



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

Making progress possible. Together.

MEMORANDUM OF AGREEMENT

**CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS
AT THE DA PLANT AT BELLVILLE TREATMENT WORKS**

MADE AND ENTERED INTO BETWEEN

CITY OF CAPE TOWN METROPOLITAN MUNICIPALITY

And

HILOAD INYANGA CONSTRUCTION (PTY) LTD

REGISTRATION NO. [REDACTED]

CONTRACT NO: 5Q/2019/20



PREAMBLE

WHEREAS Tender **5Q/2019/20** was awarded to [REDACTED] in line with the SCM- Bid Adjudication Committee resolution **SCMB 37/02/20** dated **17 February 2020** for **CIVL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE TREATMENT WORKS**, for 156 (one hundred and fifty six) weeks from date of commencement of Contract not exceeding 31 March 2028, in the amount of **R40 397 500.34 (excl. VAT) and R46 457 125.39 (Incl. VAT)** plus an allowance for Contract Price Adjustment in the amount of **R9 900 000.00 (Excl. VAT)**

AND WHEREAS in line with resolution **SCMB 5Q/2019/20** the conclusion of this Contract between the City of Cape Town and [REDACTED] is subject to the conclusion of the process prescribed by section 33 of the Local Government: Municipal Finance Management Act 56 of 2003.

AND WHEREAS it is recorded that this Contract will be governed by the provisions of General Conditions of Contract for Construction Works Third Edition 2015 prepared by the South African Institution of Civil Engineering (SAICE), read with the Contract Specific Data ("**CSD**") annexed hereto marked "**PART 2: CONTRACT SPECIFIC DATA**".

NOW THEREFORE THE PARTIES AGREE AS FOLLOWS:

1. PARTIES

The Parties to this Contract are:

1.1. **The City of Cape Town**, a metropolitan municipality, established in terms of the Local Government: Municipal Structures Act. 117 of 1998 read with the Province of the Western Cape: Provincial Gazette 5588 dated 22 September 2000, as amended ("**the City**"), herein represented by the **Director: Water and Sanitation** and duly authorised hereto;

1.2. [REDACTED], a private company registered in terms of the laws of the Republic of South Africa with registration no:

[REDACTED], with its principal place of business situated at [REDACTED]
[REDACTED]
[REDACTED] ("the Contractor"), herein represented by its duly authorised representative, [REDACTED] in his capacity as **Director**;

Hereinafter, each a "party" and together the "parties".

2. INTERPRETATION

- 2.1. In the event of any conflict between the provisions of this Contract, the GCC and any Parts attached hereto, or any other document incorporated by reference to this Contract, save to the extent expressly stated to the contrary, such conflict will be resolved by giving precedence to such different parts of this Contract in the following order of precedence:
- 2.1.1 the Form of Offer and Acceptance,
 - 2.1.2 the Contract Specific Data within the Contract Data
 - 2.1.3 the General Conditions of Contract for Construction Works, Third Edition, 2015,,
 - 2.1.4 the Drawings,
 - 2.1.5 the Pricing Data,
 - 2.1.6 the Conditions of tender, the Tender Data and Tender Schedules.
- 2.2. The provisions of this Contract supersede and replace the provisions of any previous agreement entered into between the Parties relating to the same subject matter.
- 2.3 The T2.2 Returnable Schedules, including all attachments and references therein as submitted by the Contractor for tender 5Q/2019/20, are incorporated into this Contract by the mere reference thereto. Pertinent sections of the Returnable Schedules are included hereafter Parts to the Contract.

3. APPOINTMENT AND DURATION

- 3.1. The City hereby appoints the Contractor to perform the Scope of Work (Part 5) to the City from the Commencement Date.
- 3.2. Unless terminated earlier in accordance with the provisions as set out in the GCC or any other provision in terms of this Contract, this Contract shall commence on Commencement date and terminate on the Termination date.

4. MUTUAL GOOD FAITH / CO-OPERATION

- 4.1. The Parties represent and undertake to do all such things, perform all such acts and take all steps to procure the doing of all such things and the performance of all such acts, as may be necessary or incidental to give effect to the execution of this Contract.
- 4.2. The Parties shall at all times during the continuance of this Contract observe the principles of good faith towards one another in the performance of their obligations in terms of this Contract.

5. OBLIGATIONS OF THE CITY

- 5.1. The City undertakes to perform its obligations in accordance with the Contract, including but not limited to the Scope of Works (Part 5), subject to the satisfactory fulfilment of the obligations by the Contractor as set out in this Contract.
- 5.2. The City shall monitor and evaluate the Contractor's performance in respect of the Scope of Works (Part 5).

6. OBLIGATIONS OF THE CONTRACTOR

- 6.1. The Contractor hereby agrees and undertakes to perform the Services to the City as set out in Part 5: Scope of Works.

- 6.2. The Contractor will perform the Works as expeditiously as possible and furthermore agrees and undertakes to perform the services in accordance with the operational requirements of the City.
- 6.3. The Contractor will ensure that the Works will be of a satisfactory quality and fit for purpose.
- 6.4. The Contractor shall, ensure that its employees, agents, representatives, sub-Contractors and Contractors comply with this Contract and all applicable Laws in the execution of the Works.
- 6.5. The Contractor will not conduct any activity of whatsoever nature which may be detrimental to the City's reputation and goodwill.

7. PRICING SCHEDULE

- 7.1. The Contract Price for the Works shall be as set out in Part4: Pricing Data.
- 7.2. The Contractor shall not be entitled to any other consideration for the rendering of the Works other than as provided for in this Contract.

DETAILS OF THE TENDERER

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

SCHEDULE 1: COMPULSORY ENTERPRISE QUESTIONNAIRE

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

Section 1: Name of enterprise:

Section 2: VAT registration number, if any:

Section 2a: National Treasury Central Supplier Database registration number Ph. 021

Section 2b: SARS Tax Compliance Status PIN :

Section 3: cidb registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

.....

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

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

i) authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my / our tax matters are in order;

ii) confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004 or Database of Restricted Suppliers;

iii) confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;

iv) confirms that I / we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest; and

iv) confirms that the contents of this questionnaire are within my personal knowledge and are to the best of my belief both true and correct.

Signed

Date

5/8/19

Name

Position

Enterprise
name

PART 1 : AGREEMENTS

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

C1.1 Form of Offer and Acceptance

Offer

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

CONTRACT NO. 5Q/2019/20: CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE WASTEWATER TREATMENT WORKS

The tenderer, identified in the offer signature block, has examined the documents listed in the tender data and addenda thereto as listed in the returnable schedules, and by submitting this offer has accepted the conditions of tender.

By the representative of the tenderer, deemed to be duly authorized, signing this part of this form of offer and acceptance, the tenderer offers to perform all of the obligations and liabilities of the contractor under the contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the conditions of contract identified in the contract data.

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

Rand *Forty Six Million Four Hundred and Fifty Seven Thousand One Hundred and Twenty Five Rand* (in words)
R *46 457 125.39* (in figures) *and Thirty Nine Cents.*

This offer may be accepted by the employer by signing the acceptance part of this form of offer and acceptance and returning one copy of this document to the tenderer before the end of the period of validity stated in the tender data, whereupon the tenderer becomes the party named as the contractor in the conditions of contract identified in the contract data.

Signature(s)
Name(s)
Capacity
for the tenderer

(Name of organization/tenderer)

(Address of organization/tenderer)

Name and
signature
of witness

Date

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

**CONTRACT NO. 5Q/2019/20: CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL
REACTORS AT THE DA PLANT AT BELLVILLE TREATMENT WORKS**

ACCEPTANCE (TO BE FILLED IN BY THE CITY)

By signing this part of this form of offer and acceptance, the Employer identified below accepts the Contractor's offer in respect of the region(s) awarded to the Contractor. In consideration thereof, the Employer shall pay the contractor any amounts due in accordance with the conditions of contract identified in the contract data. Acceptance of the Contractor's offer shall form an agreement between the Employer and the Contractor upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract are contained in:

- Clause 1 to 7, and the sub-clauses therein, cited in pages 1 to 3 above;
- Part 1: Agreements and contract data
- Part 2: Contract Specific Data
- Part 3: General Conditions of Contract
- Part 4: Pricing Schedules
- Part 5: Scope of Work
- Part 6: Occupational Health and Safety Agreement
- Part 7: Protection of the Environment Declaration
- Part 8: Community Liason Officer
- Part 9 : Details of Qualification and Staff Experience
- Part 10 : Schedule of Construction Equipment

and drawings and documents or parts thereof, which may be incorporated by reference into the above listed Parts.

Deviations from and amendments to the documents listed in the tender data and any addenda thereto as listed in the returnable schedules as well as any changes to the terms of the offer agreed by the Contractor and the Employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this form of offer and acceptance. No amendments to or deviations from said documents are valid unless contained in this schedule.

The Contractor shall within two weeks after receiving a completed copy of this agreement, including the schedule of deviations (if any), contact the Employer's agent (whose details are given in the contract data) to arrange the delivery of any securities, bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the conditions of contract identified in the contract data. Failure to fulfil any of these obligations in accordance with those terms shall constitute a repudiation of this agreement.

Notwithstanding anything contained herein, this agreement comes into effect on the date when the parties have signed the table below and confirms receipt from the Employer of one fully completed original copy of this agreement, including the schedule of deviations (if any). The Contractor shall within five working days of the agreement coming into effect notify the employer in writing of any reason why he cannot accept the contents of this agreement as a complete and accurate memorandum thereof, failing which the agreement presented to the contractor shall constitute the binding contract between the parties.

**CONTRACT NO. 5Q/2019/20: CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL
REACTORS AT THE DA PLANT AT BELLVILLE TREATMENT WORKS**

The Parties	Employer	Contractor
Business Name	CITY OF CAPE TOWN	[REDACTED]
Business Registration	N/A	[REDACTED]
Tax number (VAT)	[REDACTED]	[REDACTED]
Physical Address	Tower Block, Civic Centre, 12 Hertzog Boulevard Cape Town 8001	[REDACTED]
Accepted contract sum including tax	R 46 457 125.39 (including VAT)	[REDACTED]
Accepted contract duration	156 (one hundred and fifty six) weeks from date of commencement of Contract	[REDACTED]
Signed – who by signature hereto warrants authority	[REDACTED]	[REDACTED]
Name of signatory	[REDACTED]	[REDACTED]
Signed: Date	[REDACTED]	[REDACTED]
Signed: Location	[REDACTED]	[REDACTED]
Signed: Witness	[REDACTED]	[REDACTED]
Name of Witness	[REDACTED]	[REDACTED]

[REDACTED]

[REDACTED]

FORM OF OFFER AND ACCEPTANCE (Continued)

CONTRACT NO. 5Q/2019/20: CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL
REACTORS AT THE DA PLANT AT BELLVILLE TREATMENT WORKS

(TO BE FILLED IN BY THE CITY)

Schedule of Deviations

Notes:

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

1 Subject **Notice to tenderers 1- dated 31 July 2019- 5Q/2019/20: CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE TREATMENT WORKS.**

Details **Minutes of clarification meeting held on Monday, 22 July 2018 at Bellville WWTW Boardroom.**

By the duly authorised representatives signing this agreement, the employer and the tenderer agree to and accept the foregoing schedule of deviations as the only deviations from and amendments to the documents listed in the tender data and addenda thereto as listed in the returnable schedules, as well as any confirmation, clarification or changes to the terms of the offer agreed by the tenderer and the employer during this process of offer and acceptance.

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



**CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD**

**FINANCE
SUPPLY CHAIN MANAGEMENT**

Vuyo Ninzi
Supply Chain Management

T : 021 400 3121
E : Vuyo.Ninzi@capetown.gov.za

31 JULY 2019

NOTICE TO TENDERERS NO.1
(6 Pages including first page)

NOTICE TO TENDERER No1

TENDER NO: 5Q/2019/20

BOX NUMBER: 141

CLOSING DATE: 06 August 2019

DESCRIPTION: Civil Works for the Upgrading of the Biological Reactors at the DA Plant at Bellville Wastewater Treatment Works

Your attention is drawn to the following amendments and clarifications in respect to the above tender. These amendments must be included in the Tender submitted. You will be deemed to have made any allowance necessary for the amendments contained in this Notice to Tenderers No. 3.

AMENDMENTS TO TENDER DOCUMENT

Minutes of Clarification Meeting held on Monday, 22 July 2019 at Bellville WWTW Boardroom.

1 WELCOME

- 1.1 The Engineer welcomes all the parties present.
- 1.2 The Client, City of Cape Town, is represented by Wayne Olieslager, who will be the Project Manager for the Contract.
- 1.3 The Consultant, Water & Wastewater Engineering, is represented by Marco Kritzinger, who will be the Engineer for the Contract.

2 ATTENDANCE REGISTER

- 2.1 Prospective Tenderers entered their particulars in the Attendance Register. The attendance Register is attached to these minutes.

3 MINUTES

- 3.1 Minutes and addenda will be distributed to all the document holders and meeting attendees.

4 GENERAL TENDER INFORMATION

- 4.1 Tenderers require a CIDB grading of 7CE or higher.
- 4.2 The closing date is as per the Tender Notice and Invitation to Tender.



5 DESCRIPTION OF THE WORKS

- 5.1 The scope of works was discussed with reference to the layout drawings and the description of works.

6 TENDER DATA

- 6.1 The Tender data was discussed with specific focus on the eligibility criteria.
- 6.2 The requirement for compliance with Local Content was discussed.
- 6.3 The minimum score for functionality was discussed and the relevant returnable schedules highlighted.

7 RETURNABLE SCHEDULES

- 7.1 The Returnable Schedules were discussed.
- 7.2 Clause F2.24 was highlighted in relation to Returnable Schedule 20 and Tenderers were cautioned not to propose material deviations or qualifications in this schedule or a cover letter that could render the tender non responsive in terms of clause F3.8.2.

8 CONTRACT DATA

- 8.1 The Contract Data was discussed.

9 BILL OF QUANTITIES

- 9.1 The Bill of Quantities was discussed and explained in more detail.

10 PART C3: SCOPE OF WORK

- 10.1 Part C3: Scope of Work was discussed

11 VOLUME 3A

- 11.1 The contents of Volume 3A was discussed.

12 GENERAL

- 12.1 The meeting is closed with a walkabout on site for Tenderers to be familiarised with the site.

queries submitted by Tenderers through email correspondence

- 1.1 Query:
Please see Volume 3 page 84 Schedule 27. I cannot find "Section C3.11" which "a" refers to. Please advise.

Response:
Please delete item (a). There are no technical data sheets to complete.

- 1.2 Query:
See Volume 3 page 8 in Tender Data. Regarding the functionality table, 2.2 (Site Agent) gives a B-Eng 5 points and BTech 10 points. This may be a mistake?



Response:

That is a mistake. Change Criterion No 2.2 in the Functionality Table to read:

<u>Site Agent:</u>		
Qualification		
• Diploma or BTech	5 points	
• B-Eng or BSc-Eng	10 points	
Years' Experience		
• 10-15 years	5 points	
• More than 15 years	10 points	20

1.3

Query:

What is the thickness of the anchor knob sheeting (AKS) required?
[BoQ item 4.6.1]

Response:

Anchor knob sheeting shall have a minimum thickness of 3mm.

1.4

Query:

Item 2.2.21 on page 126 of the BOQ

Can you please clarify how many pumps, what size pumps and for how long these pumps will be required?

Response:

It is foreseen that two 4" submersible pumps with pipework will be required for the entire duration of the Contract. Groundwater can be pumped to stormwater or an adjacent reactor.

1.5

Query:

Item 2.2.25 on page 127 of the BOQ

Can you please provide the type diameter and length of piping to be removed?

Response:

Please find attached an as-built drawing of the diffuser network on the reactor floor. Please note that the rate should include for removal and disposal of all underwater diffusers, pipes and fittings.

1.6

Query:

With reference to item 3.1.6 on page 129 of the BOQ, note that it is impossible to price shoring with a m².day rate. Such a rate will compose of a fixed portion for establishment and de-establishment, a rate per m which will depend on the depth of the excavation, the type of soil and the reason for the shoring and a rate per day for maintaining the shoring.

Response:

The item will remain as is. Provision was made for 100m² (6m deep x 16.7m wide) of shoring for 100 days to protect the roads and blower house during the deep excavation at Pump Station 2. The top 1m will consist of road layerworks while the conditions below that is primarily sandy.

1.7

Query:

Item 3.4.15 on page 132 of the BOQ

The item refers to PSG8.10.1 which does not seem to exist.

Response:

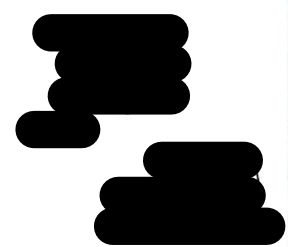
Please change the payment reference to PSG 9.

1.8

Query:

Item 3.6.1 on page 133 of the BOQ

Can you please clarify what type of facebricks is required?



Response:

Please allow for Corobrik Tokai Rustic Red or equivalent.

1.9 Query:

Items 4.4.18 and 4.4.19 on page 141 of the BOQ is normally measured per m². A 2m³ volume will cover a huge area and probably amount to R0.5m in total. Should the unit of measure not be m²?

Response:

Please change the unit to "m²".

1.10 Query:

Can you please confirm that item 5.2.7 on page 144 of the BOQ is to be priced as an extra-over item?

Response:

That is correct.

1.11 Query:

Drawing "BV002-110-113 (PUMP STATION 4 SHEET 2)" and "BV002-110-114 (PUMP STATION 4 SHEET 3)" are the same drawing which is on the CD. Please provide drawing "BV002-110-114 (PUMP STATION 4 SHEET 3)".

Response:

Please find the correct drawing BV002-110-114 attached.

Please note that due to the limited time remaining until tender closing it is unlikely that there will be more addendums issued or queries answered.

Yours Faithfully,

Director Supply Chain Management

ACKNOWLEDGEMENT OF RECEIPT FOR AND ON BEHALF OF THE TENDERER: TENDER NO 5Q/2019/20

At on this Day of 2019

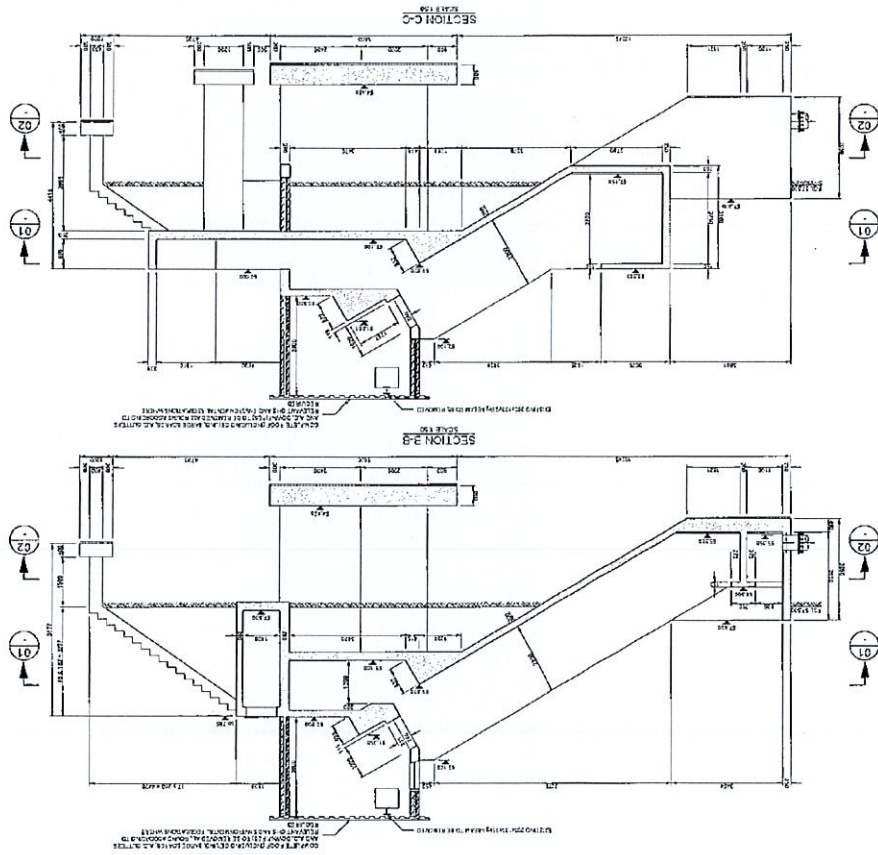
Signature:

Name of Signatory:

(In ink and capitals)

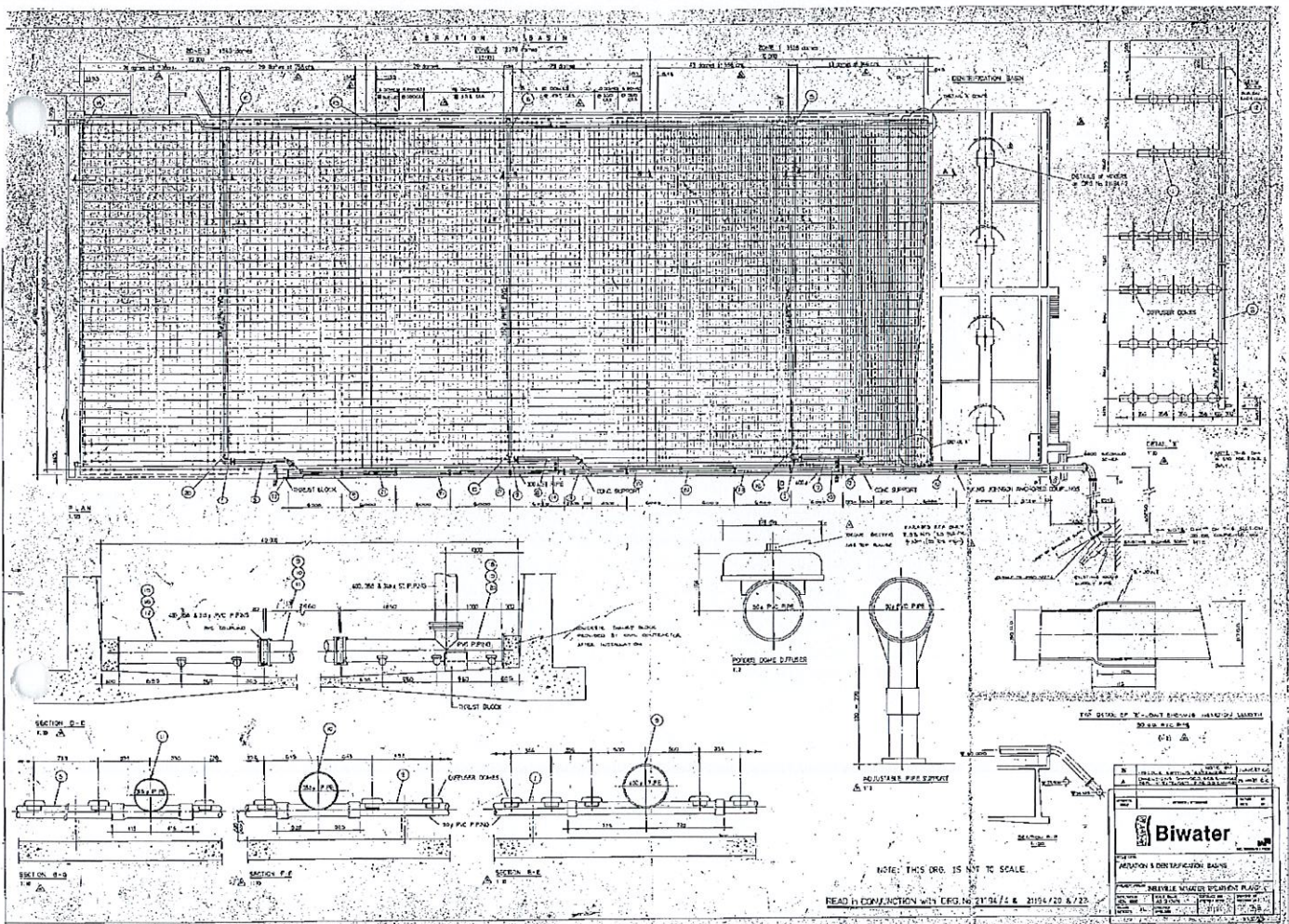
TENDERER:
 (In ink and capitals)

FOR TENDER	
DATE	NO.
10/11/14	10
PROJECT NAME	
UPGRADING OF BELLVILLE WASTEWATER TREATMENT WORKS PHASE 2	
SHEET 3	
PUMP STATION 4	
DRAWN BY	
CHECKED BY	
APPROVED BY	
DATE	
SCALE	
PROJECT LOCATION	
PROJECT DESCRIPTION	
PROJECT OWNER	
PROJECT MANAGER	
PROJECT ENGINEER	
PROJECT SURVEYOR	
PROJECT DRAFTER	
PROJECT CHECKER	
PROJECT APPROVER	
PROJECT REVIEWER	
PROJECT SIGNOFF	
PROJECT CLOSURE	
PROJECT COMPLETION	
PROJECT HANDOVER	
PROJECT ARCHIVE	
PROJECT RETIREMENT	



11

11



PART 2: CONTRACT SPECIFIC DATA

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 1.1.1.13:

The Defects Liability Period is **12** months.

