HP cleaning.

The contractor has the right to refuse performing a specific task if their competent person in charge finds:

- a) The safety conditions or precautions taken are insufficient.
- b) Process equipment to be unsafe or insufficiently dismantled.
- c) Task too dangerous to perform.

Maintenance

Repairs or splicing of defective high-pressure hoses shall only be performed by the hose manufacturer or an authorised service specialising in this work.

The contractor shall provide proof that all relief valves have been checked regularly for conformity to the settings established. Pressure gauges should also be calibrated regularly. (For this application a calibration frequency of 100 hours is probably necessary).

Due to static build up during cleaning operations, the component parts of the units shall be earthed. Diesel and petrol-driven pumps shall be earthed during refuelling operations. The earthing system shall be checked regularly.

When internal combustible engine pumps are located inside a building, the exhaust should be discharged outside the building to prevent combustion vapours from entering the work areas.

An internal combustion engine operated pump may not be utilised without granting of a suitable hot work permit in Production areas.

H8.15 Lifting Operations

Referencing Construction Regulation 23, Construction Regulation 27, Driven Machinery Regulation 18 and SANS 12480-1, 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.

The requirements of Construction Regulation 22 and Driven Machinery Regulation 18 are to be stringently applied and maintained in respect of all lifting tackle and lifting operations.

In addition to the required legal appointment of operators, supervisors and inspectors in respect of lifting machines, appointments shall also be made for Slingers and Banksmen/Signallers, with the required proof of competency and experience.

Furthermore, all training providers in respect of operators of lifting machines 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 and communicated to all relevant persons involved in the operation of lifting machinery. Documented proof of such communication is to be kept in the site safety file.

Documented proof of lifting machinery services and maintenance are required. The last major service record is to be present in the safety file. The lifting machinery log book 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 as outlined in the Driven Machinery Regulations for lifting equipment and lifting tackle 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 a watcher/spotter shall be deployed to prevent unauthorised access to the lifting operations 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 and to adequately protect pedestrians from any potential falling load.

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.

H9 GENERAL HAZARDS AND RISKS APPLICABLE TO WORK REQUIRED IN TERMS OF THIS TERM TENDER

- H9.1** Existing Site conditions
- H9.2** Information provided by the designer (CR 6(1))
- H9.3** Environmental hazards
- H9.4** Traffic hazards
- H9.5** Construction materials (hazardous substances)
- H9.6** Fall protection (working at heights) (CR 10)
- H9.7** Structures (CR 11)
- H9.8** Temporary works (CR 12)
- H9.9** Excavation work (CR 13)
- H9.10** Demolition work (CR 14)
- H9.11** Tunneling (CR 15)
- H9.12** Scaffolding (CR 16)
- H9.13** Suspended platforms (CR 17)
- H9.14** Rope access work (CR 18)
- H9.15** Material hoists (CR 19)
- H9.16** Bulk mixing plant (CR 20)
- H9.17** Explosive actuated fastening device (CR 21)
- H9.18** Cranes (CR 22)
- H9.19** Construction vehicles and mobile plant (equipment) (CR 23)
- H9.20** Electrical installations and machinery (CR 24)
- H9.21** Flammable liquids (CR 25)
- H9.22** Water environments (CR 26)
- H9.23** Overhead Work (CR 27(g))
- H9.24** Confined spaces
- H9.25** Other hazards...

CITY OF CAPE TOWN

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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 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

CONTRACT OR WORKS PROJECT NUMBER:	
-----------------------------------	--

Year	Month

Sheet		
1	of	

	(8)	(8)	(8)	(9)			(10)		(11)	(12)	(13)	(14)
No.	First name	Surname	ID number	New Beneficiary (Y/N)	Gender (M/F)	Disabled (Y/N)	Job seeker database (Y/N)	Contract start date (DDMMYY)	Contract end date (DDMMYY)	No. days worked this month (excl. training)	Training days	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: 5Q/2021/22: TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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 ¹	Total value of Sub-contract (excl. VAT) ¹	Value of Sub-contract work to date (excl. VAT) ¹	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

¹Documentary 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: 5Q/2021/22: TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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 ¹ A	Total value of JV partner's contribution (excl. VAT) ¹ B = A% x P*	Value of JV partner's contribution to date (excl. VAT) ¹ 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	%

¹Documentary 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: 5Q/2021/22: TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

CONTRACTOR:

TARGETED LABOUR CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) (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 ¹	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
Total:			R
Expressed as a percentage of P*			%

¹Documentary evidence to be provided

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: 5Q/2021/22: TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

CONTRACTOR: _____

TARGETED ENTERPRISES CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) (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 ¹	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
Total:			R
Expressed as a percentage of P*			%

¹Documentary evidence to be provided

Signatures

Declared by Contractor to be true and correct: _____

Date _____

Verified by Employer's Agent/
Employer's Agent's Representative: _____

Date _____

Part C4: Site information

	Pages
C4 Site information	216 - 217

CITY OF CAPE TOWN

WATER AND WASTE : WATER AND SANITATION

CONTRACT NO. 5Q/2021/22

TERM TENDER FOR REPAIR , SERVICING AND MAINTENACE OF ARCHIMEDES PUMPS FOR THE CITY OF CAPE TOWN

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 three regions (South, East and North) in the City of Cape Town municipal area in which Works Projects are to be executed. See Water and Sanitation area map below..

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.

WATER AND SANITATION AREA MAP