Clause 1.1.1.14:

The time for achieving Practical Completion is **156 (one hundred and fifty six) weeks**, inclusive of the 14 day period referred to in Clause 5.3.2 below, and inclusive of non-working days referred to in Clause 5.8.1 below, but exclusive of special non-working days (Clause 5.8.1).

The Contractor shall take note of the requirements for phased implementation as described in Section C3.1 of this document. Phased access to portions of the site shall therefore apply.

Clause 1.1.1.15:

The **Employer** is the CITY OF CAPE TOWN, represented by the Director : Water and Sanitation 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 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:

The **Employer's Agent**, referred to in the Contract documents, is the firm of Water & Wastewater Engineering (Pty) Ltd acting through a director, an associate or an official authorised thereto in writing.

The name of the Employer's Agent is: Water & Wastewater Engineering (Pty) Ltd or their successors duly appointed by the Employer

Clause 1.1.1.26:

The Pricing Strategy is a Re-measurement Contract.

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 "**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 the successful tenderer's Offer and no rights shall accrue.

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
8001

E-mail address: Wayne.Olieslager@capetown.gov.za

Clause 1.2.1.2:

The address of the Employer's Agent is:

Physical address: [REDACTED]

Postal address: [REDACTED]

E-mail address: [REDACTED]

Clause 3.1

Delete clause

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 5.11.2 Suspension of the Works
- e) Clause 5.12.4 Acceleration instead of extension of time
- f) Clause 6.3.1 Ordering of any variation that causes the contract price to exceed the contract sum
- g) Clause 6.10.10 Advance payment, for items not listed in the Advance Payment Schedule.

Clause 4.1:

Add the following Clause after Clause 4.1.2:

- 4.1.3 Where the Contract is based on an alternative tender offer submitted by the Tenderer/Contractor, he shall, notwithstanding acceptance of the offer by the Employer, be liable for any deficiency in the alternatives proposed, for any costs in ensuring that the alternatives meet the Employer's standards and requirements, and for any loss or damage arising out of such error or deficiency.

Clause 5.3.1:

The documentation required before commencement with Works execution is:

- a) Approved Health and Safety Plan (Refer to applicable clause in the Health and Safety Specification in Part C3.5 in the Scope Work)
- b) Initial programme (Refer to Clause 5.6)
- c) Security (Refer to Clause 6.2)
- d) Evidence of Insurance (Refer to Clause 8.6)
- e) Occupational Health and Safety Agreement (Part C1.5 in Agreements and Contract Data)
- f) Letter of good standing from the Compensation Commissioner, or a licensed compensation insurer (Refer to Clause 4.3)
- g) Protection of the Environment Declaration (Part C1.6 in Agreements and Contract Data)
- h) Proof of Registration / Letter of Good Standing with the Bargaining Council for the Civil Engineering Industry (BCCEI)

Add the following to Clause 5.3.1:

Such instruction shall, where the Project exceeds 365 days AND will involve more than 3600 person days of construction work, or has a Construction Industry Development Board (CIDB) grading level 7, 8 or 9 (Currently a grading level of 7 is R40 million), also be subject to the issuing, by the Provincial Director of the Department of Labour, of a construction work permit to perform the intended construction work in terms of Clause 5.3.4 below.

Clause 5.3.2:

The time to submit the documentation required before commencement with Works execution is within **14** days.

Clause 5.3.3:

Add the following to Clause 5.3.3:

Notwithstanding the above, a construction work permit from the Provincial Director of the Department of Labour is required when a project:

- a) exceeds 365 days AND will involve more than 3600 person days of construction work
- or
- b) Construction Industry Development Board (CIDB) grading level 7, 8 or 9. Currently a grading level of 7 is R40 million

Commencement of the Works shall not be deemed to take place until such construction work permit has been issued by the Provincial Director.

Clause 5.3.4:

Add the following Clause after Clause 5.3.3:

5.3.4 Application for Construction Work Permit

Where the project meets the above criteria, the Employer shall, in compliance with Regulation 3 of the Construction Regulations, read together with the exemptions published in Government Notice dated 7 July 2015, apply to the Provincial Director of the Department of Labour for a construction work permit to perform the intended construction work. The employer will apply for the construction work permit as soon as possible after its Bid Adjudication Committee has awarded the contract, and the period that the Department of labour requires to issue the permit will run concurrently with the appeal period.

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

Clause 5.4.1:

The Contractor shall have access to site in portions as set out here.

- i. Access for Site Establishment: 2 weeks after the Commencement Date, provided that documentation referred to in clause 5.3.1 have been provided.;
- ii. Access to South Reactor: 8 weeks after the Commencement Date;
- iii. Access to Centre Reactor: 20 weeks after Practical Completion of South Reactor
- iv. Access to North Reactor: 20 weeks after Practical Completion of Centre Reactor

Access to the reactors above also refers to the recycle pump stations associated with the respective reactors.

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. The operators of the WWTW plant as well as other contractors and service providers shall be allowed access to the Contractor's site provided that they adhere to the OHS requirements imposed by the Contractor. The Contractor shall not possess all of the site at once, but shall sequence construction logically as not to hinder the operations of the WWTW plant.

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 it 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 Saturdays and Sundays.

The special non-working days are:

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

Clause 5.12.2.2:

Add the following to 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 is as follows:

R15 000 per day for not achieving Practical Completion for the first Reactor 44 weeks after the Commencement Date;

R15 000 per day for not achieving Practical Completion for the second Reactor 100 weeks after the Commencement Date;

R15 000 per day for not achieving Practical Completion for the third Reactor 156 weeks after the Commencement Date;

Insert the following after "actual date of Practical Completion":

... or, in the case of termination by the Employer in terms of Clause 9.2.1, the actual date of termination,

Clause 5.16.3:

The latent defects period is **10** years.

Clause 6.2.1:

The security to be provided by the Contractor shall be a performance guarantee of 7% of the Contract Sum. 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**.

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 Certificate of Completion of the Works 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:

Where applicable, in terms of the foregoing, the value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule with the following values:

The value of "x" is 0,10.

The values of the coefficients are:

a = 0,30 b = 0,30 c = 0,30 d = 0,10

The base month is the sixth month after the tender closing date.

The Contract Price shall be subject to contract price adjustment in accordance with Clause 6.8 of the General Conditions of Contract.

If special materials are specified in Part 2 of the Contract Data then the provisions of Clause 6.8.3 of the General Conditions of Contract shall apply to such special materials."

In addition, the paragraph above this Note to Compiler must be replaced with the following:

"The base month is one month prior to the month in which the tender closed."

Furthermore, the Contract Price Adjustment Schedule shall be amended as follows:

"L" is the "Labour Index" and shall be the Consumer Price Index (CPI) for "All items (CPI Headline)", as published in the Statistical News Release, P0141: Table A – Consumer Price Index: Main Indices of Statistics South Africa.

"P" is the "Plant Index" and shall be the Construction Materials Price Index for "Plant and Equipment" as published in the Statistical News Release P0151.1, Table 4 – Mining and construction plant and equipment price index of Statistics South Africa.

"M" is the "Materials Index" and shall be the Construction Materials Price Index for selected materials, Materials for "Civil Engineering material – roads, general (**excluding bitumen**)", as published in the Statistical News Release P0151.1, Table 6 – Civil engineering material price indices of Statistics South Africa

"F" is the "Fuel Index" and shall be the Producer Price Index (PPI) for "Coal and Petroleum Products - Diesel", as published in the Statistical News Release P0142.1: Table 1 –PPI for final manufactured goods of Statistics South Africa.

Clause 6.8.3: Variation in the cost of special materials

Price adjustment for variations in the cost of special materials is provided for in the Special Materials Schedule at the end of this Part 1: Contract Data provided by the Employer.

Clause 4.2 of the Contract Price Adjustment Schedule

Delete the words "by the Contractor" that appear after "... entered in the Contract Data"

Clause 6.8.4:

Add the following to Clause 6.8.4:

Notwithstanding the above, in the event that a public holiday is proclaimed after 28 days before the closing date for tenders, 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, ABSA, 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, ABSA, 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 ABSA rate referred to above, then the ABSA rate shall apply and the Rand value in columns (C) and (F) shall be recalculated accordingly, without altering the price in the Schedules of Quantities for the relevant items.
- (d) If a tender from a supplier or sub-contractor provides for variations in rates of exchange, the Contractor may **only** claim for variations in rates of exchange if he binds the supplier or sub-contractor to the same provision to take out forward cover as described in sub-paragraph (e) below.
- (e) The Contractor (or supplier or sub-contractor) shall within five working days from the date of placing a firm order on an overseas supplier, cover or recover forward by way of a contract with a bank which is an authorised foreign exchange dealer, the foreign exchange component of the cost of any imported Plant and Materials inserted by the Tenderer on the schedule titled "**Price Basis for Imported Resources**".
- (f) When the Contractor (or supplier or sub-contractor) so obtains forward cover, the Contractor shall immediately notify the Employer of the rate obtained and furnish the Employer with a copy of the foreign exchange contract note.
- (g) Based on the evidence provided in sub-paragraph (f) above, the value in Rand inserted in column (C) on the schedule titled "**Price Basis for Imported Resources**" shall be recalculated using the forward cover rate obtained, and any increase or decrease in the Rand value defined in this clause shall be adjusted accordingly, subject to sub-paragraph (h) below. Failure to provide such evidence shall result in no such recalculation shall be considered by the Employer.
- (h) The adjustments shall be calculated upon the value in foreign currency in the Contractor's (or supplier's or sub-contractor's) **forward cover contract**, provided that, should this value exceed the value in foreign currency inserted in column (A) of the schedule titled "**Price Basis for Imported Resources**", then the value in column (A) shall be used.

6.8.5.2 Adjustment for variations in customs surcharge and customs duty

- (a) Any increase or decrease in the Rand value between the amounts of Customs Surcharge and Customs Duty inserted on the schedule titled "**Price Basis for Imported Resources**" and those amounts actually paid to the Customs and Excise Authorities, which are due to changes in the percentage rates applicable or to the foreign exchange rate used by the authorities, shall be adjusted accordingly.
- (b) The Tenderer shall state the Customs Duty Tariff Reference applicable to each item and the Contractor shall advise the Employer's Agent of any changes which occur.

6.8.5.3 Adjustment for variation in labour and material Costs

If the prices for imported Plant and Materials are not fixed, the Contractor shall in his Tender specify the formula for calculating Contract Price Adjustments normally used in the country of manufacture and the indices and relative proportions of labour and material on which his Tender prices are based. Evidence of the indices applicable shall be provided with each claim. The indices applicable 42 days before contractual dispatch date from the factory will be used for the purposes of Contract Price Adjustment.

Failure to specify a formula in the Tender shall mean that the prices are fixed or shall be deemed to be fixed.

Clause 6.10.1.5:

Delete Clause 6.10.1.5 in its entirety and replace with the following:

6.10.1.5 The value of Plant and materials:

- 6.10.1.5.1 up to a percentage limit of **80%** for the Plant and materials referred to in Clause 6.9.1.1 brought on to the Site but not yet built into the Permanent Works;

Provided that the Contractor has produced documentary evidence of ownership of such Plant and/or materials and has delivered to the Employer an indemnity, approved in writing by the Employer, against any claim to or in respect of such Plant and/or materials by reason of the Contractor's sequestration or liquidation, or of any defect in the Contractor's title to the Plant and/or materials;

- 6.10.1.5.2 which have been manufactured and are stored at places other than the Site, in respect of which the Employer has indicated, on the Advance Payment Schedule, that advance payment will be permitted;

- 6.10.1.5.3 for which a deposit with order is required from the Contractor by a manufacturer/supplier, only in respect of which the Employer has indicated, on the Advance Payment Schedule, that advance payment will be permitted;

The terms and conditions for advance payment are set out in Clause 6.10.10 and in the Advance Payment Schedule at the end of this Part 1: Contract Data provided by the Employer.

Clause 6.10.1.7:

Add the following after the words "Clause 5.13":

or any other fines or penalties that become due under the Contract.

Clause 6.10.3:

Add the following to Clause 6.10.3:

Notwithstanding the provision of a performance guarantee in terms of Clause 6.2.1, interim payments to the Contractor shall be subject to a retention by the Employer of an amount of **5%** of the said amounts due to the Contractor, with no limit. A guarantee in lieu of retention is not permitted.

Clause 6.10.4:

Add the following to the last sentence of Clause 6.10.4:

..., dated as at the date of delivery of the Contractor's statement to the Employer's Agent.

Add the following to Clause 6.10.4:

Notwithstanding the above, the Employer's Agent shall be empowered to withhold the delivery of the payment certificate until the Contractor has complied with his obligations to report in terms of Clause 4.10.2 and as described in the Scope of Work.

The Contractor may submit a fully motivated application regarding more frequent payment to the Employer's Agent to be submitted to the Employer for consideration. Requests for more frequent payments will be considered at the sole discretion of the Employer and is not a right in terms of this contract.

Clause 6.10.10:

Add the following Clause after Clause 6.10.9:

6.10.10 Advance payment

Subject to Clauses 6.10.1.5.2 and 6.10.1.5.3, and the Advance Payment Schedule, the Employer shall make an advance payment for Plant and materials stored at places other than the Site, or in respect of which a deposit with order is required, only once the Contractor has submitted an advance payment guarantee in accordance with this Clause.

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 8.6.1.1.2:

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 Contractor shall provide evidence in the form stated in the contract data to the Employer's Agent that the required insurances are effected and that all premiums thereunder have been paid.

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.

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 Protection of Personal Information

The supplier acknowledges that it will be processing personal information as defined in the Protection of Personal Information Act No. 4 of 2013 relating to City customers, on behalf of the City. Accordingly it undertakes to ensure compliance with the Act in respect of its processing activities. In particular, it undertakes to keep such information confidential and not to disclose it unless required by law or in the course of the proper performance of its duties. Furthermore it undertakes to maintain security measures as envisaged in Sections 19 and 21 of the Act. The requirements of this apply to all agents and subcontractors acting on behalf of tenderers and must be included in all contracts between tenderers and their agents or subcontractors.

Clause 13 Periodic review

This Agreement is valid from the commencement date outlined herein and is valid until further notice. This Agreement shall be reviewed once every three years; however, in lieu of a review during any period specified, the current Agreement will remain in effect. The purchaser reserves the right to reduce or increase the scope of works according to the dictates of the budget, to terminate this contract, and/or to review and terminate this contract as is contemplated in Section 116(1)(b)(iii) of the Local Government: Municipal Finance Management Act 56 of 2003, without adjustment to the agreed rates, sums or fees and without payment of any penalty or surcharge in this regard. The supplier shall however be entitled to pro-rata payment for all services carried out in terms of any adjustment to the Scope of Work or, in the case of termination, payment for good delivered.

Clause 14

As required by section 116(2)(b) of the *Local Government: Municipal Financial Management Act 56 of 2003*, the City shall monitor the performance of the contractor/supplier on at least a monthly basis, and the supplier agrees to provide the City with its full cooperation in this regard.

SPECIAL MATERIALS SCHEDULE		
Each material dealt with as a special material in terms of Clause 4.1 of the Contract Price Adjustment Schedule of the General Conditions of Contract is stated in the list below. The provisions of Clause 6.8.3 of the General Conditions of Contract shall apply to such special materials. The base prices for the special materials (current at the time of tender) shall be as stated in the schedule below, or where required, shall be furnished by the tenderer/contractor. Only those materials listed by the Employer below shall be considered as special materials.		
Special Material	Unit	Base Price
Structural Steel	t	The ArcelorMittal prices, as published in their official price lists, current at the time of tender closing, will be used as the base prices for determining the adjustment in steel prices
Steel Reinforcing Bars	t	
Conditions:		
1) When called upon to do so, the contractor shall substantiate the prices to be used to determine the adjustment in respect of the special materials listed above with acceptable documentary evidence.		
2) In the case of bituminous products, the Employer has provided, in the schedule above, a base rate for bitumen upon which the tendered rates will be deemed to be based, and which will be used for determining the adjustment in the price of such bituminous products.		
3) Where an adjustment for the variation in the price of bituminous products is claimed, the claim must be substantiated by a declaration from the manufacturer, confirming the source of bitumen used in such bituminous products at the time in question.		
4) Where the source of bitumen (the refinery) is located in the Western Cape Province, or where bitumen sourced from abroad is landed at a port in the Western Cape, the cost of transporting such bitumen within the boundaries of the Western Cape shall be included in the rate for bituminous products. Extra-over rates to cover the cost of transporting bitumen from beyond the borders of the Western Cape have been measured separately in the Bill of Quantities.		
5) Where imported bitumen used in bituminous products is landed at a port beyond the borders of the Western Cape, the importers must clearly state whether or not their price is inclusive of transport to the Western Cape, which will determine whether extra-over transport costs are applicable, or not. The price of the imported bitumen itself must be expressed as a landed price in ZAR.		

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.	

ANNEXURE A: INSURANCE BROKER'S WARRANTY

Pro Forma

Logo

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/2019/20

**CONTRACT TITLE: CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT
AT BELLVILLE WASTEWATER TREATMENT WORKS**

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: _____

ANNEXURE B: FORM OF PERFORMANCE GUARANTEE

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

C1.3 Form of Performance Guarantee

PERFORMANCE GUARANTEE

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

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

"Employer" means: The City of Cape Town, Water & Sanitation Department.

"Contractor" means:

"Employer's Agent" means:

"Works" means: Contract No. and Title

"Site" means: The site as defined in Clause 1.1.1.29 of the General Conditions of Contract.

"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.

"Contract Sum" means: The accepted amount inclusive of tax of R.....

Amount in words:

"Guaranteed Sum" means: The maximum aggregate amount of R.....

Amount in words:

"Expiry Date" means: The date of issue by the Employer's Agent of the Certificate of Completion of the Works.

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates, Final Payment Certificate and the Certificate of Completion of the Works 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 Certificate of Completion of the Works has been issued.

3. The Guarantor hereby acknowledges that:
 - 3.1 any reference in this Performance Guarantee to the Contract is made for the purpose of convenience and shall not be construed as any intention whatsoever to create an accessory obligation or any intention whatsoever to create a suretyship;
 - 3.2 its obligation under this Performance Guarantee is restricted to the payment of money.
4. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:
 - 4.1 A copy of a first written demand issued by the Employer to the Contractor stating that payment of a sum certified by the Employer's Agent in an Interim or Final Payment Certificate has not been made in terms of the Contract and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2;
 - 4.2 A first written demand issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) days has elapsed since the first written demand in terms of 4.1 and the sum certified has still not been paid;
 - 4.3 A copy of the aforesaid payment certificate which entitles the Employer to receive payment in terms of the Contract of the sum certified in 4.
5. Subject to the Guarantor's maximum liability referred to in 1, the Guarantor undertakes to pay to the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand from the Employer to the Guarantor at the Guarantor's physical address calling up this Performance Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Performance Guarantee is called up in terms of 5; or
 - 5.2 a provisional or final sequestration or liquidation court order has been granted against the Contractor and that the Performance Guarantee is called up in terms of 5; and
 - 5.3 the aforesaid written demand is accompanied by a copy of the notice of termination and/or the provisional/final sequestration and/or the provisional liquidation court order.
6. It is recorded that the aggregate amount of payments required to be made by the Guarantor in terms of 4 and 5 shall not exceed the Guarantor's maximum liability in terms of 1.
7. Where the Guarantor has made payment in terms of 5, the Employer shall upon the date of issue of the Final Payment Certificate submit an expense account to the Guarantor showing how all monies received in terms of this Performance Guarantee have been expended and shall refund to the Guarantor any resulting surplus. All monies refunded to the Guarantor in terms of this Performance Guarantee shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date payment was made by the Guarantor to the Employer until the date of refund.
8. Payment by the Guarantor in terms of 4 or 5 shall be made within seven (7) calendar days upon receipt of the first written demand to the Guarantor.
9. The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer may deem fit and the Guarantor shall not have the right to claim his release from this Performance Guarantee on account of any conduct alleged to be prejudicial to the Guarantor.
10. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
11. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
12. This Performance Guarantee, with the required demand notices in terms of 4 or 5, shall be regarded as a liquid document for the purposes of obtaining a court order.
13. Where this Performance Guarantee is issued in the Republic of South Africa the Guarantor hereby consents in terms of Section 45 of the Magistrate's Courts Act No 32 of 1944, as amended, to the jurisdiction of the Magistrate's Court of any district having jurisdiction in terms of Section 28 of the said Act, notwithstanding that the amount of the claim may exceed the jurisdiction of the Magistrate's Court.

Signed at

Date

Guarantor's signatory (1)

Capacity

Guarantor's signatory (2)

Capacity

Witness signatory (1)

Witness signatory (2)

ANNEXURE

LIST OF APPROVED FINANCIAL INSTITUTIONS

The following financial institutions are currently (as at 18 October 2016) 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:

ABSA Insurance
Coface s.a.
Compass Insurance Co.
Constantia Insurance Co.
Credit Guarantee Insurance Co.
Guardrisk Insurance Co.
Hollard Insurance Company Ltd.
Home Loan Guarantee Co.
Infiniti Insurance Limited
Lombard Insurance
Mutual & Federal Insurance Co.
New National Assurance Co.
Regent Insurance Co.
Renasa Insurance Company Ltd.
Santam Limited
Zurich Insurance Co

ANNEXURE C: FORM OF ADVANCE PAYMENT GUARANTEE

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

C1.4 Form of Advance Payment Guarantee

ADVANCE PAYMENT GUARANTEE

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

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

"Employer" means: The City of Cape Town, Water & Sanitation Department.

"Contractor" means:

"Employer's Agent" means:

"Works" means: Contract No. and Title

"Site" means: The site as defined in Clause 1.1.1.29 of the General Conditions of Contract.

"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.

"Plant and materials" means: The Plant and materials stored at places other than the Site, or in respect of which an advance payment prior to manufacture is required, which the Employer has agreed may be subject to advance payment, such Plant and materials being listed in the Schedule of Plant and materials.

"Schedule of Plant and materials" means: A list of Plant and materials which shows the value thereof to be included in the Guaranteed Advance Payment Sum.

"Guaranteed Advance Payment Sum" means: The maximum aggregate amount of R.....

Amount in words:

"Expiry Date" means: The date of the payment certificate wherein the Plant and materials have been certified by the Employer's Agent as having been built into the Permanent Works.

CONTRACT DETAILS

Employer's Agent issues: Interim Payment Certificates and Final Payment Certificate.

ADVANCE PAYMENT GUARANTEE

1. The Guarantor's liability shall be limited to the amount of the Guaranteed Advance Payment Sum.

2. The Guarantor's period of liability shall be from and including the date of issue of this Advance Payment Guarantee and up to and including the Expiry Date or the date of payment in full of the Guaranteed Advanced Payment Sum, whichever occurs first.
3. The Guarantor hereby acknowledges that:
 - 3.1 any reference in this Advance Payment 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 Advance Payment 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) calendar 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 Advance Payment 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 Advance Payment Guarantee, such demand stating that:
 - 5.1 the Contract has been terminated due to the Contractor's default and that this Advance Payment 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 Advance Payment 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. 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 Advance Payment 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 Advance Payment Guarantee is neither negotiable nor transferable and shall expire in terms of 2, where after no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
12. This Advance Payment 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)



PART 3: GENERAL CONDITIONS OF CONTRACT

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

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 documents 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:

PART 4: PRICING SCHEDULE

Part C2: Pricing Data

	Pages
C2.1 Pricing Assumptions.....	117 – 118
C2.2 Bills of Quantities.....	119 – 190

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

**CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS**

C2.1 Pricing Assumptions

Pricing Assumptions mean the criteria as set out below, read together with all Parts of this contract document, which it will be assumed in the contract, that the tenderer has taken into account when developing his prices.

1. The method of measurement published by the South African Bureau of Standards in clause 8 of the Standardised Specifications for Civil Engineering Construction is applicable, subject to the variations and amendments contained in the section "Applicable SANS 1200 standardised specifications".
2. Descriptions in the Bills of Quantities are abbreviated and comply generally with those in the Standardised Specifications. Clause 8 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 Schedule, 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 Bills of Quantities. 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 digits which follow SANS in the SANS 1200 series of specifications, e.g. G for SANS 1200 G.
4. Unless otherwise stated, items are measured net in accordance with the drawings, and no allowance is made for waste.
5. The quantities set out in the Bills of Quantities are the estimated quantities of the Contract Works, but the Contractor will be required to undertake whatever quantities may be directed by the Employer's Agent from time to time. The Contract Price for the completed contract shall be computed from the actual quantities of work done, valued at the relevant unit rates and prices.
6. The prices and rates to be inserted in the Bills of Quantities are to be the full inclusive prices for the work described under the several items. Such prices and rates shall cover all costs and expenses that may be required in and for the execution of the work described, and shall cover the cost of all general risks, liabilities, and obligations set forth or implied in the documents on which the tender is based, as well as overhead charges and profit. Reasonable prices shall be inserted as these will be used as a basis for assessment of payment for additional work that may have to be carried out.
7. A price or rate should be entered against each item in the Bills of Quantities, whether the quantities are stated or not. An item against which no price (in any format) or a nil rate is entered will be considered to be covered by the other prices or rates in the Bills of Quantities, and that there is no charge for that particular item (even should the quantity subsequently increase).
8. Except where rates only are required, insert all amounts to be included in the total tendered price in the "Amount" column and show the corresponding total tendered price.

9. The units of measurement described in the Bills of Quantities are as follows:
- | | | | | | |
|----------------------|---|-----------------------|----------|---|------------------|
| mm | = | millimetre | h | = | hour |
| m | = | metre | kg | = | kilogram |
| km | = | kilometre | t | = | ton (1000 kg) |
| m ² | = | square metre | No. | = | number |
| m ² /pass | = | square metre-pass | sum | = | lump sum |
| ha | = | hectare | MN | = | meganeuton |
| m ³ | = | cubic metre | MN.m | = | meganeuton-metre |
| m ³ /km | = | cubic metre-kilometre | P C sum | = | Prime Cost sum |
| l | = | litre | Prov sum | = | Provisional sum |
| kl | = | kilolitre | % | = | per cent |
| Mpa | = | megapascal | kW | = | kilowatt |
10. Where fractions of a cent occur in calculations of prices and amounts, they shall be rounded up/down to the nearest whole cent.
11. The Tenderer is referred to F2.24 in Part T1.2 Tender Data regarding the pricing of Deviations and/or Qualifications.
11. Clause F.2.13.11 (c) in Part T1.2 Tender Data shall be applicable to the submission of Bills of Quantities which have been priced electronically, and which the Tenderer wishes to submit as a printed version with his/her tender in the place of handwritten priced Bills of Quantities.
- 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 Bills of Quantities, then the printed Bills of Quantities shall take these into account.
- The pages of the issued Bills of Quantities should not be removed from the tender document.
12. Tenderers are referred to Clause 8 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.
13. All descriptions or clauses where trade names or proprietary products are specified, are deemed to include the phrase "or equal approved"
14. Tenderers are referred to Clause 6.8.2 in Part C1.2 Contract Data regarding contract price adjustment.

CITY OF CAPE TOWN

WATER AND SANITATION

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WASTEWATER TREATMENT WORKS

C2.2 Bills of Quantities

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Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
1.1	SABS 1200 A	SCHEDULE 1: GENERAL				
	8.3	FIXED-CHARGE AND VALUE-RELATED ITEMS				
1.1.1	8.3.1	Contractual requirements	Sum	1		2430 000,00
	8.3.2	Establishment of facilities on the site				
	8.3.2.1	Facilities for Engineer				
1.1.2		(a) Furnished Offices (1 off)	Sum	1		10 000,00
1.1.3		(b) Nameboards (2 off)	Sum	1		7500,00
1.1.4		(c) Laptop with Windows & Office software	Sum	1		10 000,00
1.1.5		(d) Survey Assistant and materials	Sum	1		incl
	8.3.2.2	Facilities for Contractor				
1.1.6	PS A 8.3.2.2 a)	(a) Offices and storage sheds	Sum	1		100 000,00
1.1.7		(b) Workshops	Sum	1		100 000,00
1.1.8		(c) Laboratories	Sum	1		incl
1.1.9		(d) Living accommodation	Sum	1		incl
1.1.10	PS A 8.3.2.2 e)	(e) Ablution and latrine facilities	Sum	1		50 000,00
1.1.11		(f) Tools and equipment	Sum	1		incl
1.1.12	PS A 8.3.2.2 g)	(g) Water supplies, electric power and communications	Sum	1		30 000,00
TOTAL CARRIED TO NEXT PAGE						R 737 500,00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
	SABS 1200 A	SCHEDULE 1: GENERAL (continued)				
		Brought Forward				
1.1.13	PS A 8.3.2.2 h)	(h) Dealing with water (see sub clause 7.5 in SABS 1200 A)	Sum	1		45000,00
1.1.14	PS A 8.3.2.2 i)	(i) Access (see sub clause 7.8 in SABS 1200 A)	Sum	1		incl
1.1.15	8.3.3	Other fixed-charge obligations	Sum	1		incl
1.1.16	8.3.4	Removal of site establishment	Sum	1		10000,00
1.2	8.4	TIME-RELATED ITEMS				
1.2.1	8.4.1	Contractual requirements	Sum	1		incl
	8.4.2	Operation and maintenance of facilities on site, for duration of construction				
	8.4.2.1	Facilities for Engineer				
1.2.2		(a) Furnished Offices (1 off)	Sum	1		13000,00
1.2.3		(b) Nameboards (2 off)	Sum	1		incl
1.2.4	PSA 8.4.2.1 c)	(c) Laptop with Windows & Office software	Sum	1		incl
1.2.5	PSA 8.4.2.1 d)	(d) Survey Assistant and materials	Sum	1		incl
	8.4.2.2	Facilities for Contractor				
1.2.6		(a) Offices and storage sheds	Sum	1		160000,00
1.2.7		(b) Workshops	Sum	1		115000,00
1.2.8		(c) Laboratories	Sum	1		incl
1.2.9		(d) Living accommodation	Sum	1		incl
TOTAL CARRIED TO NEXT PAGE					R	1085500,00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
	SABS 1200 A	<u>SCHEDULE 1: GENERAL (continued)</u>				
		Brought Forward				
1.2.10		(e) Ablution and latrine facilities	Sum	1		43 000,00
1.2.11		(f) Tools and equipment	Sum	1		560 000,00
1.2.12		(g) Water supplies, electric power and communications	Sum	1		incl
1.2.13	PSA 9	(h) Dealing with water (see sub-clause 7.5 of SABS 1200 A)	Sum	1		incl
1.2.14	PSA 10	(i) Access (see sub-clause 7.8 of SABS 1200 A)	Sum	1		incl
1.2.15	8.4.3	Supervision for duration of construction	Sum	1		27 000 000,00
1.2.16	8.4.4	Company and head office overhead costs for the duration of the contract	Sum	1		1 000 000,00
1.2.17	8.4.5	Other time-related obligations	Sum	1		incl
1.3	8.8	TEMPORARY WORKS				
1.3.1	8.8.1	Main access road to works (maintenance)	Sum	1		10 000,00
1.3.2	8.8.3	Protection of all existing services and structures above and below ground until construction in the vicinity is complete	Sum	1		25 000,00
1.3.3	8.8.6	Special water control: All temporary works required to maintain the operation of the existing WWTW.	Sum	1		50 000,00
1.3.4	8.8.7	Temporary 1.8 m high galvanized security fencing complete as directed by Engineer	m	100	315,00	31 500,00
1.3.5		6 m Double gate	No	1	10 056,90	10 056,90
1.3.6	8.9	Land Surveyor to check Setting Out of benchmarks and structures prior to setting out	Sum	1	10 000,00	10 000,00
TOTAL CARRIED FORWARD TO SUMMARY						R 553 056,90

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 2: SITE WORKS						
2.1	PSA 8.8.4	Existing services (see sub-clause 7.4 of SABS 1200 A)				
2.1.1		(a) Obtaining wayleaves	Sum	1	5 000.00	5 000.00
2.1.2		(b) Detection of underground services on site with specialist equipment: Using ground penetrating radar (GPR) surveys for the entire construction site. Detect all conductive and non-conductive services to a depth of 3m, including all pipes and cables.	Sum	1	50 000.00	50 000.00
2.1.3		(c) Excavation by hand in soft material to expose services including marking services on site and on a drawing. A typical excavation will have a size of 1.5m x 1.5m x 1.5m. Excavations will be done to confirm services indicated on as-built information and in the vicinity of any construction work or as directed by the Engineer.	m ³	100	320.00	32 000.00
2.1.4		(d) Electrical survey of all electrical infrastructure in the vicinity of the demolition area, including isolation of live electrical cables and identifying cables that cannot be isolated, but require diversion.	Sum	1	50 000.00	50 000.00
2.1.5		(e) Marking up detected services on the AutoCad Site Layout supplied by the Engineer and submitting pdf, dwg and hardcopy versions of the drawings to the Engineer.	Sum	1	5 000.00	5 000.00
2.1.6	PSC 8.2.8	Perform a photographic survey of each structure prior to demolition and include it in the method statement for demolition of the structure.	Sum	1	6 000.00	6 000.00
2.1.7	PSC 8.2.8	Submitting a detailed and comprehensive demolition method statement as described in specification PSC 8.2.8 prior to demolition work in a reactor	Sum	1	6 000.00	6 000.00
TOTAL CARRIED TO NEXT PAGE					R	154 000.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 2: SITE WORKS (continued)				
		Brought Forward				
2.2	SABS 1200 C					
2.2.1	8.2.1	Clear and grub	ha	0.2	10 000.00	2 000.00
	PSC 8.2.7	Dismantle and remove pipelines, electricity transmission lines, cables, etc. (excavation measured elsewhere)				
2.2.2		(a) 150 mm dia. asbestos pipe including handling and disposal according to all the relevant OHS and environmental regulations	m	20	100.00	2 000.00
2.2.3		(b) 315 mm dia. asbestos pipe including handling and disposal according to all the relevant OHS and environmental regulations	m	50	200.00	10 000.00
2.2.4		(c) 600 mm dia. asbestos pipe including handling and disposal according to all the relevant OHS and environmental regulations	m	50	450.00	22 500.00
2.2.5		(d) 300 mm dia. PVC pipe	m	20	100.00	2 000.00
2.2.6		(e) Fibre optic cables	m	20	25.00	500.00
2.2.7		(f) Electrical cables separately trenched	m	100	100.00	10 000.00
TOTAL CARRIED TO NEXT PAGE						R 203 000.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 2: SITE WORKS (continued)				
		Brought Forward				
	8.2.8	Demolish and remove structures/buildings including handling and disposal according to all the relevant OHS and environmental regulations and protection of existing services and buildings <u>Small Demolition work inside and around reactors</u>				
2.2.8		(a) cutting of reinforced concrete 50mm deep in preparation of demolition	m	400	30.00	12 000.00
2.2.9		(b) cutting of double leaf brick wall	m	20	40.00	800.00
2.2.10		(c) demolishing of reinforced concrete (all thicknesses) with handheld breaker	m ³	75	5 000.00	375 000.00
2.2.11		(d) demolishing of reinforced concrete (all thicknesses) with pecker	m ³	25	4 000.00	100 000.00
2.2.12		(e) Demolition of double leaf brickwork	m ²	15	350.00 350.00	5 250.00 5 250.00
2.2.13		(f) Demolition of kerbing	m	250	20.00	5 000.00
2.2.14		(g) Excavation through (demolition of) bitumen surfaced road	m ²	1000	13.50	13 500.00
2.2.15		(h) Removing and stockpiling on site of paving blocks	m ²	50	45.00	2 250.00
2.2.16		(i) Demolition of manholes up to 3.0 m deep	No	3	10 000.00 26 000.00	30 000.00 78 000.00
2.2.17		(j) Core drilling through reinforced concrete up to 400mm thick and up to 300mm dia.	No	12	1 000.00	12 000.00
TOTAL CARRIED TO NEXT PAGE						R 758 700.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 2: SITE WORKS (continued)				
		Brought Forward				
2.2.18		(k) Core drilling through reinforced concrete up to 400mm thick and between 300mm dia. and 500mm dia.	No	6	2 000.00	12 000.00
2.2.19	8.2.9	Transport materials and debris to Landfill Site (provisional). This includes earthworks for disposal and demolished concrete with rebar removed	m³.km	20000	8.00	160 000.00
		MISCELLANEOUS				
2.2.20		All costs to carry out a detailed dimensional survey of the existing works to accurately determine the sizes and dimensions of all infrastructure to be replaced, removed (demolished) or repaired.	Sum	1	30 000.00	30 000.00
2.2.21		Supply, operate and maintain submersible pumps in reactor subsoil drainage manholes to maintain the level of groundwater to below the reactor floor level for the duration of the contract to avoid lifting of the reactor floor slabs due to groundwater pressure. Allow for daily monitoring of groundwater level in subsoil manholes. <i>See Note = 2x4" Pumps</i>	Sum	1	100 000.00 300 000.00	100 000.00 300 000.00
2.2.22		Supply, operate and maintain at least 8" mobile solids handling pump to pump water and sludge from reactor to an adjacent reactor. Settled sludge in tanks to be brought into suspension prior to pumping.	m³	54000	6.00	324 000.00
2.2.23		Disposal into waste skips of remaining sludge, rags, and grit from 3 biological reactors. Allow for up to 1m at bottom of tank. Employer will supply and remove waste skips. Contractor to supply bags, cranes, plant as required.	No	3	330 000.00	990 000.00
TOTAL CARRIED TO NEXT PAGE						R 2374 800.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 2: SITE WORKS (continued)				
		Brought Forward				
2.2.24		High pressure cleaning of walls and floors of reactor	No	3	50 000.00	150 000.00
2.2.25		Removal and disposal to suitable landfill site of diffused aeration networks in 3 reactors. Including cutting stainless steel anchor bolts flush to concrete floor. <i>Refer to Drawing Issued Note 1.5</i>	No	3	200 000.00	600 000.00
	SABS 1200 D	SECTION: EARTHWORKS				
	8.3.2	Bulk excavation				
		(a) Excavate in all materials and				
2.2.26		(1) Dispose	m³	100	150.00	15 000.00
2.2.27		(2) Form embankment (compacted to 98% MOD AASHTO)	m³	100	200.00	20 000.00
2.2.28		(3) Backfill (compacted to 98% MOD AASHTO)	m³	100	200.00	20 000.00
		(b) Extra-over for				
2.2.29		(1) hard rock excavation	m³	10	500.00	5 000.00
	8.3.8	Existing Services				
	8.3.8.2	Dealing with services that are at risk due to construction, earthworks and demolition work:				
2.2.30		(a) Cables	m	50	150.00	7 500.00
2.2.31		(b) Pipes smaller than 100mm diameter	m	50	150.00	7 500.00
2.2.32		(c) Pipes between 100mm and 200mm diameter	m	50	200.00	10 000.00
TOTAL CARRIED TO NEXT PAGE					R	3209 800.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 2: SITE WORKS (continued)				
		Brought Forward				
2.2.33		(d) Pipes between 200mm and 300mm diameter	m	50	300.00	15 000.00
2.2.34		(e) Pipes between 300mm and 500mm diameter	m	50	400.00	20 000.00
2.2.35		(f) Pipes between 500mm and 750mm diameter	m	50	500.00	25 000.00
2.2.36		(g) Pipes between 750mm and 1000mm diameter	m	50	500.00	25 000.00
2.2.37		(h) Pipes between 1000mm and 1500mm diameter	m	50	500.00	25 000.00
TOTAL CARRIED FORWARD TO SUMMARY					R	331982.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 3: PUMP STATION 2</u>				
3.1	SABS 1200 D	<u>SECTION: EARTHWORKS</u>				
	8.3.3	Restricted excavation				
		(a) Excavate in all materials and				
3.1.1		(1) Dispose	m³	65	150.00	9 750.00
3.1.2		(2) Backfill (compacted to 98% MOD AASHTO)	m³	65	200.00	13 000.00
		(b) Extra-over for				
3.1.3		(1) hard rock excavation	m³	5	500.00	2 500.00
3.1.4	8.3.4	Importing of materials from commercial sources: G5 material	m³	10	450.00	4 500.00
3.1.5	8.3.5	Extra excavation in all materials to provide working space around structure	m²	65	75.00	4 875.00
	PSD 8.3.7	Shoring				
3.1.6		Supply and install temporary shoring with drainage as instructed by engineer <i>Refer to Note 1.6</i>	m².day	10000	27.50	275 000.00
	8.3.9	Extra-over for backfill or fill against structures using:				
3.1.7		(a) 2% Sand cement	m³	5	100.00	500.00
3.1.8		(b) 5% Sand cement	m³	5	200.00	1 000.00
	PSG	<u>SECTION : CONCRETE</u>				
3.2	8.2	SCHEDULED FORMWORK ITEMS				
	8.2.2	Smooth				
		(a) Vertical				
3.2.1		(1) Footings	m²	16	450.00	7 200.00
TOTAL CARRIED TO NEXT PAGE					R	313 325.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R / c
		SCHEDULE 3: PUMP STATION 2 (continued)				
		Brought Forward				
3.2.2		(2) Floors	m ²	10	500.00	5 000.00
3.2.3		(3) Walls	m ²	195	550.00	107 250.00
3.2.4		(4) Roofs	m ²	35	750.00	26 250.00
		(b) Horizontal				
3.2.5		(1) Soffits of slabs	m ²	85	850.00	72 250.00
	PSG 8.2.6	Box out holes/form voids				
		(a) Small, circular, of diameter up to and including 0,35 m				
		Over and up to				
3.2.6		(1) 0 m 0,5 m deep	No.	2	500.00	1 000.00
		(b) Large, circular, of diameter up to and including 1,5 m				
		Over and up to				
3.2.7		(1) 0 m 0,5 m deep	No.	1	1 000.00	1 000.00
		(c) Large, other than circular, of area over 0,1 m ² and up to and including 0,5 m ²				
		Over and up to				
3.2.8		(1) 0 m 0,5 m deep	No.	2	1 500.00	3 000.00
TOTAL CARRIED TO NEXT PAGE					R	534 075.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
3.3	8.3	SCHEDULED REINFORCEMENT				
	8.3.1	Steel Bars				
3.3.1		(1) Mild steel reinforcement	t	0.07	14 500.00	1 015.00
3.3.2		(2) High-tensile reinforcement 25 mm dia. Basic price	t	7	14 200.00	99 400.00
3.3.3		(a) 10 mm	t	2		
3.3.4		(b) 12 mm	t	1		
3.3.5		(c) 16 mm	t	1		
3.3.6		(d) 20 mm	t	1		
3.4	8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer				
3.4.1		(a) 50 mm minimum thickness grade 20Mpa/19mm concrete under floors	m ²	45	100.00	4 500.00
8.4.3		Strength concrete				
3.4.2		(i) Benching	m ³	6	1 600.00	9 600.00
3.4.3		(iii) Screed screw pump trough using rotating screw	m ³	5	10 000.00	50 000.00
3.4.4		(b) Grade 35Mpa/19mm concrete	m ³	7	500.00	3 500.00
		(1) Footings				
TOTAL CARRIED TO NEXT PAGE						
						R 702 910.00

SCHEDULE 3: PUMP STATION 2
(continued)

Brought Forward

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 3: PUMP STATION 2 (continued)				
		Brought Forward				
3.4.5		(2) Floors	m³	10	500.00	5 000.00
3.4.6		(3) Walls	m³	35	550.00	19 250.00
3.4.7		(4) Roofs	m³	10	850.00	8 500.00
	8.4.4	Unformed surface finishes				
3.4.8		(a) Wood-floated finish	m²	20	20.00	400.00
3.4.9		(b) Steel-floated finish	m²	35	25.00	875.00
	8.5	JOINTS				
3.4.10		(a) Supply and install 200mm Construction joints with dumbbell waterstop without centre bulbs at construction joints	m	20	420.00	8 400.00
3.4.11		(b) Supply and install 10mm Expansion joints in floor panels including rearguard s-type waterstop, joint filler and joint sealant	m	25	472.50	11 812.50
3.4.12		(d) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying sikadur 31 epoxy or equivalent in holes (bars measured elsewhere)	No	60	78.75	4 725.00
3.4.13		(e) kuniseal or equivalent applied to construction joint with existing screw pump trough. Scabble and wet existing concrete. Apply xypex concentrate or equivalent after placement of kuniseal	m	30	420.00	12 600.00
3.4.14	PSG 7	Testing for water tightness	Sum	1	1 000.00	1 000.00
3.4.15	PS G 9 8.10.1	Concrete preparation	m²	30	36.75	1 102.50
TOTAL CARRIED TO NEXT PAGE						R 775 755.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 3: PUMP STATION 2</u> <u>(continued)</u>				
		Brought Forward				
3.4.16	PSG 9	Application of Xypex Concentrate or equivalent	m²	30	207.85	6 835.50
3.4.17	PSG 9	Application of Xypex Modified or equivalent	m²	30	236.25	7 087.50
3.5	PSHA	<u>SECTION : STRUCTURAL</u> <u>STEELWORK (SUNDRY ITEMS)</u>				
	8.3.2	SS316 handrails assembly complete				
3.5.1		(a) Shaped ends	No.	8	262.50	2 100.00
3.5.2		(b) Sloping handrails	m	7	1 170.75	8 195.25
3.5.3		(c) Horizontal handrails	m	9	1 008.00	9 072.00
3.5.4	8.3.4	Supply and install recta-grid (or equivalent) galvanised mild steel flooring type RS40 with 40x4.5 mm bearer bars and laid on angle irons bolted to concrete wall with M10 anchor bolts including all square cutting and set in position and banded around all edges. Price shall include cutting to fit for each application.	m²	2	3 045.00	6 090.00
3.5.5		Supply and install hot dip galvanized 150 mm high kickplates complete	m	16	735.00	11 760.00
	BWS	<u>BUILDING WORK SPECIFICATIONS</u>				
3.6	B 8.2	SCHEDULED ITEMS				
	B 8.2.1	Brickwork				
3.6.1		(a) 280 mm cavity walls (External walls) Facebrick to match existing, plaster inside. <i>TOTAL REDUCTION (NOTE 1.9)</i>	m²	36	900.00	32 400.00
3.6.2		(b) galvanized plate cill closures to brick walls	m	20	250.00	5 000.00
TOTAL CARRIED TO NEXT PAGE					R	864 295.75

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 3: PUMP STATION 2 (continued)				
		Brought Forward				
	B 8.2.2	Air Bricks				
3.6.3	(a)	External	No	2	107.25	214.50
	B 8.2.6	Plasterwork				
3.6.4	(a)	One coat 1:4 cement plaster	m²	35	94.69	3 314.15
	B 8.2.7	Floor Screeds				
3.6.5	(a)	50mm thick normal cement screed	m²	20	134.61	2 692.20
	B 8.2.8	Paving				
3.6.6	(a)	200x100x80mm Corolock charcoal S-A (or equivalent) concrete paving bricks laid in Herringbone pattern	m²	70	262.50	18 375.00
3.6.7	(b)	200x100x60mm Corostone red S-C (or equivalent) class 25 concrete paving bricks laid in Herringbone pattern	m²	20	262.50	5 250.00
3.6.8	(c)	Edge restraint kerb to paving	m	30	157.50	4 725.00
	B 8.2.9	Waterproofing				
3.6.9	(a)	Damp-proof course in walls	m	20	8.99	179.80
3.6.10	(b)	Damp-proof membrane under floors	m²	20	25.35	507.00
3.6.11	(c)	Damp-proof course under sills	m	10	8.99	89.90
3.6.12	B 8.2.13	Remove asbestos Fascias and Barge Boards including handling and disposal according to all the relevant OHS and environmental regulations	m	22	105.35	2 317.70
TOTAL CARRIED TO NEXT PAGE					R	90196.55

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 3: PUMP STATION 2 (continued)				
		Brought Forward				
3.6.13		Remove asbestos gutters including handling and disposal according to all the relevant OHS and environmental regulations	m	22	105.35	2 317.70
3.6.14		Remove asbestos down pipes including handling and disposal according to all the relevant OHS and environmental regulations	No	2	418.24	836.48
	B 8.2.14	Gutters and downpipes				
3.6.15		(a) Supply and install industrial aluminium box gutters 150 x 150 mm to match roof sheeting colour. 0.9mm thick. Install to manufacturer's specification	m	10	367.50	3 675.00
3.6.16		(b) Supply and install 100 x 75 mm aluminium downpipes to match roof sheeting colour. Install to manufacturer's specification	m	10	262.50	2 625.00
3.6.17		(c) Type 3550 fulbores including pvc threaded socket, and downpipe for installation in concrete roof, downpipe in wall.	No	4	1 963.50	7 854.00
	B 8.2.17	Joinery including stainless steel frames, ironmongery and installation thereof				
		(a) Doors				
3.6.18		(i) Doors as per drawing EAM-EE-GS-045, Typical Steel door type A	No	1	48 715.00	48 715.00
	B 8.2.18	Metal Work				
		(a) Windows and louvres complete:				
3.6.19		(i) glass blocks	m²	4	2 500.00	10 000.00
TOTAL CARRIED TO NEXT PAGE					R	97 023.68

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 3: PUMP STATION 2						
(continued)						
Brought Forward						
3.6.20		(ii) Winblok 600x600 with Wingrid insert or equivalent	No	2	2 900.00	5 800.00
3.6.21		(iii) Trox or equivalent aluminium weather louvre 1000mm x 1000mm	No	2	2 500.00	5 000.00
	B 8.2.19	Resilient Floor finishes				
3.6.22		(a) Epoxy self-smoothing system: Two-part self-smoothing and broadcasting epoxy system. Applied approx. 2mm thick as per manufacturer's instructions in colour as per sample approved by architect and with gloss finish. (Sikafloor 263SL ZA or equivalent). Joints as recommended by manufacturer.	m²	20	433.90	8 678.00
	B 8.2.20	Painting				
3.6.23		(a) External walls: Paint one coat primer and two coats smooth finished water-based premium pure acrylic emulsion sheen paint - colour to sample approved by architect.	m²	10	78.76	787.60
3.6.24		(b) Internal walls: Paint one coat primer and two coats low odour premium quality velvet sheen wall coatings that is highly washable and stain resistant.	m²	40	108.24	4 329.60
3.7		MISCELLANEOUS				
3.7.1		Precast Concrete Lintels over door frames and other brickwork openings, allow minimum 150mm bearing each side	m	5	84.70	423.50
TOTAL CARRIED TO NEXT PAGE					R	1023042.33

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 3: PUMP STATION 2</u> <u>(continued)</u>				
		Brought Forward				
3.7.2		Lintels for facebrick walls: Galvanised steel 100x100mm angle shelf as required over openings, allow minimum 250mm bearing to each side and built in fixed to structure behind as per standard detail.	m	5	549.57	2 747.85
3.7.3		Supply and install 5kg CO ₂ fire extinguishers complete in fire closet with signage and all accessories	No.	2	2 535.00	5 060.00
3.7.4		3 ply malthoid between brickwork and concrete roof	m ²	8	91.05	728.40
TOTAL CARRIED FORWARD TO SUMMARY						R 1011573.63

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
4.1	PSD	<u>SCHEDULE 4: SPLITTER BOX AND CHANNEL</u> <u>SECTION: EARTHWORKS</u>				
4.1.1	8.3.1.1	Clear and strip site	m ²	200	10.00	2 000.00
	8.3.2	Restricted excavation				
		(a) Excavate in all materials and				
4.1.2		(1) Dispose	m ³	120	150.00	18 000.00
4.1.3		(2) Backfill (compacted to 98% MOD AASHTO)	m ³	50	200.00	10 000.00
		(b) Extra-over for				
4.1.4		(1) hard rock excavation	m ³	5	500.00	2 500.00
4.1.5	8.3.4	Importing of materials from commercial sources: G5 material	m ³	70	450.00	31 500.00
4.1.6	8.3.5	Extra excavation in all materials to provide working space around structure	m ²	45	75.00	3 375.00
4.1.7	8.3.8.1	Excavate by hand to expose existing services	m ³	20	300.00	6 000.00
	8.3.9	Extra-over for backfill or fill against structures using:				
4.1.8		(a) 2% Sand cement	m ³	2	100.00	200.00
4.1.9		(b) 5% Sand cement	m ³	15	200.00	3 000.00
	PSG	<u>SECTION : CONCRETE</u>				
4.2	8.2	SCHEDULED FORMWORK ITEMS				
	8.2.2	Smooth				
		(a) Vertical				
4.2.1		(1) Footings	m ²	80	450.00	36 000.00
TOTAL CARRIED TO NEXT PAGE					R	112 575.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 4: SPLITTER BOX AND CHANNEL (continued)						
Brought Forward						
4.2.2		(2) Walls	m ²	700	550.00	385 000.00
		(b) Horizontal				
4.2.3		(1) Soffits of slabs	m ²	200	750.00	150 000.00
	8.2.5	Narrow Widths (up to 250 mm wide)				
		(a) Smooth				
4.2.4		(1) Other	m	200	200.00	40 000.00
4.3	8.3	SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	Steel Bars				
4.3.1		(1) Mild steel reinforcement	t	0.2	14 500.00	2 900.00
4.3.2		(2) High-tensile reinforcement 25 mm dia. Basic price	t	20	14 200.00	284 000.00
		Extra over for the following dia.				
4.3.3		(a) 10 mm	t	5		net
4.3.4		(b) 12 mm	t	5		net
4.3.5		(c) 16 mm	t	5		net
4.3.6		(d) 20 mm	t	5		net
4.4	8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer				
4.4.1		(a) 50 mm minimum thickness grade 20Mpa/19mm concrete under floors	m ²	70	100.00	7 000.00
TOTAL CARRIED TO NEXT PAGE						R 931 475.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 4: SPLITTER BOX AND CHANNEL (continued)				
		Brought Forward				
	8.4.3	Strength concrete				
		(a) Grade 20Mpa/19mm concrete for:				
4.4.2		(i) Benching	m³	60	1 500.00	90 000.00
4.4.3		(ii) Screed	m³	10	1 500.00	15 000.00
		(b) Grade 35Mpa/19mm concrete for:				
4.4.4		(i) Columns	m³	4	2 000.00	8 000.00
4.4.5		(ii) Walls	m³	120	1 800.00	216 000.00
4.4.6		(iii) Floors	m³	70	1 800.00	126 000.00
4.4.7		(iii) Slabs	m³	50	1 800.00	90 000.00
	8.4.4	Unformed surface finishes				
4.4.8		(a) Wood-floated finish	m²	50	20.00	1 000.00
4.4.9		(b) Steel-floated finish	m²	200	25.00	5 000.00
	8.5	JOINTS				
4.4.10		(a) Supply and install 200mm Construction joints with dumbbell waterstop without centre bulbs at construction joints	m	110	420.00	46 200.00
4.4.11		(b) Supply and install 10mm Expansion joints in floor panels including rearguard s-type waterstop, joint filler and joint sealant	m	25	525.00	13 125.00
4.4.12		(c) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying sikadur 31 epoxy or equivalent in holes (bars measured elsewhere)	No	200	78.75	15 750.00
TOTAL CARRIED TO NEXT PAGE					R	1 607 550.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 4: SPLITTER BOX AND CHANNEL (continued)						
Brought Forward						
4.4.13		(d) kuniseal or equivalent applied to construction joint with existing screw pump trough. Scabble and wet existing concrete. Apply xypex concentrate or equivalent after placement of kuniseal	m	100	315.00	31 500.00
4.4.14	PSG 7	Testing Splitter box for water tightness	No	1	1 050.00	1 050.00
4.4.15	PSG 9	Concrete preparation	m²	10	36.75	367.50
4.4.16	PSG 9	Application of Xypex Concentrate	m²	10	227.85	2 278.50
4.4.17	PSG 9	Application of Xypex Modified	m²	10	236.25	2 362.50
4.4.18	PSG 9	Application of SikaTop Armatex Note 1.9	m²	2	627.44	1 254.88
4.4.19	PSG 9	Application of Xypex Patch'n Plug Note 1.9	m²	2	463.29	926.58
4.5	PSHA	SECTION : STRUCTURAL STEELWORK (SUNDRY ITEMS)				
	8.3.2	SS316 Handrails assembly complete				
4.5.1		(a) Shaped ends	No.	4	262.50	1 050.00
4.5.2		(b) Sloping handrails on stairs	m	6	1 170.75	7 024.50
4.5.3		(c) Horizontal handrails	m	100	1 008.00	100 800.00
4.5.4	8.3.4	Supply and install recta-grid (or equivalent) galvanised mild steel flooring type RS40 with 40x4.5 mm bearer bars and laid on angle irons bolted to concrete wall with M10 anchor bolts including all square cutting and set in position and banded around all edges. Price shall include cutting to fit for each application.	m²	30	3 045.00	91 350.00
TOTAL CARRIED TO NEXT PAGE					R	1 347 514.48

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 4: SPLITTER BOX AND CHANNEL (continued)</u>				
		Brought Forward				
4.5.5		Supply and install hot dip galvanized 150 mm high kickplates complete	m	100	735.00	73 500.00
4.5.6		Hot dip galvanized steel staircase fixed to concrete wall complete, 2,5 m high with 250mm treads and 175mm rise	no	2	26 250.00	52 500.00
4.6	BWS	<u>BUILDING WORK SPECIFICATIONS</u>				
		MISCELLANEOUS				
4.6.1		Supply and install HDPE anchor knob sheeting <i>Minimum thickness 3mm</i> <i>Note 1.3</i>	m²	200	850.00	170 000.00
4.6.2		Supply and install GRP venturi flumes to suppliers specifications to be fixed in channel for flow measurement. Install to 5mm tolerance in all directions	No	3	55 000.00	165 000.00
TOTAL CARRIED FORWARD TO SUMMARY					R	2 323 514.46

Item No	Paym Refer	Description	Unit	Qty	Rate	Amount R c
5.1	8.2	SCHEDULED FORMWORK ITEMS				
PSG		SECTION : CONCRETE (NORTH)				
5.1.1	(a) Vertical	(1) Walls	m ²	1850	550.00	1 017 500.00
5.1.2	(2) Sides of beams and slabs	(2) Sides of beams and slabs	m ²	45	800.00	36 000.00
5.1.3	(3) Columns	(3) Columns	m ²	200	450.00	90 000.00
5.1.4	(4) Footings	(4) Footings	m ²	190	450.00	85 500.00
5.1.5	(5) Chambers and channels	(5) Chambers and channels	m ²	440	800.00	352 000.00
5.1.6	(b) Horizontal	(1) Soffits of slabs	m ²	180	750.00	135 000.00
5.1.7	(a) Smooth	(1) Other	m	350	200.00	70 000.00
5.2	8.3	SCHEDULED REINFORCEMENT ITEMS				
8.3.1	Steel Bars	(1) Mild steel reinforcement	t	1.1	14 500.00	15 950.00
5.2.1	(2) High-tensile reinforcement	(2) High-tensile reinforcement	t	110	14 300.00	1 572 000.00
5.2.2		25 mm dia. Basic price				
TOTAL CARRIED TO NEXT PAGE						R 3353 850.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 5: BIOREACTOR (NORTH) (continued)						
Brought Forward						
Extra over for the following dia.						
5.2.3		(a) 10 mm	t	30		
5.2.4		(b) 12 mm	t	30		
5.2.5		(c) 16 mm	t	20		
5.2.6		(d) 20 mm	t	20		
5.2.7		El (e) mesh reinforcement ref 395	t	10	3 500.00	35 000.00
5.3	8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer				
5.3.1		(a) 50 mm minimum thickness grade 20Mpa/19mm concrete under floors	m²	150	100.00	15 000.00
	8.4.3	Strength concrete				
		(a) Grade 20Mpa/19mm concrete for:				
5.3.2		(i) Benching	m³	50	1 500.00	75 000.00
5.3.3		(ii) Screed	m³	30	1 500.00	45 000.00
		(b) Grade 35Mpa/19mm concrete for:				
5.3.4		(i) Footings	m³	180	1 600.00	288 000.00
5.3.5		(ii) Walls	m³	400	1 600.00	640 000.00
5.3.6		(iii) Beams / walkways	m³	50	1 800.00	90 000.00
5.3.7		(iv) Columns	m³	30	1 800.00	54 000.00
TOTAL CARRIED TO NEXT PAGE					R	4 605 980.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 5: BIOREACTOR (NORTH) (continued)				
		Brought Forward				
5.3.8		(v) Channels	m³	130	1 800.00	234 000.00
5.3.9		(vi) Suspended slabs	m³	40	2 000.00	80 000.00
5.3.10		(vii) Floors	m³	10	2 000.00	20 000.00
	8.4.4	Unformed surface finishes				
5.3.11		(a) Wood-floated finish	m²	50	20.00	1 000.00
5.3.12		(b) Steel-floated finish	m²	600	25.00	15 000.00
	8.5	JOINTS				
5.3.13		(a) Supply and install 200mm Construction joints with dumbbell waterstop without NORTH bulbs at construction joints	m	150	420.00	63 000.00
5.3.14		(b) Supply and install 250mm Rearguard s-type waterstop with NORTH bulb at expansion joints including joint filler and sealant at floor joints	m	50	472.50	23 625.00
5.3.15		(c) Supply and install sikaswell s or equivalent for casting against existing concrete surfaces	m	160	315.00	50 400.00
5.3.16		(d) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying sikadur 31 epoxy or equivalent in holes (bars measured elsewhere)	No	200	78.75	15 750.00
5.3.17		(e) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying Hilti HIT-RE 500 or equivalent in holes (bars measured elsewhere)	No	200	105.00	21 000.00
TOTAL CARRIED TO NEXT PAGE					R	512 972.50

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 5: BIOREACTOR (NORTH) (continued)						
Brought Forward						
5.3.18		(f) Allowance to remove joint sealant from existing 20mm expansion joints and to prepare joint and place new joint sealant.	m	200	105.00	21 000.00
5.3.19	PSG 7	Testing for water tightness	Sum	1	10 500.00	10 500.00
	8.7	GROUTING				
5.3.20		(a) Grout into place 900mm diameter pipe	No.	1	3 000.00	3 000.00
5.3.21	PSG 9	Concrete preparation	m²	500	36.75	18 375.00
5.3.22	PSG 9	Apply Inducet BIS 0/2 slurry and Inducet BIS 5/40 or equivalent	m²	50	370.84	18 542.00
5.3.23	PSG 9	Application of Xypex Concentrate or equivalent	m²	500	227.85	113 925.00
5.3.24	PSG 9	Application of Xypex Modified or equivalent	m²	500	236.25	118 125.00
5.4	PSHA	SECTION : STRUCTURAL STEELWORK (SUNDRY ITEMS)				
	8.3.2	SS316 handrail assembly complete				
5.4.1		(a) Shaped ends	No.	10	262.50	2 625.00
5.4.2		(b) Sloping handrails	m	10	1 170.75	11 707.50
5.4.3		(c) Horizontal handrails	m	450	1 008.00	453 600.00
5.4.4	8.3.4	Supply and install recta-grid (or equivalent) galvanised mild steel flooring type RS40 with 40x4.5 mm bearer bars and laid on angle irons bolted to concrete wall with M10 anchor bolts including all square cutting and set in position and banded around all edges. Price shall include cutting to fit for each application.	m²	50	3 045.00	152 250.00
TOTAL CARRIED TO NEXT PAGE					R	6053 374.50

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 5: BIOREACTOR (NORTH) (continued)						
Brought Forward						
5.4.5		Supply and install hot dip galvanized 150 mm high kickplates complete	m	130	735.00	95 550.00
5.5		MISCELLANEOUS				
5.5.1		Supply and install Gereg or equivalent ground water pressure relief valves in existing reactor floor. Allow for core drilling, scabbling sides, sikaswell or equivalent and non-shrink grout complete	No	15	3 000.00	45 000.00
5.5.2		Supply and install GRP venturi flumes to suppliers specifications to be fixed in channel for flow measurement. Install to 5mm tolerance in all directions	No	2	55 000.00	110 000.00
TOTAL CARRIED FORWARD TO SUMMARY					R	6 303 924.50

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 6: BIOREACTOR (CENTRE)</u>				
	PSG	<u>SECTION : CONCRETE</u>				
6.1	8.2	SCHEDULED FORMWORK ITEMS				
	8.2.2	Smooth				
		(a) Vertical				
6.1.1		(1) Walls	m ²	1850	530.00	1 071 500.00
6.1.2		(2) Sides of beams and slabs	m ²	45	800.00	36 000.00
6.1.3		(3) Columns	m ²	200	450.00	90 000.00
6.1.4		(4) Footings	m ²	190	450.00	85 500.00
6.1.5		(5) Chambers and channels	m ²	440	800.00	352 000.00
		(b) Horizontal				
6.1.6		(1) Soffits of slabs	m ²	180	750.00	135 000.00
	8.2.5	Narrow Widths (up to 250 mm wide)				
		(a) Smooth				
6.1.7		(1) Other	m	350	200.00	70 000.00
6.2	8.3	SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	Steel Bars				
6.2.1		(1) Mild steel reinforcement	t	1.1	14 500.00	15 950.00
6.2.2		(2) High-tensile reinforcement 25 mm dia. Basic price	t	110	14 200.00	1 562 000.00
TOTAL CARRIED TO NEXT PAGE					R	3 363 950.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 6: BIOREACTOR (CENTRE) (continued)				
		Brought Forward				
		Extra over for the following dia.				
6.2.3		(a) 10 mm	t	30		<i>incl</i>
6.2.4		(b) 12 mm	t	30		<i>incl</i>
6.2.5		(c) 16 mm	t	20		<i>incl</i>
6.2.6		(d) 20 mm	t	20		<i>incl</i>
6.2.7		(e) mesh reinforcement ref 395	t	10	3 500.00	35 000.00
6.3	8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer				
6.3.1		(a) 50 mm minimum thickness grade 20Mpa/19mm concrete under floors	m ²	150	100.00	15 000.00
	8.4.3	Strength concrete				
		(a) Grade 20Mpa/19mm concrete for:				
6.3.2		(i) Benching	m ³	50	1 500.00	75 000.00
6.3.3		(ii) Screed	m ³	30	1 500.00	45 000.00
		(b) Grade 35Mpa/19mm concrete for:				
6.3.4		(i) Footings	m ³	180	1 600.00	288 000.00
6.3.5		(ii) Walls	m ³	400	1 600.00	640 000.00
6.3.6		(iii) Beams / walkways	m ³	50	1 800.00	90 000.00
6.3.7		(iv) Columns	m ³	30	1 800.00	54 000.00
TOTAL CARRIED TO NEXT PAGE					R	<i>465 950.00</i>

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 6: BIOREACTOR (CENTRE) (continued)						
Brought Forward						
6.3.8		(v) Channels	m³	130	1 800.00	234 000.00
6.3.9		(vi) Suspended slabs	m³	40	2 000.00	80 000.00
6.3.10		(vii) Floors	m³	10	2 000.00	20 000.00
	8.4.4	Unformed surface finishes				
6.3.11		(a) Wood-floated finish	m²	50	20.00	1 000.00
6.3.12		(b) Steel-floated finish	m²	600	25.00	15 000.00
	8.5	JOINTS				
6.3.13		(a) Supply and install 200mm Construction joints with dumbell waterstop without centre bulbs at construction joints	m	150	420.00	63 000.00
6.3.14		(b) Supply and install 250mm Rearguard s-type waterstop with centre bulb at expansion joints including joint filler and sealant at floor joints	m	50	472.50	23 625.00
6.3.15		(c) Supply and install sikaswell s or equivalent for casting against existing concrete surfaces	m	160	315.00	50 400.00
6.3.16		(d) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying sikadur 31 epoxy or equivalent in holes (bars measured elsewhere)	No	200	78.75	15 750.00
6.3.17		(e) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying Hilti HIT-RE 500 or equivalent in holes (bars measured elsewhere)	No	200	105.00	21 000.00
TOTAL CARRIED TO NEXT PAGE					R	5129 725.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 6: BIOREACTOR (CENTRE) (continued)						
Brought Forward						
6.3.18		(f) Allowance to remove joint sealant from existing 20mm expansion joints and to prepare joint and place new joint sealant.	m	200	105.00	21 000.00
6.3.19	PSG 7	Testing for water tightness	Sum	1	10 500.00	10 500.00
	8.7	GROUTING				
6.3.20		(a) Grout into place 900mm diameter pipe	No.	1	3 000.00	3 000.00
6.3.21	PSG 9	Concrete preparation	m²	500	36.75	18 375.00
6.3.22	PSG 9	Apply Inducet BIS 0/2 slurry and Inducet BIS 5/40 or equivalent	m²	50	580.84	29 042.00
6.3.23	PSG 9	Application of Xypex Concentrate or equivalent	m²	500	227.85	113 925.00
6.3.24	PSG 9	Application of Xypex Modified or equivalent	m²	500	236.25	118 125.00
6.4	PSHA	SECTION : STRUCTURAL STEELWORK (SUNDRY ITEMS)				
	8.3.2	SS316 handrail assembly complete				
6.4.1		(a) Shaped ends	No.	10	262.50	2 625.00
6.4.2		(b) Sloping handrails	m	10	1 170.75	11 707.50
6.4.3		(c) Horizontal handrails	m	450	1 008.00	453 600.00
6.4.4	8.3.4	Supply and install recta-grid (or equivalent) galvanised mild steel flooring type RS40 with 40x4.5 mm bearer bars and laid on angle irons bolted to concrete wall with M10 anchor bolts including all square cutting and set in position and banded around all edges. Price shall include cutting to fit for each application.	m²	50	3 045.00	152 250.00
TOTAL CARRIED TO NEXT PAGE						R 6063374.2

Item No	Paym Refer	Description	Unit	Qty	Rate	Amount R c
6.4.5		Supply and install hot dip galvanized 150 mm high kickplates complete	m	130	735.00	95 550.00
6.5		MISCELLANEOUS				
6.5.1		Supply and install Gereg or equivalent ground water pressure relief valves in existing reactor floor. Allow for core drilling, scabbling sides, sikaswell or equivalent and non-shrink grout complete	No	15	3 000.00	45 000.00
6.5.2		Supply and install GRP venturi flumes to suppliers specifications to be fixed in channel for flow measurement. Install to 5mm tolerance in all directions	No	2	56 000.00	110 000.00
Brought Forward						
SCHEDULE 6: BIOREACTOR (CENTRE) (continued)						
TOTAL CARRIED FORWARD TO SUMMARY						R 634 424.50

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 7: BIOREACTOR (SOUTH)</u>				
	PSG	<u>SECTION : CONCRETE</u>				
7.1	8.2	SCHEDULED FORMWORK ITEMS				
	8.2.2	Smooth				
		(a) Vertical				
7.1.1		(1) Walls	m ²	1850	550.00	1 017 500.00
7.1.2		(2) Sides of beams and slabs	m ²	45	800.00	36 000.00
7.1.3		(3) Columns	m ²	200	450.00	90 000.00
7.1.4		(4) Footings	m ²	190	450.00	85 500.00
7.1.5		(5) Chambers and channels	m ²	440	800.00	352 000.00
		(b) Horizontal				
7.1.6		(1) Soffits of slabs	m ²	180	750.00	135 000.00
	8.2.5	Narrow Widths (up to 250 mm wide)				
		(a) Smooth				
7.1.7		(1) Other	m	350	200.00	70 000.00
7.2	8.3	SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	Steel Bars				
7.2.1		(1) Mild steel reinforcement	t	1.1	14 500.00	15 950.00
7.2.2		(2) High-tensile reinforcement 25 mm dia. Basic price	t	110	14 200.00	1 562 000.00
TOTAL CARRIED TO NEXT PAGE					R	3 363 950.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 7: BIOREACTOR (SOUTH) (continued)</u>				
		Brought Forward				
		Extra over for the following dia.				
7.2.3		(a) 10 mm	t	30		
7.2.4		(b) 12 mm	t	30		
7.2.5		(c) 16 mm	t	20		
7.2.6		(d) 20 mm	t	20		
7.2.7		(e) mesh reinforcement ref 395	t	10	3 500.00	35 000.00
7.3	8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer				
7.3.1		(a) 50 mm minimum thickness grade 20Mpa/19mm concrete under floors	m ²	150	100.00	15 000.00
	8.4.3	Strength concrete				
		(a) Grade 20Mpa/19mm concrete for:				
7.3.2		(i) Benching	m ³	50	1 500.00	75 000.00
7.3.3		(ii) Screed	m ³	30	1 500.00	45 000.00
		(b) Grade 35Mpa/19mm concrete for:				
7.3.4		(i) Footings	m ³	180	1 600.00	288 000.00
7.3.5		(ii) Walls	m ³	400	1 600.00	640 000.00
7.3.6		(iii) Beams / walkways	m ³	50	1 800.00	90 000.00
7.3.7		(iv) Columns	m ³	30	1 800.00	54 000.00
TOTAL CARRIED TO NEXT PAGE					R	

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 7: BIOREACTOR (SOUTH) (continued)						
Brought Forward						
7.3.8		(v) Channels	m³	130	1 800.00	234 000.00
7.3.9		(vi) Suspended slabs	m³	40	2 000.00	80 000.00
7.3.10		(vii) Floors	m³	10	2 000.00	20 000.00
	8.4.4	Unformed surface finishes				
7.3.11		(a) Wood-floated finish	m²	50	20.00	1 000.00
7.3.12		(b) Steel-floated finish	m²	600	25.00	15 000.00
	8.5	JOINTS				
7.3.13		(a) Supply and install 200mm Construction joints with dumbbell waterstop without SOUTH bulbs at construction joints	m	150	420.00	63 000.00
7.3.14		(b) Supply and install 250mm Rearguard s-type waterstop with SOUTH bulb at expansion joints including joint filler and sealant at floor joints	m	50	472.50	23 625.00
7.3.15		(c) Supply and install sikaswell s or equivalent for casting against existing concrete surfaces	m	160	315.00	50 400.00
7.3.16		(d) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying sikadur 31 epoxy or equivalent in holes (bars measured elsewhere)	No	200	78.75	15 750.00
7.3.17		(e) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying Hilti HIT-RE 500 or equivalent in holes (bars measured elsewhere)	No	200	105.00	21 000.00
TOTAL CARRIED TO NEXT PAGE						R 512 972.50

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 7: BIOREACTOR (SOUTH) (continued)</u>				
		Brought Forward				
7.3.18		(f) Allowance to remove joint sealant from existing 20mm expansion joints and to prepare joint and place new joint sealant.	m	200	94.50	18 900.00
7.3.19	PSG 7	Testing for water tightness	Sum	1	10 500.00	10 500.00
	8.7	GROUTING				
7.3.20		(a) Grout into place 900mm diameter pipe	No.	1	3 000.00	3 000.00
7.3.21	PSG 9	Concrete preparation	m²	500	36.75	18 375.00
7.3.22	PSG 9	Apply Inducet BIS 0/2 slurry and Inducet BIS 5/40 or equivalent	m²	50	580.84	29 042.00
7.3.23	PSG 9	Application of Xypex Concentrate or equivalent	m²	500	227.85	113 925.00
7.3.24	PSG 9	Application of Xypex Modified or equivalent	m²	500	236.25	118 125.00
7.4	PSHA	<u>SECTION : STRUCTURAL STEELWORK (SUNDRY ITEMS)</u>				
	8.3.2	SS316 handrail assembly complete				
7.4.1		(a) Shaped ends	No.	10	262.50	2 625.00
7.4.2		(b) Sloping handrails	m	10	1 170.75	11 707.50
7.4.3		(c) Horizontal handrails	m	450	1 008.00	453 600.00
7.4.4	8.3.4	Supply and install recta-grid (or equivalent) galvanised mild steel flooring type RS40 with 40x4.5 mm bearer bars and laid on angle irons bolted to concrete wall with M10 anchor bolts including all square cutting and set in position and banded around all edges. Price shall include cutting to fit for each application.	m²	50	3 045.00	152 250.00
TOTAL CARRIED TO NEXT PAGE					R	6061774.50

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R/c
		SCHEDULE 7: BIOREACTOR (SOUTH) (continued)				
		Brought Forward				
7.4.5		Supply and install hot dip galvanized 150 mm high kickplates complete	m	130	735.00	95 550.00
7.5		MISCELLANEOUS				
7.5.1		Supply and install Gereg or equivalent ground water pressure relief valves in existing reactor floor. Allow for core drilling, scabbling sides, sikaswell or equivalent and non-shrink grout complete	No	15	3 000.00	45 000.00
7.5.2		Supply and install GRP venturi flumes to suppliers specifications to be fixed in channel for flow measurement. Install to 5mm tolerance in all directions	No	2	55 000.00	110 000.00
TOTAL CARRIED FORWARD TO SUMMARY						R 6 312 324.50

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 8: PUMP STATION 3</u>				
	PSG	<u>SECTION : CONCRETE</u>				
8.1	8.2	SCHEDULED FORMWORK ITEMS				
	8.2.2	Smooth				
		(a) Vertical				
8.1.1		(1) Walls	m ²	10	1 000.00	10 000.00
8.1.2		(2) Sides of beams and slabs	m ²	10	1 000.00	10 000.00
8.1.3		(3) Columns	m ²	10	500.00	5 000.00
8.1.4		(4) Footings	m ²	5	550.00	2 750.00
		(b) Horizontal				
8.1.5		(1) Soffits of slabs and roof slab	m ²	10	1 200.00	12 000.00
		(c) Sloped				
8.1.6		(1) Soffits of slabs	m ²	10	1 500.00	15 000.00
	8.2.5	Narrow Widths (up to 250 mm wide)				
		(a) Smooth				
8.1.7		(1) Other	m	15	350.00	5 250.00
8.2	8.3	SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	Steel Bars				
8.2.1		(1) Mild steel reinforcement	t	0.1	14 500.00	1 450.00
8.2.2		(2) High-tensile reinforcement 25 mm dia. Basic price	t	0.8	14 500.00	11 600.00
TOTAL CARRIED TO NEXT PAGE					R	7305.00

Item No	Paym't Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 8: PUMP STATION 3 (continued)				
		Brought Forward				
		Extra over for the following dia.				
8.2.3		(a) 10 mm	t	0.2		<i>Price</i>
8.2.4		(b) 12 mm	t	0.2		<i>Price</i>
8.2.5		(c) 16 mm	t	0.2		<i>Price</i>
8.2.6		(d) 20 mm	t	0.2		<i>Price</i>
8.3	8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer				
8.3.1		(a) 50 mm minimum thickness grade 20Mpa/19mm concrete under floors	m²	10	150.00	1 500.00
	8.4.3	Strength concrete				
		(a) Grade 20Mpa/19mm concrete for:				
8.3.2		(i) Benching	m³	5	1700.00	8 500.00
8.3.3		(ii) Screed	m³	3	1700.00	5 100.00
		(b) Grade 35Mpa/19mm concrete for:				
8.3.4		(i) Walls	m³	5	2000.00	10 000.00
8.3.5		(ii) Columns	m³	5	2000.00	10 000.00
8.3.6		(iii) Suspended slabs	m³	5	2200.00	11 000.00
	8.4.4	Unformed surface finishes				
8.3.7		(a) Wood-floated finish	m²	5	20.00	100.00
8.3.8		(b) Steel-floated finish	m²	5	25.00	125.00
TOTAL CARRIED TO NEXT PAGE						R 119 375.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 8: PUMP STATION 3</u> <u>(continued)</u>				
		Brought Forward				
	8.5	JOINTS				
8.3.9		(a) Supply and install 200mm Construction joints with dumbbell waterstop without centre bulbs at construction joints	m	5	472.50	2 362.50
8.3.10		(b) Supply and install 250mm Rearguard s-type waterstop with centre bulb at expansion joints including joint filler and sealant at floor joints	m	5	525.00	2 625.00
8.3.11		(c) Supply and install sikaswell s or equivalent for casting against existing concrete surfaces	m	10	367.50	3 675.00
8.3.12		(d) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying sikadur 31 epoxy or equivalent in holes (bars measured elsewhere)	No	10	105.00	1 050.00
8.3.13	PSG 9	Concrete preparation	m²	40	36.75	1 470.00
8.3.14	PSG 9	Application of Xypex Concentrate or equivalent	m²	40	227.85	9 114.00
8.3.15	PSG 9	Application of Xypex Modified or equivalent	m²	40	236.25	9 450.00
8.4	PSHA	<u>SECTION : STRUCTURAL STEELWORK (SUNDRY ITEMS)</u>				
	8.3.2	SS316 handrails assembly complete				
8.4.1		(a) Shaped ends	No.	4	262.50	1 050.00
8.4.2		(b) Sloping handrails	m	10	1 170.75	11 707.50
8.4.3		(c) Horizontal handrails	m	20	1 008.00	20 160.00
TOTAL CARRIED TO NEXT PAGE					R	132 039.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 8: PUMP STATION 3 (continued)						
Brought Forward						
8.4.4	8.3.4	Supply and install recta-grid (or equivalent) galvanised mild steel flooring type RS40 with 40x4.5 mm bearer bars and laid on angle irons bolted to concrete wall with M10 anchor bolts including all square cutting and set in position and banded around all edges. Price shall include cutting to fit for each application.	m ²	10	3 045.00	30 450.00
8.4.5		Supply and install hot dip galvanized 150 mm high kickplates complete	m	30	735.00	22 050.00
8.4.6		Remove pump station roof sheeting.	m ²	26	105.00	2 730.00
8.4.7		Supply and install pump station roof sheeting with Zinkalume AZ200 IBR roof sheeting complete and painted to match existing structures.	m ²	40	215.63	11 625.20
8.5	BWS	BUILDING WORK SPECIFICATIONS				
	B 8.2	SCHEDULED ITEMS				
	B 8.2.1	Brickwork				
8.5.1		(a) 280 mm cavity walls (External walls) Facebrick to match existing	m ²	15	1 045.00	15 675.00
	B 8.2.2	Air Bricks				
8.5.2		(a) External	No	2	107.25	214.50
	B 8.2.6	Plasterwork				
8.5.3		(a) One coat 1:4 cement plaster	m ²	15	94.69	1 420.35
	B 8.2.7	Floor Screeds				
8.5.4		(a) normal screed	m ²	10	89.53	895.30
TOTAL CARRIED TO NEXT PAGE					R	266 499.30

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 8: PUMP STATION 3 (continued)				
		Brought Forward				
	B 8.2.8	Paving				
8.5.5		(a) 200x100x80mm Corolock charcoal S-A (or equivalent) concrete paving bricks laid in Herringbone pattern	m²	70	262.50	18 375.00
	B 8.2.9	Waterproofing				
8.5.6		(a) Damp-proof course in walls	m	10	8.99	89.90
8.5.7		(b) Damp-proof membrane under floors	m²	10	25.35	253.50
8.5.8		(c) Damp-proof course under sills	m	4	8.99	35.96
8.5.9	B 8.2.13	Remove asbestos Fascias and Barge Boards including handling and disposal according to all the relevant OHS and environmental regulations	m	15	105.35	1 580.25
8.5.10		Remove asbestos gutters including handling and disposal according to all the relevant OHS and environmental regulations	m	15	105.35	1 580.25
8.5.11		Remove asbestos down pipes including handling and disposal according to all the relevant OHS and environmental regulations	No	2	418.24	836.48
	B 8.2.14	Gutters and downpipes				
8.5.12		(a) Type 3550 fulbores including pvc threaded socket, and downpipe for installation in concrete roof, downpipe in wall.	No	2	1 963.50	3 927.00
TOTAL CARRIED TO NEXT PAGE						R 293 177.64

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 8: PUMP STATION 3						
(continued)						
Brought Forward						
	B 8.2.17	Joinery including stainless steel frames, ironmongery and installation thereof				
		(a) Doors				
8.5.13		(i) Doors as per drawing EAM-EE-GS-045, Typical Steel door type A	No	1	48 755.00	48 755.00
	B 8.2.18	Metal Work				
		(a) Windows and louvres complete:				
8.5.14		(i) glass blocks	m²	1	2 500.00	2 500.00
8.5.15		(ii) Winblok 600x600 with Wingrid insert or equivalent	No	1	2 900.00	2 900.00
8.5.16		(iii) Trox or equivalent aluminium weather louvre 1000mm x 1000mm	No	1	2 500.00	2 500.00
	B 8.2.19	Resilient Floor finishes				
8.5.17		(a) Epoxy self-smoothing system: Two-part self-smoothing and broadcasting epoxy system. Applied approx. 2mm thick as per manufacturer's instructions in colour as per sample approved by architect and with gloss finish. (Sikafloor 263SL ZA or equivalent). Joints as recommended by manufacturer.	m²	20	433.90	8 678.00
	B 8.2.20	Painting				
8.5.18		(a) External walls: Paint one coat primer and two coats smooth finished water-based premium pure acrylic emulsion sheen paint - colour to sample approved by architect.	m²	10	78.76	787.60

TOTAL CARRIED TO NEXT PAGE

R 359 293.24

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 8: PUMP STATION 3 (continued)						
Brought Forward						
8.5.19		(b) Internal walls: Paint one coat primer and two coats low odour premium quality velvet sheen wall coatings that is highly washable and stain resistant.	m²	40	108.24	4 329.60
MISCELLANEOUS						
8.5.20		Precast Concrete Lintels over door frames and other brickwork openings, allow minimum 150mm bearing each side	m	5	84.70	423.50
8.5.21		Lintels for facebrick walls: Galvanised steel 100x100mm angle shelf as required over openings, allow minimum 250mm bearing to each side and built in fixed to structure behind as per standard detail.	m	5	549.57	2 747.85
8.5.22		Supply and install 5kg CO₂ fire extinguishers complete in fire closet with signage and all accessories	No.	1	2 530.00	2 530.00
8.5.23		3 ply malthoid between brickwork and concrete roof	m²	8	91.05	728.40
8.5.24		Supply and install type 9E AV Mouldings manhole cover and frame	No.	1	2 835.00	2 835.00
TOTAL CARRIED FORWARD TO SUMMARY					R	312 392.59

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 9: PUMP STATION 4</u>				
	PSG	<u>SECTION : CONCRETE</u>				
9.1	8.2	SCHEDULED FORMWORK ITEMS				
	8.2.2	Smooth				
		(a) Vertical				
9.1.1		(1) Walls	m ²	10	800.00	8 000.00
9.1.2		(2) Sides of beams and slabs	m ²	10	800.00	8 000.00
9.1.3		(3) Columns	m ²	10	600.00	6 000.00
9.1.4		(4) Footings	m ²	5	600.00	3 000.00
		(b) Horizontal				
9.1.5		(1) Soffits of slabs and roof slab	m ²	10	1 200.00	12 000.00
		(c) Sloped				
9.1.6		(1) Soffits of slabs	m ²	10	1 400.00	14 000.00
	8.2.5	Narrow Widths (up to 250 mm wide)				
		(a) Smooth				
9.1.7		(1) Other	m	15	250.00	3 750.00
9.2	8.3	SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	Steel Bars				
9.2.1		(1) Mild steel reinforcement	t	0.1	14 500.00	1 450.00
9.2.2		(2) High-tensile reinforcement 25 mm dia. Basic price	t	0.8	14 500.00	11 600.00
TOTAL CARRIED TO NEXT PAGE						R 67 300.00 21 374.36

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 9: PUMP STATION 4 (continued)				
		Brought Forward				
		Extra over for the following dia.				
9.2.3		(a) 10 mm	t	0.2		<i>incl</i>
9.2.4		(b) 12 mm	t	0.2		<i>incl</i>
9.2.5		(c) 16 mm	t	0.2		<i>incl</i>
9.2.6		(d) 20 mm	t	0.2		<i>incl</i>
9.3	8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer				
9.3.1		(a) 50 mm minimum thickness grade 20Mpa/19mm concrete under floors	m²	10	2 000.00	20 000.00
	8.4.3	Strength concrete				
		(a) Grade 20Mpa/19mm concrete for:				
9.3.2		(i) Benching	m³	5	2 000.00	10 000.00
9.3.3		(ii) Screed	m³	3	2 000.00	6 000.00
		(b) Grade 35Mpa/19mm concrete for:				
9.3.4		(i) Walls	m³	5	2 200.00	11 000.00
9.3.5		(ii) Columns	m³	5	2 000.00	10 000.00
9.3.6		(iii) Suspended slabs	m³	5	2 200.00	11 000.00
	8.4.4	Unformed surface finishes				
9.3.7		(a) Wood-floated finish	m²	5	95.00	135.00
9.3.8		(b) Steel-floated finish	m²	5	30.00	150.00
TOTAL CARRIED TO NEXT PAGE					R	149 669.35

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 9: PUMP STATION 4						
(continued)						
Brought Forward						
	8.5	JOINTS				
9.3.9		(a) Supply and install 200mm Construction joints with dumbbell waterstop without centre bulbs at construction joints	m	5	472.50	2 362.50
9.3.10		(b) Supply and install 250mm Rearguard s-type waterstop with centre bulb at expansion joints including joint filler and sealant at floor joints	m	5	472.50	2 362.50
9.3.11		(c) Supply and install sikaswell s or equivalent for casting against existing concrete surfaces	m	10	595.00	5 950.00
9.3.12		(d) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying sikadur 31 epoxy or equivalent in holes (bars measured elsewhere)	No	10	367.50	3 675.00
9.3.13	PSG 9	Concrete preparation	m²	40	36.75	1 470.00
9.3.14	PSG 9	Application of Xypex Concentrate or equivalent	m²	40	227.85	9 114.00
9.3.15	PSG 9	Application of Xypex Modified or equivalent	m²	40	236.25	9 450.00
9.4	PSHA	SECTION : STRUCTURAL STEELWORK (SUNDRY ITEMS)				
	8.3.2	SS316 handrails assembly complete				
9.4.1		(a) Shaped ends	No.	4	262.50	1 050.00
9.4.2		(b) Sloping handrails	m	10	1 170.75	11 707.50
9.4.3		(c) Horizontal handrails	m	20	1 008.00	20 160.00
TOTAL CARRIED TO NEXT PAGE					R	216 272.85

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 9: PUMP STATION 4 (continued)						
Brought Forward						
9.4.4	8.3.4	Supply and install recta-grid (or equivalent) galvanised mild steel flooring type RS40 with 40x4.5 mm bearer bars and laid on angle irons bolted to concrete wall with M10 anchor bolts including all square cutting and set in position and banded around all edges. Price shall include cutting to fit for each application.	m²	10	3 045.00	30 450.00
9.4.5		Supply and install hot dip galvanized 150 mm high kickplates complete	m	30	735.00	22 050.00
9.4.6		Remove pump station roof sheeting.	m²	26	105.00	2 730.00
9.4.7		Supply and install pump station roof sheeting with Zinkalume AZ200 IBR roof sheeting complete and painted to match existing structures.	m²	40	275.63	11 025.20
9.5	BWS	BUILDING WORK SPECIFICATIONS				
	B 8.2	SCHEDULED ITEMS				
	B 8.2.1	Brickwork				
9.5.1		(a) 280 mm cavity walls (External walls) Facebrick to match existing	m²	15	900.00	13 500.00
	B 8.2.2	Air Bricks				
9.5.2		(a) External	No	2	107.25	214.50
	B 8.2.6	Plasterwork				
9.5.3		(a) One coat 1:4 cement plaster	m²	15	94.69	1 420.35
	B 8.2.7	Floor Screeds				
9.5.4		(a) normal screed	m²	10	89.85	898.50
TOTAL CARRIED TO NEXT PAGE					R	293 559.40

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 9: PUMP STATION 4 (continued)						
Brought Forward						
	B 8.2.8	Paving				
9.5.5		(a) 200x100x80mm Corolock charcoal S-A (or equivalent) concrete paving bricks laid in Herringbone pattern	m ²	70	262.50	18 375.00
	B 8.2.9	Waterproofing				
9.5.6		(a) Damp-proof course in walls	m	10	8.99	89.90
9.5.7		(b) Damp-proof membrane under floors	m ²	10	25.35	253.50
9.5.8		(c) Damp-proof course under sills	m	4	8.99	35.96
9.5.9	B 8.2.13	Remove asbestos Fascias and Barge Boards including handling and disposal according to all the relevant OHS and environmental regulations	m	15	105.35	1 580.25
9.5.10		Remove asbestos gutters including handling and disposal according to all the relevant OHS and environmental regulations	m	15	105.35	1 580.25
9.5.11		Remove asbestos down pipes including handling and disposal according to all the relevant OHS and environmental regulations	No	2	418.24	836.48
	B 8.2.14	Gutters and downpipes				
9.5.12		(a) Type 3550 fulbores including pvc threaded socket, and downpipe for installation in concrete roof, downpipe in wall.	No	2	1 963.50	3 927.00
TOTAL CARRIED TO NEXT PAGE					R	325 237.74

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 9: PUMP STATION 4 (continued)				
		Brought Forward				
	B 8.2.17	Joinery including stainless steel frames, ironmongery and installation thereof				
		(a) Doors				
9.5.13		(i) Doors as per drawing EAM-EE-GS-045, Typical Steel door type A	No	1	48 755.00	48 755.00
	B 8.2.18	Metal Work				
		(a) Windows and louvres complete:				
9.5.14		(i) glass blocks	m²	1	2 500.00	2 500.00
9.5.15		(ii) Winblok 600x600 with Wingrid insert or equivalent	No	1	2 900.00	2 900.00
9.5.16		(iii) Trox or equivalent aluminium weather louvre 1000mm x 1000mm	No	1	2 500.00	2 500.00
	B 8.2.19	Resilient Floor finishes				
9.5.17		(a) Epoxy self-smoothing system: Two-part self-smoothing and broadcasting epoxy system. Applied approx. 2mm thick as per manufacturer's instructions in colour as per sample approved by architect and with gloss finish. (Sikafloor 263SL ZA or equivalent). Joints as recommended by manufacturer.	m²	20	433.90	8 678.00
	B 8.2.20	Painting				
9.5.18		(a) External walls: Paint one coat primer and two coats smooth finished water-based premium pure acrylic emulsion sheen paint - colour to sample approved by architect.	m²	10	78.76	787.60
TOTAL CARRIED TO NEXT PAGE						R 391 358.34

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 9: PUMP STATION 4						
(continued)						
Brought Forward						
9.5.19		(b) Internal walls: Paint one coat primer and two coats low odour premium quality velvet sheen wall coatings that is highly washable and stain resistant.	m ²	40	108.24	4 329.60
MISCELLANEOUS						
9.5.20		Precast Concrete Lintels over door frames and other brickwork openings, allow minimum 150mm bearing each side	m	5	84.70	423.50
9.5.21		Lintels for facebrick walls: Galvanised steel 100x100mm angle shelf as required over openings, allow minimum 250mm bearing to each side and built in fixed to structure behind as per standard detail.	m	5	549.57	2 747.85
9.5.22		Supply and install 5kg CO ₂ fire extinguishers complete in fire closet with signage and all accessories	No.	1	2 530.00	2 530.00
9.5.23		3 ply malthoid between brickwork and concrete roof	m ²	8	91.05	728.40
9.5.24		Supply and install type 9E AV Mouldings manhole cover and frame	No.	1	4 410.00	4 410.00
TOTAL CARRIED FORWARD TO SUMMARY						R 392 933.34

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 10: PUMP STATION 5</u>				
	PSG	<u>SECTION : CONCRETE</u>				
10.1	8.2	SCHEDULED FORMWORK ITEMS				
	8.2.2	Smooth				
		(a) Vertical				
10.1.1		(1) Walls	m²	10	800.00	8 000.00
10.1.2		(2) Sides of beams and slabs	m²	10	800.00	8 000.00
10.1.3		(3) Columns	m²	10	800.00	8 000.00
10.1.4		(4) Footings	m²	5	600.00	3 000.00
		(b) Horizontal				
10.1.5		(1) Soffits of slabs and roof slab	m²	10	1 200.00	12 000.00
		(c) Sloped				
10.1.6		(1) Soffits of slabs	m²	10	1 400.00	14 000.00
	8.2.5	Narrow Widths (up to 250 mm wide)				
		(a) Smooth				
10.1.7		(1) Other	m	15	250.00	3 750.00
10.2	8.3	SCHEDULED REINFORCEMENT ITEMS				
	8.3.1	Steel Bars				
10.2.1		(1) Mild steel reinforcement	t	0.1	14 500.00	1 450.00
10.2.2		(2) High-tensile reinforcement 25 mm dia. Basic price	t	0.8	14 500.00	11 600.00
TOTAL CARRIED TO NEXT PAGE					R	69 800.00

Item No	Paym. Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 10: PUMP STATION 5 (continued)						
		Brought Forward				
		Extra over for the following dia.				
10.2.3		(a) 10 mm	t	0.2		incl
10.2.4		(b) 12 mm	t	0.2		incl
10.2.5		(c) 16 mm	t	0.2		incl
10.2.6		(d) 20 mm	t	0.2		incl
10.3	8.4	SCHEDULED CONCRETE ITEMS				
	8.4.2	Blinding layer				
10.3.1		(a) 50 mm minimum thickness grade 20Mpa/19mm concrete under floors	m ²	10	120.00	1 200.00
	8.4.3	Strength concrete				
		(a) Grade 20Mpa/19mm concrete for:				
10.3.2		(i) Benching	m ³	5	2 000.00	10 000.00
10.3.3		(ii) Screed	m ³	3	2 000.00	6 000.00
		(b) Grade 35Mpa/19mm concrete for:				
10.3.4		(i) Walls	m ³	5	2 000.00	10 000.00
10.3.5		(ii) Columns	m ³	5	2 000.00	10 000.00
10.3.6		(iii) Suspended slabs	m ³	5	2 200.00	11 000.00
	8.4.4	Unformed surface finishes				
10.3.7		(a) Wood-floated finish	m ²	5	25.00	125.00
10.3.8		(b) Steel-floated finish	m ²	5	30.00	150.00
TOTAL CARRIED TO NEXT PAGE					R	13 275.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		SCHEDULE 10: PUMP STATION 5 (continued)				
		Brought Forward				
	8.5	JOINTS				
10.3.9		(a) Supply and install 200mm Construction joints with dumbell waterstop without centre bulbs at construction joints	m	5	472.50	2 362.50
10.3.10		(b) Supply and install 250mm Rearguard s-type waterstop with centre bulb at expansion joints including joint filler and sealant at floor joints	m	5	525.00	2 625.00
10.3.11		(c) Supply and install sikaswell s or equivalent for casting against existing concrete surfaces	m	10	367.50	3 675.00
10.3.12		(d) Dowelling into existing concrete to a depth of 200mm for different bar sizes up to dia. 20mm and applying sikadur 31 epoxy or equivalent in holes (bars measured elsewhere)	No	10	105.00	1 050.00
10.3.13	PSG 9	Concrete preparation	m²	40	36.75	1 470.00
10.3.14	PSG 9	Application of Xypex Concentrate or equivalent	m²	40	227.85	9 114.00
10.3.15	PSG 9	Application of Xypex Modified or equivalent	m²	40	236.25	9 450.00
10.4	PSHA	SECTION : STRUCTURAL STEELWORK (SUNDRY ITEMS)				
	8.3.2	SS316 handrails assembly complete				
10.4.1		(a) Shaped ends	No.	4	262.50	1 050.00
10.4.2		(b) Sloping handrails	m	10	1 170.75	11 707.50
10.4.3		(c) Horizontal handrails	m	20	1 008.00	20 160.00
TOTAL CARRIED TO NEXT PAGE					R	130 939.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R/c
		<u>SCHEDULE 10: PUMP STATION 5</u> <u>(continued)</u>				
		Brought Forward				
10.4.4	8.3.4	Supply and install recta-grid (or equivalent) galvanised mild steel flooring type RS40 with 40x4.5 mm bearer bars and laid on angle irons bolted to concrete wall with M10 anchor bolts including all square cutting and set in position and banded around all edges. Price shall include cutting to fit for each application.	m ²	10	3 045.00	30 450.00
10.4.5		Supply and install hot dip galvanized 150 mm high kickplates complete	m	30	735.00	22 050.00
10.4.6		Remove pump station roof sheeting.	m ²	26	105.00	2 730.00
10.4.7		Supply and install pump station roof sheeting with Zinkalume AZ200 IBR roof sheeting complete and painted to match existing structures.	m ²	40	278.63	11 025.20
10.5	BWS	<u>BUILDING WORK SPECIFICATIONS</u>				
	B 8.2	SCHEDULED ITEMS				
	B 8.2.1	Brickwork				
10.5.1		(a) 280 mm cavity walls (External walls) Facebrick to match existing	m ²	15	900.00	13 500.00
	B 8.2.2	Air Bricks				
10.5.2		(a) External	No	2	107.25	214.50
	B 8.2.6	Plasterwork				
10.5.3		(a) One coat 1:4 cement plaster	m ²	15	94.69	1 420.35
	B 8.2.7	Floor Screeds				
10.5.4		(a) normal screed	m ²	10	89.85	898.50
TOTAL CARRIED TO NEXT PAGE						R 263 227.55

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 10: PUMP STATION 5</u> <u>(continued)</u>				
		Brought Forward				
	B 8.2.8	Paving				
10.5.5		(a) 200x100x80mm Corolock charcoal S-A (or equivalent) concrete paving bricks laid in Herringbone pattern	m ²	70	262.50	18 375.00
	B 8.2.9	Waterproofing				
10.5.6		(a) Damp-proof course in walls	m	10	8.99	89.90
10.5.7		(b) Damp-proof membrane under floors	m ²	10	25.35	253.50
10.5.8		(c) Damp-proof course under sills	m	4	8.99	35.96
10.5.9	B 8.2.13	Remove asbestos Fascias and Barge Boards including handling and disposal according to all the relevant OHS and environmental regulations	m	15	105.35	1 580.25
10.5.10		Remove asbestos gutters including handling and disposal according to all the relevant OHS and environmental regulations	m	15	105.35	1 580.25
10.5.11		Remove asbestos down pipes including handling and disposal according to all the relevant OHS and environmental regulations	No	2	418.24	836.48
	B 8.2.14	Gutters and downpipes				
10.5.12		(a) Type 3550 fulbores including pvc threaded socket, and downpipe for installation in concrete roof, downpipe in wall.	No	2	1 963.50	3 927.00
TOTAL CARRIED TO NEXT PAGE						R 28 995.89

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 10: PUMP STATION 5 (continued)						
		Brought Forward				
	B 8.2.17	Joinery including stainless steel frames, ironmongery and installation thereof				
		(a) Doors				
10.5.13		(i) Doors as per drawing EAM-EE-GS-045, Typical Steel door type A	No	1	48 755.00	48 755.00
	B 8.2.18	Metal Work				
		(a) Windows and louvres complete:				
10.5.14		(i) glass blocks	m²	1	2 500.00	2 500.00
10.5.15		(ii) Winblok 600x600 with Wingrid insert or equivalent	No	1	2 900.00	2 900.00
10.5.16		(iii) Trox or equivalent aluminium weather louvre 1000mm x 1000mm	No	1	2 500.00	2 500.00
	B 8.2.19	Resilient Floor finishes				
10.5.17		(a) Epoxy self-smoothing system: Two-part self-smoothing and broadcasting epoxy system. Applied approx. 2mm thick as per manufacturer's instructions in colour as per sample approved by architect and with gloss finish. (Sikafloor 263SL ZA or equivalent). Joints as recommended by manufacturer.	m²	20	433.90	8 678.00
	B 8.2.20	Painting				
10.5.18		(a) External walls: Paint one coat primer and two coats smooth finished water-based premium pure acrylic emulsion sheen paint - colour to sample approved by architect.	m²	10	78.76	787.60
TOTAL CARRIED TO NEXT PAGE					R	356 026.49

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 10: PUMP STATION 5 (continued)						
Brought Forward						
10.5.19		(b) Internal walls: Paint one coat primer and two coats low odour premium quality velvet sheen wall coatings that is highly washable and stain resistant.	m ²	40	108.24	4 329.60
MISCELLANEOUS						
10.5.20		Precast Concrete Lintels over door frames and other brickwork openings, allow minimum 150mm bearing each side	m	5	84.70	423.50
10.5.21		Lintels for facebrick walls: Galvanised steel 100x100mm angle shelf as required over openings, allow minimum 250mm bearing to each side and built in fixed to structure behind as per standard detail.	m	5	549.57	2 747.85
10.5.22		Supply and install 5kg CO ₂ fire extinguishers complete in fire closet with signage and all accessories	No.	1	2 530.00	2 530.00
10.5.23		3 ply malthoid between brickwork and concrete roof	m ²	8	91.05	728.40
10.5.24		Supply and install type 9E AV Mouldings manhole cover and frame	No.	1	2 835.00	2 835.00
TOTAL CARRIED FORWARD TO SUMMARY						R 369 620.34

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
11.1	PSZ 1	SCHEDULE 11: PENSTOCKS				
11.1		Allow for all cost and expenses in connection with the design submission and approval of drawings	Sum	1	5 000.00	5 000.00
11.2		Allow for all costs and expenses in connection with the design, manufacture, quality management, painting, testing, supply, delivery, offloading and storage of the following materials and equipment:				
11.2.1		Penstock 40PN01	No	1	80 650.00	80 650.00
11.2.2		Penstocks 40PN02, 40PN03, 40PN04	No	3	71 000.00	213 000.00
11.2.3		Electric Actuators for Penstocks 40PN02, 40PN03, 40PN04	No	3	73 000.00	219 000.00
11.2.4		Penstocks 40PN05, 40PN06	No	2	80 400.00	160 800.00
11.2.5		Electric Actuators for Penstocks 40PN05, 40PN06	No	2	73 000.00	146 000.00
11.2.6		Penstocks 40PN07, 40PN08, 40PN09	No	3	90 750.00	272 250.00
11.2.7		Electric Actuators for Penstocks 40PN07, 40PN08, 40PN09	No	3	73 000.00	219 000.00
11.2.8		Stainless steel weir plates 4mm thick, 250mm high, 1.65m wide with 50mm high fixing slots to adjust height accurately	No	3	3 750.00	11 250.00
11.2.9		Stainless steel weir plates 4mm thick, 250mm high, 1m wide with 50mm high fixing slots to adjust height accurately	No	3	2 375.00	7 125.00
11.3		Allow for all cost and expenses in connection with the Site Installation, Testing, Commissioning and upholding during the Trial Operation Period and Defects Notification Period of the following:				
11.3.1		All items under 11.2	Sum	1	40 000.00	40 000.00
TOTAL CARRIED FORWARD TO SUMMARY						R 1 374 015.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R/c
SCHEDULE 12: PIPEWORK						
12.1	PSDB	SECTION: EARTHWORKS				
	8.3.2	Excavation				
		(a) Excavate in all materials for trenches, backfill, compact and dispose of surplus/unsuitable material, for pipes and culverts: Up to and including 1000mm (1700mm base width) for depths:				
		Over and up to				
12.1.1		(1) 0.0m to 1.0m	m	30	220.00	6 600.00
12.1.2		(2) 1.0m to 2.0m	m	50	440.00	22 000.00
12.1.3		(3) 2.0m to 3.0m	m	50	830.00	41 500.00
12.1.4		(4) 3.0m to 4.0m	m	30	1 100.00	33 000.00
12.2	PSG	SECTION : CONCRETE (STRUCTURAL)				
12.2.1	8.4.3	20Mpa/19mm strength concrete for encasing pipes underneath roads	m³	30	2 000.00	60 000.00
12.2.2	8.4.3	20Mpa/19mm strength concrete in thrust blocks including formwork complete	m³	20	2 500.00	50 000.00
12.3	PSL	SECTION : MEDIUM PRESSURE PIPELINES				
	8.2.1	Supply, lay, joint, bed Class C and test complete with couplings the following pipes:				
12.3.1		(a) 160mm diameter uPVC cable sleeves	m	400	122.00	48 800.00
12.3.2		(b) 300mm diameter concrete pipe Class 100D interlocking joints pipes	m	50	500.00	25 000.00
TOTAL CARRIED TO NEXT PAGE					R	236 900.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 12: PIPEWORK						
(continued)						
Brought Forward						
12.3.3	8.2.2	(c) 315mm uPVC class 9 pipe	m	100	785.00	75 800.00
12.3.4		(d) 900mm diameter GRP PN10, SN5000	m	60	5 330.00	319 800.00
Supply, lay, joint, bed Class C and test complete the following specials:						
(a) Dia 315mm						
12.3.5		(i) 315mm x 90° uPVC bends	No.	2	3 872.00	7 744.00
12.3.6		(ii) 300mm SS 316 straight pipe	m	6	3 686.00	22 116.00
12.3.7		(iii) 300mm SS 316 puddle flanges welded onto pipe	No.	6	5 290.00	31 740.00
12.3.8		(vi) 300mm SS 316 PN10 flanges welded onto pipe	No.	6	5 595.00	33 570.00
12.3.9		(vii) 300mm VJ Ranger Flange adaptor	No.	1	2 925.00	2 925.00
(b) Dia 900mm						
12.3.10		(i) 900mm x 45° GRP bends	No.	1	35 710.00	35 710.00
12.3.11		(ii) 900mm GRP coupling	No.	6	5 580.00	33 480.00
12.3.12		(iii) 900mm x 90° GRP bends	No.	3	45 000.00	135 000.00
12.3.13		(iv) 900mm puddle coupling	No.	3	13 915.00	41 745.00
12.3.14		(v) 900mm GRP flange	No.	1	30 425.00	30 425.00
TOTAL CARRIED TO NEXT PAGE					R	1 059 655.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 12: PIPEWORK</u> <u>(continued)</u>				
		Brought Forward				
12.4		Provision of bedding				
	8.2.1	From trench excavation				
12.4.1		(a) Selected granular material (200mm under pipe)	m³	100	15.00	1 500.00
12.4.2		(b) Selected fill material (300mm over pipe)	m³	150	15.00	2 250.00
	8.2.2	Extra-over for imported from commercial sources				
12.4.3		(a) Selected granular material (200mm under pipe)	m³	50	185.00	9 250.00
12.4.4		(b) Selected fill material (300mm over pipe)	m³	80	185.00	14 800.00
12.5	SABS 1200 LC	<u>SECTION : CABLE DUCTS</u>				
12.5.1	8.2.2	Excavate in all materials for trenches, backfill, compact and dispose of surplus or unsuitable material	m³	100	130.00	13 000.00
12.6	SABS 1200 LD	<u>SECTION : SEWERS</u>				
		Precast concrete dia. 1250mm manholes as per drawing SANS 1200 LD-5, complete with type 4A cover and frame, and step irons, for the following depths:				
		Over and up to				
12.6.1		(a) 0m to 1.0m	No.	1	15 050.00	15 050.00
12.6.2		(b) 1.0m to 2.0m	No.	1	19 250.00	19 250.00
12.6.3		(c) 2.0m to 3.0m	No.	1	23 500.00	23 500.00
12.6.4		(d) 3.0m to 4.0m	No.	1	30 100.00	30 100.00
12.6.5		(e) 4.0m to 7.0m	No.	1	75 000.00	75 000.00
TOTAL CARRIED FORWARD TO SUMMARY						1263 355.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
SCHEDULE 13: ROADS						
13.1	SABS 1200 DM	SECTION: EARTHWORKS (ROADS, SUBGRADE)				
	8.3.2	Preparation of site				
13.1.1		(a) Remove topsoil to 150mm depth, stockpile and maintain	m³	500	50.00	25 000.00
	8.3.3	Treatment of roadbed				
13.1.2		(a) Rip, compact and shape to specified level to 90% MOD AASHTO	m³	100	60.00	6 000.00
13.1.3		(b) Import 150mm thick G7 layer compacted to 100% MOD AASHTO density for clean sand	m³	500	310.00	155 000.00
13.1.4		(c) Import 150mm thick G9 layer compacted to 100% MOD AASHTO density for clean sand	m³	500	300.00	150 000.00
13.1.5	8.3.4	Cut to fill	m³	500	80.00	40 000.00
13.2	SABS 1200 ME	SECTION: SUBBASE				
	8.3.3	Construct the subbase course with material from commercial sources with:				
13.2.1		(1) 150mm thick G5 layer compacted to 95% MOD AASHTO density	m³	500	450.00	225 000.00
13.3	SABS 1200 MF	SECTION : BASE				
	8.3.3	Construct the base course with material from commercial sources with:				
13.3.1		(1) 150mm thick G4 layer compacted to 98% Bulk Relative Density	m³	500	550.00	275 000.00
TOTAL CARRIED TO NEXT PAGE					R	876 000.00



Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R.c
		SCHEDULE 13: ROADS (continued)				
		Brought Forward				
13.4		MISCELLANEOUS				
		Road Surface treatment				
13.4.1		(a) New asphalt wearing coarse 40mm thick compacted to 95% Marshall with a bituminous primer underneath	m ²	4000	150.00	600 000.00
13.4.2		Demolish existing road and dispose of all materials	m ²	3000	20.00 50.00	60 000.00 150 000.00
13.4.3		Supply and install precast concrete 1000mm x 365mm x 180mm CK5 Semi-Mountable Barrier Kerbs	No	250	220.00	55 000.00
13.4.4		Supply and install precast concrete 1000mm x 170mm x 180mm MK10 Mountable Kerbs	No	100	180.00	18 000.00
13.4.5		15MPa KerbMix mass concrete	m ³	50	1500.00	75 000.00
TOTAL CARRIED FORWARD TO SUMMARY						1 634 000.00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 14: HEALTH AND SAFETY</u>				
		Allow for all costs and expenses at the various sites in connection with the following:				
14.1		<u>Fixed Charge Obligations</u>				
14.1.1		Compliance with the Health and Safety Specification in Volume 2A.	Item	1		100000,00
14.1.2		Compliance with the requirements of the Occupational Health and Safety Act, 85 of 1993 and Construction Regulations, 2014 (for Health and Safety Plan see separate item).	Item	1		
14.1.3		Liaison, co-ordination and chairing of meetings in respect of Health and Safety requirements.	Item	1		
14.1.4		Contractor's initial obligation in respect to the Occupational Health and Safety Act and Construction Regulations, including the preparation of a Health & Safety Plan.	Item	1		
14.1.5		Provision for preparing a Hazard Identification and Risk Assessment (HIRA)	Item	1		
14.1.6		Provision for the development of a documented Plan of OH&S Method Statements and/or Safe Work Procedures	Item	1		
14.1.7		Provisions for the Implementation and Management of the OH&S Plan	Item	1		
14.1.8		Provision for ensuring Contractor(s) compliance to statutory requirements, including monitoring and auditing of Contractor(s)	Item	1		
14.1.9		Provision for OH&S training, promotion and awareness	Item	1		
14.1.10		Provision for emergency preparedness & response plan (This item should include: First Aid, Fire and Explosions, Acts of Nature, Hazardous Chemical Substances and Flammable Substances Spillage, Political Unrest and Violence and/or Terrorism).	Item	1		
TOTAL CARRIED TO NEXT PAGE						R 100 000,00

Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 14: HEALTH AND SAFETY (continued)</u>				
		Brought Forward				
14.1.11		Provision for occupational health (Medicals - pre and post employment; Physical and Psychological for work at elevated heights; Medical surveillance for hazardous work; Baseline & audiometric screening tests; HIV and AIDS Programme; etc.)	Item	1		
14.1.12		Provision for medical certificates of fitness, issued by a registered Occupational Health Practitioner, for all contractor's employees on site	Item	1		
14.1.13		Provision for protective equipment & protective clothing	Item	1		
14.1.14		Provision for OH&S equipment	Item	1		
14.1.15		Provision for ensuring public health and safety	Item	1		
14.1.16		Provision for occupational health and safety signage, pictograms and notices	Item	1		
14.1.17		Provision of full time Construction Manager	Item	1		
14.1.18		Other Health and Safety fixed charge expenses incurred in complying with the requirements of the Contract not included above . (Specify):	Item	1		
14.2		<u>Time Related Obligations</u>				
14.2.1		Provision of a competent, full time Safety Officer	Item	1		50 000,00
14.2.2		Other Health and Safety time related expenses incurred in complying with the requirements of the Contract not included above . (Specify):	Item	1		
TOTAL CARRIED FORWARD TO SUMMARY					R	150 000,00



Item No	Paymt Refer	Description	Unit	Qty	Rate	Amount R c
		<u>SCHEDULE 15: ENVIRONMENTAL MANAGEMENT</u>				
		Allow for all costs and expenses at the various sites in connection with the following:-				
15.1		Compliance with the Environmental Management Specification in Volume 2A.	Item	1	10 000.00	10 000.00
15.2		Other Environmental Management expenses incurred in complying with the requirements of the Contract not included above. (Specify):	Item	1		
TOTAL CARRIED FORWARD TO SUMMARY					R	10 000.00



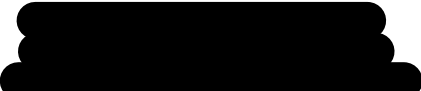
Item No.	Paymt Refer	Description	Unit	Qty	Rate	Amount R/c
16.1		<u>SCHEDULE 16: SUNDRIES</u> Allow for all costs and expenses in connection with the following:- Providing "as built" drawings in the latest AutoCAD version as well as 3 additional hard copies.	Item	1	7 500.00	7 500.00
TOTAL CARRIED FORWARD TO SUMMARY					R	7 500.00

	SUMMARY	Page No.	Amount	
			R	c
1	GENERAL	122	5530 056	90
2	SITE WORKS	128	3319 800	00
3	PUMP STATION 2	137	1011 578	63
4	INLET CHAMBER AND CHANNEL	142	2303 514	46
5	BIOREACTOR (NORTH)	147	6303 924	50
6	BIOREACTOR (CENTER)	152	6314 424	50
7	BIOREACTOR (SOUTH)	157	6312 324	50
8	PUMP STATION 3	164	312 892	64
9	PUMP STATION 4	171	392 933	74
10	PUMP STATION 5	178	369 620	84
11	PENSTOCKS	179	1374 075	00
12	PIPEWORK	182	1263 355	00
13	ROADS	184	1684 000	00
14	HEALTH AND SAFETY	186	150 000	00
15	ENVIRONMENTAL MANAGEMENT	187	10 000	00
16	SUNDRIES	188	7500	00
	SUB-TOTAL	R	36725 000	31
	CONTINGENCIES			
	Allow the sum of 10% (ten percent) of the above Sub-total for Contingencies to be spent as the Engineer may direct and to be deducted in whole or in part if not required.	R	3672 500	03
	TOTAL INCLUDING CONTINGENCIES	R	40397 500	34
	VALUE ADDED TAX			
	ADD: VAT at the rate of 15%	R	6059 625	05
	Carried to part C1.1 Form of Offer and Acceptance	R	46457 125	39

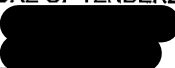
DECLARATION (In respect of completeness of Tender)

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

I/we, the undersigned, do hereby declare that these are the properly priced Bills of Quantities forming Part C2.2 of this Contract Document containing 219 pages in consecutive order upon which my/our tender for **TENDER NO. 5Q/2019/20: CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE WASTEWATER TREATMENT WORKS** has been based. If I/we have submitted a printed version of the Bills of Quantities, I/we warrant that no amendments have been made to it from the original, other than amendments issued in any Addenda in terms of Clause F.3.2 in Part T1.2 Tender Data.



SIGNATURE OF TENDERER/S



DATE



PART 5: SCOPE OF WORK

Part C3: Scope of Work

	Pages
C3.1 Description of the Works	192 – 194
C3.2 Engineering / Design	195 – 198
C3.3 Procurement	199 – 200
C3.4 Construction	201 – 202
C3.5 Management.....	203 – 207
C3.6 Annexes.....	208 – 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
SANS Standardised Specifications

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

**CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS**

C3.1 Description of the Works

CONTENTS

- 3.1.1 EMPLOYER'S OBJECTIVES
- 3.1.2 OVERVIEW OF THE WORKS
- 3.1.3 EXTENT OF THE WORKS
- 3.1.4 LOCATION OF THE WORKS
- 3.1.5 TEMPORARY WORKS

3.1.1 EMPLOYER'S OBJECTIVES

The Bellville WWTW consists of multiple treatment phases. The activated sludge process phases are called the Orbal Plant, Diffused Aeration (DA) plant and the membrane bioreactor (MBR) plant. The Orbal plant is the oldest of these and has been decommissioned. Once upgraded the DA plant will be capable of treating 52 Ml/d average dry weather flow (ADWF), the largest portion of the Bellville WWTW Influent. The MBR plant has been commissioned recently and is capable of treating 20 Ml/d ADWF.

The DA plant will be upgraded and refurbished in two phases. Phase 1 will include the construction of PST's and associated dewatering structures and equipment. It also includes the construction of a new blower house and the refurbishment and modification of the SST's. Phase 2 (this Contract) will comprise the refurbishment and reconfiguration of the biological reactors and associated equipment in a staggered manner. The reactors will be reconfigured from the current MLE process to an UCT process to improve the effluent quality of the DA Plant.

The three Bioreactor trains will be modified in a staged manner to reduce the impact on the plant. Each train has one bioreactor, one splitter box, three secondary settling tanks and a screw pump station. Modifications are to be completed on each component in a single train before commencement of the refurbishments on another train.

This tender is for the civil work required for these objectives. The mechanical and electrical work will be done under separate contracts, running concurrent to this Contract.

3.1.2 OVERVIEW OF THE WORKS

An overview of the civil works required under this Contract is provided below. The drawings and Schedule of Quantities explain the Scope in more detail.

Inlet Chamber and Channel

- Remove air headers;
- Tie new channel into Pump Station 2;
- Construct channel from Pump Station 2 to Splitter Box;
- Construct Inlet Chamber.

Bioreactor (North)

- Modify existing channels and walls;
- Construct new internal channels and walls;
- Modify splitter box to SST's;
- Construct new wasting chamber;
- Refurbish and repair existing concrete where required.

Bioreactor (Centre)

- Modify existing channels and walls;
- Construct new internal channels and walls;
- Modify splitter box to SST's;
- Construct new wasting chamber;

- Refurbish and repair existing concrete where required.

Bioreactor (South)

- Modify existing channels and walls;
- Construct new internal channels and walls;
- Modify splitter box to SST's;
- Construct new wasting chamber;
- Refurbish and repair existing concrete where required.

Pump Station 2

- Excavate;
- Construct new 5th screw pump trough, bottom sump and top sump;
- Extend pump station motor room.

Pump Station 3

- Modify top sump;
- Modify bottom sump;
- Recondition pump station.

Pump Station 4

- Modify top sump;
- Modify bottom sump;
- Recondition pump station.

Pump Station 5

- Modify top sump;
- Modify bottom sump;
- Recondition pump station.

Pipework

- Tie new WAS wasting lines to existing pipework.

Roads

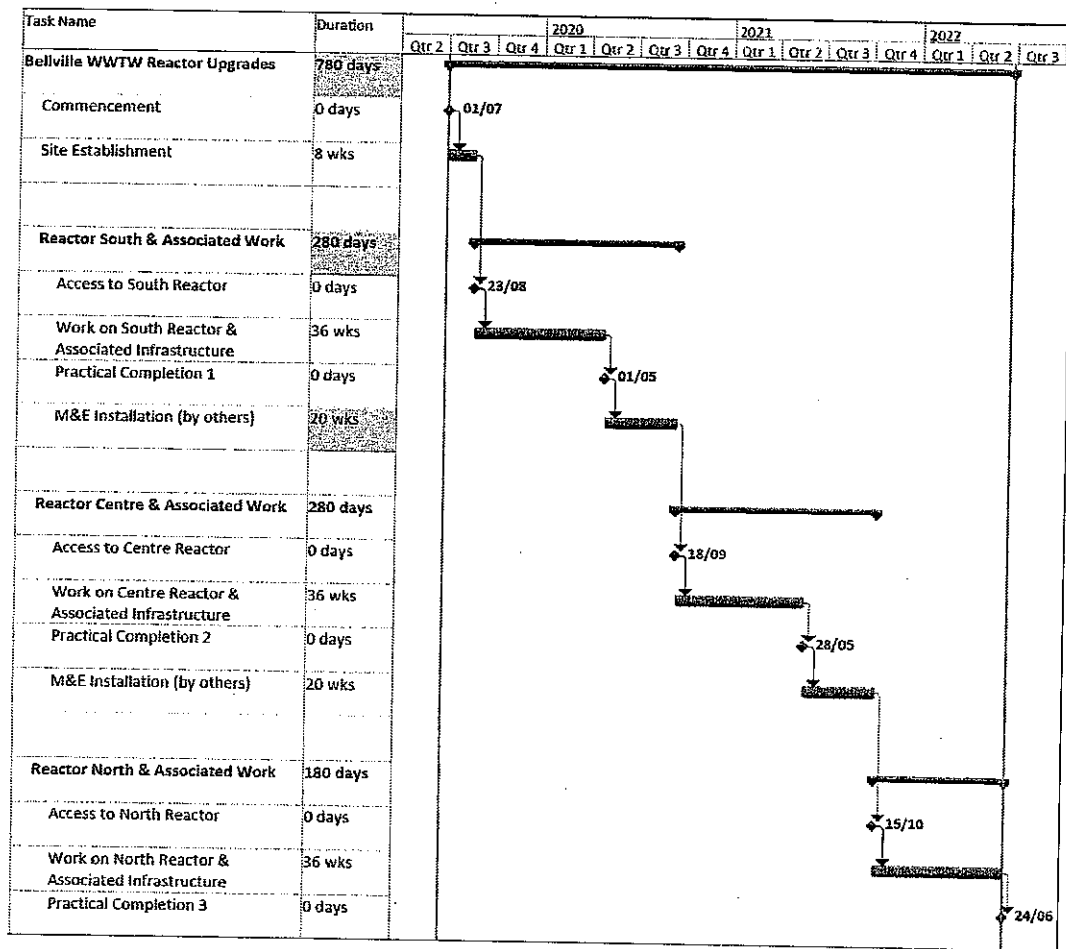
- Refurbish the roads adjacent to Bioreactor (North) and the SST's;
- Construct roads in between reactors.

The Contractor shall take note that the work required in and around existing infrastructure will include numerous small renovations, refurbishments and finishes that are by nature more labour intensive than the construction of new buildings. The Contractor shall price accordingly for work related to existing infrastructure. Furthermore, the locating of existing services as well as the relocation or removal of these services will have a considerable impact on the construction programme and the Contractor shall make adequate allowance for delays of this nature.

3.1.3 EXTENT OF THE WORKS

The Civil and Mechanical Contracts are planned to commence on **1 July 2020**.

The Contractor shall complete each train including associated civil works and access roads within a defined period from the commencement date to allow complete, unrestricted access to the mechanical and electrical contractors for a **defined period** where after the train shall be commissioned. After commission of a train the civil contractor shall commence on the next train. The provisional access and completion dates are shown on the programme below, not taking into account special non-working days:



Construction shall be done to ensure the absolute minimum interruption to the operation of the WWTW. Method statements will be provided for approval by the Engineer and the Operator whenever an activity is foreseen that will affect the normal operation of the WWTW. When interruptions are unavoidable the work shall be programmed during off peak (night-time) periods at no extra cost to the Employer.

3.1.4 LOCATION OF THE WORKS

The sites are within the City of Cape Town Metropolitan area. Refer to the Locality Plan on page 3 for the location of Bellville WWTW.

3.1.5 TEMPORARY WORKS

The following temporary works are required:

- Site office. The main site office, for meetings, must be based at the Bellville WWTW. All site offices must be removed after completion. Allowance has been made for this in the Bill of Quantities;
- Temporary Fencing around construction site;
- Shoring;
- Dewatering excavations;
- Temporary Works to maintain the operation of the WWTW.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

C3.2 Engineering / Design

CONTENTS

- 3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX
- 3.2.2 EMPLOYER'S DESIGN
- 3.2.3 DESIGN BRIEF
- 3.2.4 DRAWINGS
- 3.2.5 DESIGN PROCEDURES

3.2.1 DESIGN SERVICES AND ACTIVITY MATRIX

Works designed by, per design stage:

Concept, feasibility and overall process
Basic engineering and detail layout to tender stage
Final design to be approved for construction stage
Lifting Equipment
Structural Steel Roofs
Temporary works
Preparation of "as-built" drawings

Employer (Engineer)
Employer (Engineer)
Employer (Engineer)
Contractor
Contractor
Contractor
Contractor

3.2.2 EMPLOYER'S DESIGN

The Employer (Engineer) is responsible for the civil construction drawings and reinforcing steel detailing associated with the Scope of Works.

3.2.3 DESIGN BRIEF

The Contractor is responsible for the design and upholding of the following items:

- Dewatering excavations;
- Design of structural steel roof and cladding shop drawings.

The Contractor shall also be responsible to conduct a detailed dimensional survey of the existing infrastructure in order to verify dimensions specified on the drawings and in the Bill of Quantities. This will be required in order to accurately source and install materials required for the refurbishment.

3.2.4 DRAWINGS

The drawings that are applicable to the contract are issued with this tender document and will form part of the Contract Documents as **Volume 4**. Please refer to the attached CD for the drawings in electronic format.

Project	Structure	Drawing No.		Status	Drawings Issued
10 SITE LAYOUTS					
BV001	10	101	Site Layout	T	05/07/19
BV001	10	102	Existing Site Layout	T	05/07/19
BV001	10	103	Phased Construction Details Sheet 1	T	05/07/19
BV001	10	104	Phased Construction Details Sheet 2	T	05/07/19
BV001	10	105	Phased Construction Details Sheet 3	T	05/07/19
BV001	10	106	Road Works Layout	T	05/07/19
BV001	10	107	Road Section	T	05/07/19
BV001	10	108	Road Works Long Section	T	05/07/19
20 PROCESS					
BV002	20	101	Hydraulic Profile Sheet 1	T	05/07/19
60 BIOLOGICAL REACTOR					
BV002	60	101	Biological Reactor (South) Sheet 1	T	05/07/19
BV002	60	102	Biological Reactor (South) Sheet 2	T	05/07/19
BV002	60	103	Biological Reactor (South) Sheet 3	T	05/07/19
BV002	60	104	Biological Reactor (South) Sheet 4	T	05/07/19
BV002	60	105	Biological Reactor (South) Sheet 5	T	05/07/19
BV002	60	106	Biological Reactor (South) Sheet 6	T	05/07/19
BV002	60	107	Biological Reactor (South) Sheet 7	T	05/07/19
BV002	60	108	Biological Reactor (South) Sheet 8	T	05/07/19
BV002	60	109	Biological Reactor (South) Sheet 9	T	05/07/19
BV002	60	110	Biological Reactor (South) Sheet 10	T	05/07/19
BV002	60	111	Biological Reactor (Center) Sheet 1	T	05/07/19
BV002	60	112	Biological Reactor (Center) Sheet 2	T	05/07/19
BV002	60	113	Biological Reactor (Center) Sheet 3	T	05/07/19
BV002	60	114	Biological Reactor (Center) Sheet 4	T	05/07/19
BV002	60	115	Biological Reactor (Center) Sheet 5	T	05/07/19
BV002	60	116	Biological Reactor (Center) Sheet 6	T	05/07/19
BV002	60	117	Biological Reactor (Center) Sheet 7	T	05/07/19
BV002	60	118	Biological Reactor (Center) Sheet 8	T	05/07/19
BV002	60	119	Biological Reactor (Center) Sheet 9	T	05/07/19
BV002	60	120	Biological Reactor (Center) Sheet 10	T	05/07/19
BV002	60	121	Biological Reactor (North) Sheet 1	T	05/07/19
BV002	60	122	Biological Reactor (North) Sheet 2	T	05/07/19
BV002	60	123	Biological Reactor (North) Sheet 3	T	05/07/19
BV002	60	124	Biological Reactor (North) Sheet 4	T	05/07/19
BV002	60	125	Biological Reactor (North) Sheet 5	T	05/07/19
BV002	60	126	Biological Reactor (North) Sheet 6	T	05/07/19
BV002	60	127	Biological Reactor (North) Sheet 7	T	05/07/19
BV002	60	128	Biological Reactor (North) Sheet 8	T	05/07/19
BV002	60	129	Biological Reactor (North) Sheet 9	T	05/07/19

Project	Structure	Drawing No.		Status	Drawings Issued
BV002	60	130	Biological Reactor (North) Sheet 10	T	05/07/19
110 PUMP STATION					
BV002	110	101	Pump Station 2 Sheet 1	T	05/07/19
BV002	110	102	Pump Station 2 Sheet 2	T	05/07/19
BV002	110	103	Pump Station 2 Sheet 3	T	05/07/19
BV002	110	104	Pump Station 2 Sheet 4	T	05/07/19
BV002	110	105	Pump Station 3 Sheet 1	T	05/07/19
BV002	110	106	Pump Station 3 Sheet 2	T	05/07/19
BV002	110	107	Pump Station 3 Sheet 3	T	05/07/19
BV002	110	108	Pump Station 3 Sheet 4	T	05/07/19
BV002	110	109	Pump Station 3 Sheet 5	T	05/07/19
BV002	110	110	Pump Station 3 Sheet 6	T	05/07/19
BV002	110	111	Pump Station 3 Sheet 7	T	05/07/19
BV002	110	112	Pump Station 4 Sheet 1	T	05/07/19
BV002	110	113	Pump Station 4 Sheet 2	T	05/07/19
BV002	110	114	Pump Station 4 Sheet 3	T	05/07/19
BV002	110	115	Pump Station 4 Sheet 4	T	05/07/19
BV002	110	116	Pump Station 4 Sheet 5	T	05/07/19
BV002	110	117	Pump Station 4 Sheet 6	T	05/07/19
BV002	110	118	Pump Station 4 Sheet 7	T	05/07/19
BV002	110	119	Pump Station 4 Sheet 8	T	05/07/19
BV002	110	120	Pump Station 5 Sheet 1	T	05/07/19
BV002	110	121	Pump Station 5 Sheet 2	T	05/07/19
BV002	110	122	Pump Station 5 Sheet 3	T	05/07/19
BV002	110	123	Pump Station 5 Sheet 4	T	05/07/19
BV002	110	124	Pump Station 5 Sheet 5	T	05/07/19
BV002	110	125	Pump Station 5 Sheet 6	T	05/07/19
BV002	110	126	Pump Station 5 Sheet 7	T	05/07/19
120 GENERAL					
BV001	120	101	Inlet Chamber Sheet 1	T	05/07/19
BV001	120	102	Typical Channel Section Sheet 1	T	05/07/19
BV001	120	103	SST Splitter Box (South) Sheet 1	T	05/07/19
BV001	120	104	SST Splitter Box (South) Sheet 2	T	05/07/19
BV001	120	105	SST Splitter Box (Center) Sheet 1	T	05/07/19
BV001	120	106	SST Splitter Box (Center) Sheet 2	T	05/07/19
BV001	120	107	SST Splitter Box (North) Sheet 1	T	05/07/19
BV001	120	108	SST Splitter Box (North) Sheet 2	T	05/07/19
EAM-EE-GS-045-1			Typical Steel Door Type A Sheet 1	T	05/07/19
EAM-EE-GS-045-2			Typical Steel Door Type A Sheet 2	T	05/07/19
EAM-EE-GS-045-3			Typical Steel Door Type A Sheet 3	T	05/07/19
EAM-EE-GS-046-1			Typical Steel Door Type B Sheet 1	T	05/07/19
EAM-EE-GS-046-2			Typical Steel Door Type B Sheet 2	T	05/07/19
EAM-EE-GS-046-3			Typical Steel Door Type B Sheet 3	T	05/07/19

Project	Structure	Drawing No.		Status	Drawings Issued
EAM-EE-GS-047-1			Typical Steel Door Type B With Louvres	T	05/07/19
EAM-EE-GS-047-2			Typical Steel Door Type B with Louvres	T	05/07/19
EAM-EE-GS-047-3			Typical Steel Door Type B with Louvres	T	05/07/19
EAM-EE-GS-048-1			Typical Steel Door Type C Sheet 1	T	05/07/19
EAM-EE-GS-048-2			Typical Steel Door Type C Sheet 2	T	05/07/19
EAM-EE-GS-048-3			Typical Steel Door Type C Sheet 3	T	05/07/19
EAM-EE-GS-049-1			Typical Steel Door Type C Extended H.	T	05/07/19
EAM-EE-GS-049-2			Typical Steel Door Type C2 Extended H.	T	05/07/19
EAM-EE-GS-049-3			Typical Steel Door Type C2 Extended H.	T	05/07/19
EAM-EE-GS-050-1			Typical Steel Door Type C3 With Louvres	T	05/07/19
EAM-EE-GS-050-2			Typical Steel Door Type C3 With Louvres	T	05/07/19
EAM-EE-GS-050-3			Typical Steel Door Type C3 With Louvres	T	05/07/19

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

C3.3 Procurement

CONTENTS

- 3.3.1 PREFERENTIAL PROCUREMENT
- 3.3.2 SUB-CONTRACTING PROCEDURES

3.3.1. PREFERENTIAL PROCUREMENT

The Works 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.

Financial penalties, as described in the **Preference Schedule**, shall be applied in the event that the Contractor is found to have breached any 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 costs items have been provided in the Bills of Materials, 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 R200 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 F.3.11 of the Tender Data.

Where the monetary allowance is in excess of R200 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 F.3.11 of the Tender Data. The Contractor must satisfy itself 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 R200 000 or in excess of R200 000), the contractual relationship between the Contractor and sub-contractor/supplier shall be as described in the conditions of contract.



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**CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS**

C3.4 Construction

CONTENTS

- 3.4.1 APPLICABLE STANDARDISED SPECIFICATIONS
- 3.4.2 PARTICULAR / PROJECT SPECIFIC SPECIFICATIONS
- 3.4.3 WAYLEAVES, PERMISSIONS AND PERMITS
- 3.4.4 LOCAL PRODUCTION AND CONTENT
- 3.4.5 EMPLOYMENT OF SECURITY PERSONNEL
- 3.4.6 UNIVERSAL ACCESS

3.4.1. APPLICABLE STANDARDISED SPECIFICATIONS

- i. SANS 1200: Standardised Specification for Civil Engineering Construction.
- ii. Building Specification (See Section B in Volume 3A)
- iii. Standard Health and Safety Specification (See Section C1 in Volume 3A)
- iv. Standard Environmental Management Specification (See Section D1 in Volume 3A)

3.4.2 PARTICULAR / PROJECT SPECIFIC SPECIFICATIONS

- i. Project Specification for Civil Engineering Works (See Section A in Volume 3A)
- ii. Project Specific Health and Safety Specification (See Section C2 in Volume 3A)

3.4.3. 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.

3.4.4. LOCAL PRODUCTION AND CONTENT

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

3.4.5 EMPLOYMENT OF SECURITY PERSONNEL

All security staff employed by the contractor on behalf of the CCT or at any CCT property must be registered with Private Security Industry Regulatory Authority (PSiRA). Proof of such registration must be made available to the employer's agent upon request.



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 CCT'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.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

C3.5 Management

CONTENTS

- 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, the following updated returns (the format of which are attached in C3.6 Annexes as amended from time to time):

- 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 R350.00 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 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 (if applicable) is required for monitoring the contractor's compliance for achieving the specified minimum targeted labour contract participation goal (CPGL) 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 (CPGe) 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 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 the 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

5 %

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.

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 within the Cape Town municipal boundaries.

"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 R350.00 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 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 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

Not applicable to this contract.

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

10 %

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 within the Cape Town municipal boundaries.

"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 CPGE 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 CPGE.

3.5.4.4 Contract participation goal credits

Credits towards achieving the minimum CPGE 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 CPGE.

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:

$$\text{Penalty} = (\text{CPGE}^S - \text{CPGE}^A) \times P^*$$

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

CPGE^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 to Volume 3A.

3.5.6. HEALTH AND SAFETY

Particular Specification H: Health and Safety Specification is attached to Volume 3A.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

**CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS**

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 this form

General

- The Monthly Project Labour Reports must be completed in full, using typed, capital letter characters; alternatively, should a computer not be available, handwritten in black ink.
- Incomplete / incorrect / illegible forms will not be accepted.
- Any conditions relating to targeted labour stipulated in the Contract (in the case of contracted services / works) shall apply to the completion and submission of these forms.
- This document is available in Microsoft Excel format upon request from the City's EFWP office, tel 021 400 9406 or email EFWPLR@capetown.gov.za.
- Project Details**
If a field is not applicable insert the letters: NA
- Either a Contract (in the case of contracted out services or works) or a Works Project (in the case of direct employment by the City) name and number must be inserted. The name of the contract or works project may be abridged if necessary. In the case of term tenders the contract name and number must reflect the term tender as advertised.
- On completion of the contract or works project the anticipated end date must be updated to reflect the actual end date.
- Workers Details and Work Information**
Care must be taken to ensure that worker details correspond accurately with the worker's ID document of which a **Certified copy must be kept for reporting**.
- Submission of Forms**
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. Scanned copies of all applicable supporting documentation must be submitted along with each monthly project labour report. Copies of employment contracts and **Certified ID documents** are only required in respect of new workers.
If a computer is not available hardcopy forms and supporting documentation will be accepted. Failure to adhere to reporting requirements may result in the withholding of payment; penalties being applied or both

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)		CONTRACT OR WORKS 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:												
PROJECT LABOUR REPORT CURRENT MONTH (mark with "X")														
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR (insert last 2 digits)	2	0
ACTUAL START DATE (yyyy/mm/dd)														
ANTICIPATED / ACTUAL END DATE (yyyy/mm/dd)														
TOTAL PROJECT EXPENDITURE / VALUE OF WORK DONE TO-DATE (INCLUDING ALL COSTS, BUT EXCLUDING VAT)														
R														

MONTHLY PROJECT LABOUR REPORT

WORKER DETAILS AND WORK INFORMATION



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

CONTRACT OR WORKS PROJECT NUMBER:		Year		Month		of				
No.	(8) First name	(8) Surname	(8) ID number	(9) Jobseeker Database Reference Number	(10) New Worker (Y/N)	Gender (M/F)	Disabled (Y/N)	(11) No of days worked this month (excl. training)	(12) No of training days this month (with stipend)	(13) Rate of pay per day (R-e)
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
Declared by Contractor or Vendor to be true and correct:		Name		Date		Signature		0 0 R		
Received by Employer's Agent/ Project Manager/ Representative:		Name		Date		Signature				

ANNEX 2

CITY OF CAPE TOWN

CONTRACT NO. AND NAME: _____

CONTRACTOR: _____

B-BBEE SUB-CONTRACT EXPENDITURE REPORT BASED ON PAYMENT CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) (P*)		R		B-BBEE Status Level of Prime Contractor		
Name of Sub-contractor (list all)	B-BBEE Status Level of Sub-contractor 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		
				Total:	R	
				Expressed as a percentage of P*		%

¹Documentary evidence to be providedSignatures

Declared by Contractor to be true and correct: _____

Date: _____

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

Date: _____

ANNEX 3

CITY OF CAPE TOWN

CONTRACT NO. AND NAME: _____

CONTRACTOR: _____

JOINT VENTURE EXPENDITURE REPORT BASED ON PAYMENT CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) (P*)		R	B-BBEE Status Level of Joint Venture		
Name of Joint Venture partner (list all)	B-BBEE Status Level of each JV partner as at contract award	Percentage contribution of JV partner per JV Agreement ¹ A	Total value of JV partner's contribution (excl. VAT) ¹ $B = A\% \times P^*$	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 $D = C/P^* \times 100$
JV Partner A		%	R	R	%
JV Partner B		%	R	R	%
JV Partner C		%	R	R	%

¹Documentary evidence to be providedSignatures

Declared by Contractor to be true and correct: _____

Date: _____

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

Date: _____

CITY OF CAPE TOWN

CONTRACTOR:

Value of the contract (as defined in the Preference Schedule)
(P*)

¹Documentary evidence to be provided

**Declared by Contractor
to be true and correct:**

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

Date _____

Date _____

**Contract
Part C3: Scope of Work
Contract No. 5Q/2019/20**

ANNEX 5

CITY OF CAPE TOWN

CONTRACT NO. AND NAME:

CONTRACTOR:

TARGETED ENTERPRISES CONTRACT PARTICIPATION EXPENDITURE REPORT BASED ON CERTIFICATE NO.

Value of the contract (as defined in the Preference Schedule) 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 providedSignatures

Declared by Contractor to be true and correct:

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

Date

Date

 Contract
 Part C3: Scope of Work
 Contract No. 5Q/2019/20

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Part C4: Site information

	Pages
C4 Site information	215 - 216

CITY OF CAPE TOWN

TRANSPORT FOR CAPE TOWN

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

C4 Site Information

(Not Used)



PART 5A: PARTICULAR SPECIFICATION



TENDER NO. 5Q/2019/20



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

SCM - 511

Approved by Branch Manager: 10/04/2017

Version: 3

Page 1 of 90

CONTRACT DOCUMENT

FOR THE

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE WASTEWATER TREATMENT WORKS

VOLUME 3A

(NON-RETURNABLE DOCUMENT)

SPECIFICATIONS

ISSUED BY:

**DIRECTOR: WATER AND
SANITATION**
Tower Block, Civic Centre
12 Hertzog Boulevard
CAPE TOWN
8001

COMPILED BY:

[Redacted]

FOR OFFICIAL USE.

Tender Serial No.:

**Signatures of City Officials at Tender
Opening**

1.

2.

3.

JULY 2019

NAME OF TENDERING ENTITY	
EMAIL ADDRESS OF TENDERING ENTITY	
FAX NUMBER OF TENDERING ENTITY	

[Redacted]

PART 6: OCCUPATIONAL HEALTH AND SAFETY AGREEMENT

Occupational Health and Safety Agreement

AGREEMENT MADE AND ENTERED INTO BETWEEN THE CITY OF CAPE TOWN (HEREINAFTER CALLED THE "EMPLOYER") AND

[REDACTED]
(Contractor/Mandatar/Company/OC Name)

IN TERMS OF SECTION 37(2) OF THE OCCUPATIONAL HEALTH AND SAFETY ACT, 85 OF 1993 AS AMENDED.

I, [REDACTED], representing [REDACTED], 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.

COLD ACT Registration Number: [REDACTED]

OR Compensation Insurer: [REDACTED] Policy No.: [REDACTED]

I undertake to appoint, where required, suitable competent persons, in writing, in terms of the requirements of OHSA and the Regulations and to charge him/them with the duty of ensuring that the provisions of OHSA and Regulations as well as the Council's Special Conditions of Contract, Way Leave, Lock-Out and Work Permit Procedures are adhered to as far as reasonably practicable.

I further undertake to ensure that any subcontractors employed by me will enter into an occupational health and safety agreement separately, and that such subcontractors comply with the conditions set.

I hereby declare that I have read and understand the Occupational Health and Safety Specifications contained in this tender and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan submitted and approved in terms thereof.

Signed at Bellville on the 15th day of November 2022

Witness [REDACTED]

[REDACTED]
Mandatar

Signed at Cape Town on the 15th day of November 2022

Witness [REDACTED]

[REDACTED]
for and on behalf of
City of Cape Town

PART 7: PROTECTION OF THE ENVIRONMENT DECLARATION

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/2019/20

CONTRACT TITLE: CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT
AT BELLVILLE WASTEWATER TREATMENT WORKS

I/ we, [REDACTED] {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 Bills of Materials 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

[REDACTED]
CONTRACTOR

Date: 15/11/2022

PART 8: COMMUNITY LIAISON OFFICER

C1.8 Contract of Temporary Employment as Community Liaison Officer

Construction Contract No.:

PROJECT.....

AGREEMENT made between the CONTRACTOR..... and the Community Liaison Officer....., hereafter referred to as the CLO, for the appointment and employment of a CLO for the duration of the work in respect of the above named construction contract.

1. THE PARTIES HAVE AGREED THAT

The CLO will be employed by the CONTRACTOR on a temporary basis for the duration of the work from the date of signing this agreement to the date of practical completion as defined in the Contract, subject to all the conditions set out below.

2. THE DUTIES OF THE COMMUNITY LIAISON OFFICER SHALL BE:

1. to keep the community informed on the progress of the project;
2. to keep the Contractor informed on relevant Community affairs and possible grievances;
3. to manage the recruitment of workers from the Sub-Council Job-Seekers Database;
4. to assist the Contractor's supervisory staff in the management of the workers.

3. THE FOLLOWING CONDITIONS OF EMPLOYMENT SHALL APPLY:

The Conditions of Temporary Employment as applicable on this Contract for the workers recruited from the Community shall apply equally to the CLO, except that the rate of remuneration shall be **R365.00** per working day. These conditions that apply are listed below as they appear in the Contract of Temporary Employment:

- 3.1 If required to work on a statutory public holiday or Sunday the payment will be double the amount stated in the previous paragraph.
- 3.2 Maximum hours of work:
 - (i) 9¼ hours per day
 - (ii) 45 hours per week;
 - (iii) 5 days per week;
 - (iv) 5 hours without an interval, whereupon there shall be an interval of at least 30 minutes;
 - (v) A spread-over period of 12 hours.
- 3.3 The CLO shall be entitled to payment where he is prevented from working by reasons which are within the control of the Contractor.
- 3.4 On days when it is raining the Contractor may, before 9 a.m., decide not to open the site and there will be no pay.

If the Contractor closes the site between 9 a.m. and 1 p.m., the CLO will be paid half the daily wage.

If the site works later than 1 p.m., the CLO will be paid the full daily wage.
- 3.5 Workers and the CLO will not be permitted to work under conditions of:
 - (i) undisciplined or unruly behaviour;
 - (ii) insubordination to Team Leader, Supervisors or Management;
 - (iii) abuse of intoxicating substances;
 - (iv) criminal actions by the employee;
 - (v) strike action or political stayaways.

3.6 Workers, including the CLO, may be dismissed after two official written warnings for the following behaviour:

- (i) undisciplined or unruly behaviour;
- (ii) insubordination to Team Leader, Supervisors or Management;
- (iii) abuse of intoxicating substances;
- (iv) wilful or negligent damage to or loss of machines or equipment.

The Contractor shall ensure that he has statements from at least two witnesses concerning any of the above situations.

The Contractor shall inform the CLO within 24 hours of any warning issued to workers employed from the Job-Seekers Database.

3.7 The CLO will be paid on a Friday afternoon every two weeks, one week in arrears.

3.8 The CLO shall be given a statement with each payment on which is recorded:

- (i) the name of the Contractor;
- (ii) the CLO's name;
- (iii) the number of days worked by the CLO;
- (iv) the rate per day;
- (v) the details of any deductions made;
- (vi) the actual amount paid to the CLO.

3.9 No deduction shall be made from the remuneration except where the CLO consents in writing or unless the Contractor is permitted or required to do so by law or the order of any competent court.

3.10 The CLO shall be supplied free of charge with all health and safety equipment required by the Occupation Health and Safety Act. The equipment shall remain the property of the Contractor.

3.11 The Contractor must give the CLO at least one week's notice of the termination of the Contract of Temporary Employment. If this is not done, the CLO must be paid earnings for five days. This condition does not apply if the CLO is dismissed.

3.12 At the end of the period of temporary employment, the Contractor shall provide a Certificate of Service recording the Contractor's name, the CLO's name and address, the period of service, the type of work on which the CLO was engaged and the rate of remuneration on termination.

4. TERMINATION OF AGREEMENT

4.1 If the CLO can no longer perform and execute his/her duties as detailed in this agreement, this agreement will be terminated without prejudice to any rights under this agreement.

5. THE CONDITIONS OF THIS AGREEMENT

5.1 The parties expressly declare that this agreement contains all the conditions negotiated between them, and no condition or stipulation not contained herein shall be binding upon the parties.

6. THUS AGREED AND SIGNED BY THE PARTIES:

Contractor:

Community Liaison officer:

Date:

PART 9 – DETAILS OF QUALIFICATIONS AND STAFF EXPERIENCE

Any CV as submitted by the Contractor for tender 5Q/2019/20, is incorporated into this MOA by reference.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

**CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS**

SCHEDULE 12: DETAILS OF QUALIFICATIONS AND STAFF EXPERIENCE OF STAFF

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

CONTRACTOR'S REPRESENTATIVE					
NAME	JOB TITLE	QUALIFICATIONS	PROFESSIONAL REGISTRATION NO	NO. OF YEARS RELEVANT EXPERIENCE	CV ATTACHED

SITE AGENT				
NAME	JOB TITLE	QUALIFICATIONS	NO. OF YEARS RELEVANT EXPERIENCE	CV ATTACHED

GENERAL FOREMAN					
NAME	JOB TITLE	QUALIFICATIONS	NQF LEVEL	NO. OF YEARS RELEVANT EXPERIENCE	CV ATTACHED

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

SIGNED ON BEHALF OF THE TENDERER:

Tender
Part T2: Returnable Documents
Contract No. 5Q/2019/20

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T2.2
Returnable Schedules

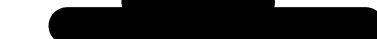
CURRICULUM VITAE FOR CONTRACT MANAGER			
Name :			
Profession :			
ID Number :			
Qualifications :			
Professional Registration :			
Year of Professional Registration :			
Current Employer :			
Position with Current Employer :			
Number of years with Current Employer :			
Employment History prior to current employer			
Name of Employer	Position Held	From	To
1 EMPA Construction			
2 EXEO Khokela Construction			
3 Hiload Inyanga Construction			
4 Dieci South Africa/ Evered Construction			
5 WBHO Construction			
6 Burger & Wallace Construction			
Relevant Experience			
Project Description	Project Value	Year Completed	Responsibility
1 Borchers Quarry WWTW, Cape Town: Refurbishment of Biological reactor and associated equipment			
2 Eteza N2 Roads Interchange, Richards Bay: Construction of overland facility, bridge and concrete pavements			
3 Riebeeck Valley WWTW, Riebeeck West: Construction of new waste water treatment works			
4 Macassar Pump Station, Macassar, Cape Town: Construction of New pumpstation and filtrate building			
5 Pentz Street Pump Station, Wellington: Construction of pump station, pipework and associated structures			
6 Athlone WWTW, Cape Town: Construction of clarifiers and pumpstation			
7 Scottsdene WWTW: Construction of Clarifiers, bio reactor and dewatering building			
8 Acsa Stormwater Rehabilitation: Concrete repairs to existing bridge structure			
9 Wavecrest Apartment Concrete Repairs: Structural repairs to existing concrete structure			
10 18J Fire Prevention Measures: Modifications to building works to existing factory			
Note: 1: List only the 10 most recent relevant projects			

SIGNED ON BEHALF OF TENDERER


 Signature of Tenderer

 Name in Block Letters







Experience of Site Agent

page 1 of 2

Brief description of works	Contract Value	Employer Details	Consultant	Date Completed
Nyanga - Bulk Sewer Upgrade 1050 dia Pipeline	R 18 750 000,00	City of Cape Town		
Philippi Bus Terminal Phase 2 - Pavings and Roadworks	R 21 345 000,00	City of Cape Town		
Vishwak Infrastructures for Residential Development including Roadworks	R 27 500 000,00			
Stand R44 Road Intersection Upgrade	R 15 570 000,00	City of Cape Town		
Access road at Gordons Bay	R 12 000 000,00	City of Cape Town		
Rom Stacked Beds at BKM Mine Northern Cape Reinforced Concrete Works	R 17 500 000,00			
Sibhen Sewer Reticulation and Pump Stations Concrete & Pipelines	R 11 550 000,00			
Trekopje Uranium Mine Phase 1 Earthworks & Concrete Works	R 16 789 000,00			
Pedestrian Bridges Eerste Rivier Concrete Works	R 10 500 000,00			
Rehabilitation of Pedestrian Bridges Cape Town	R 32 000 000,00	City of Cape Town		
Remedial Works at Lethabo Power Station - Concrete Repair Works	R 20 000 000,00			
Access Road and Pond Hush Mine	R 12 000 000,00			
Etunda Irrigation Scheme Phase 7 & 8 - Pipework & Roadworks	R 18 000 000,00	Namibia Development Corporation		

[REDACTED]

[REDACTED]

[REDACTED]

Experience

[REDACTED]

[REDACTED]

[REDACTED]

Structures

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]
 [REDACTED]
 [REDACTED]

[REDACTED]

[REDACTED]

10

[REDACTED]

[REDACTED]

PART 10 – SCHEDULE OF CONSTRUCTION EQUIPMENT

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 5Q/2019/20

CIVIL WORKS FOR THE UPGRADING OF THE BIOLOGICAL REACTORS AT THE DA PLANT AT BELLVILLE
WASTEWATER TREATMENT WORKS

SCHEDULE 13: SCHEDULE OF CONSTRUCTION EQUIPMENT

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

CONSTRUCTION EQUIPMENT IMMEDIATELY AVAILABLE

DESCRIPTION, SIZE, CAPACITY	NUMBER
<i>see attached schedule</i>	

Labour, Plant and Equipment Availability Schedule for this project

Feb-19

1 WORK CAPACITY

Contracts Manager, Site Agent/Foreman Clerks	Staff + support from head office
Skilled Artisans employed	
Artisan employed	
Shutterhands - employed + supplement with local labour	
Unskilled employees	
Labourer level 1	employed + supplement with local labour
Labourer level 2	use local labour
Labourer level 3	use local labour

2 MACHINERY & EQUIPMENT

Small concrete plant Vibrators, pokers and generators	owned
Carpentry small plant - Skill saw, grinders etc...	owned
Scaffolding materials	owned
Formwork materials	owned
500 R Concrete mixer and Batching Plant	owned
1m3 Concrete Dumper	owned
175 l concrete mixer	owned
Concrete Vibrators and drive units	owned
Survey Equipment	owned
Office containers	owned
Store containers	owned

3 PLANT

Telescopic Handler / Loader	owned
7 ton Crane Truck	owned
4 ton Dyna Truck	owned
3 ton Dyna Truck	owned
LDV 1 ton	owned
Water Cart Trailer (3000 l)	owned
Excavator PC 220	owned
Digger Loader	owned
Tip Trucks	Hire or Subcontractor Owned
Vibrator Compactor	Hire or Subcontractor Owned
Compressor 250 cfm	owned
Breakers	owned

4 WORKSHOPS

Workshop and Plant yard in Blackheath Cape Town

CONSTRUCTION EQUIPMENT ON ORDER

(State details of arrangements made, with delivery dates)

DESCRIPTION, SIZE, CAPACITY	NUMBER

CONSTRUCTION EQUIPMENT THAT WILL BE ACQUIRED OR HIRED

(State details of delivery arrangements)

DESCRIPTION, SIZE, CAPACITY	NUMBER

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

SIGNED ON BEHALF OF TENDERER:

Tender
Part T2: Returnable Documents
Contract No. 5Q/2019/20

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T2.2
Returnable Schedules