

TENDER NO. 85Q/2016/17



CITY OF CAPE TOWN
ISIXEKO SASEKAPA
STAD KAAPSTAD

SCM - 510

Approved by SCM Director 25 February 2015

Version: 2

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CONTRACT DOCUMENT

FOR THE

**DESIGN - BUILD OF MECHANICAL AND ELECTRICAL WORKS
FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND
SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER
TREATMENT WORKS**

VOLUME 2

(RETURNABLE DOCUMENT)

(SEE VOLUME 2A FOR SCOPE OF WORK, PART C3.6 ANNEXES:
SPECIFICATIONS)

NOTE:

- The Form of Offer and Acceptance (C1.1) is on **page 72** of this document (see also Clause F.4.4 Invalid tenders on **page 19**)
- Table 1: Tender preference claim (B-BBEE contribution) is on **page 67** of this document

ISSUED BY:

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

COMPILED BY:

FOR OFFICIAL USE.

Tender Serial No.:

**Signatures of City Officials at Tender
Opening**

1.

2.

3.

OCTOBER 2016

**NAME OF TENDERING
ENTITY**

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

General Tender Information

TENDER ADVERTISED	:	7 October 2016
ESTIMATED CIDB CONTRACTOR GRADING DESIGNATION	:	9ME or higher
SITE VISIT/CLARIFICATION MEETING	:	12h00 on 25 October 2016 (Compulsory)
VENUE FOR SITE VISIT/CLARIFICATION MEETING	:	Boardroom in the Administration Building at the Zandvliet Wastewater Treatment Works
CLOSING DATE	:	5 December 2016
CLOSING TIME	:	10h00
CLOSING VENUE	:	Tender Box 173 at the Tender Submission Office , 2 nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.
TENDER BOX	:	The Tender Document (which includes the Form of Offer and Acceptance) completed in all respects, plus any additional supporting documentation required, must be submitted in a sealed envelope with the name and address of the tenderer, the tender No. and title, the tender box No. and the closing date indicated on the envelope. The sealed envelope must be inserted into the appropriate official tender box before closing time. Note that Volume 2A is not a returnable document.

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

BRIEF DESCRIPTION OF TENDER	:	• Mechanical equipment related to lifting pump stations, including trash racks, belt conveyor, Archimedes screw pumps and wall mounted sluice gates • Mechanical equipment related to inlet works, including coarse screens, fine screens, channel- and wall mounted sluice gates, water launders, screenings wash press/grinders/compactors, grit concentrating and removal equipment, skip dolly system, odour control system and lifting equipment. • Mechanical equipment related to primary settling tanks, including full bridges, channel mounted sluice gates, pumps/valves/pipework for pumping sludge and odour control. • Mechanical equipment related to pumping PST effluent, including centrifugal pumps, pipework, valves, pipe supports, lifting equipment and stairs/handrailing.
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- Mechanical equipment related to sludge handling facility, including gravity belt thickeners, dewatering belt presses, screw conveyors, sludge pumps, pipe work and valves, polyelectrolyte make-up and dosing, ventilation equipment, lifting equipment and odour control.
- Electrical actuators.
- Standby power diesel generators and fuel tanks.
- Miniature substations and MV cabling.
- LV motor control stations, LV cabling and cable support systems.
- Programmable logic controllers, fibre optic and control cabling.
- SCADA upgrades.
- Controls and instrumentation.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

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CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

T1.1 Tender Notice and Invitation to Tender

The **CITY OF CAPE TOWN**, Water and Sanitation, invites tenders for Tender No. 85Q/2016/17: **Design – Build of Mechanical and Electrical Works for the Construction of Primary Treatment and Sludge Handling Facilities at Zandvliet Wastewater Treatment Works.**

Tenderers must be registered on the City of Cape Town's Vendor Database.

Tenderers who are not registered on the City of Cape Town's Vendor Database are not precluded from submitting tenders, but must however be registered prior to the evaluation of tenders in order for their tenders to be responsive.

It is estimated that tenderers should have a CIDB contractor grading designation of 9ME or higher.

Preferences are offered to tenderers who tender in accordance with the Preferential Procurement Regulations, 2011.

The physical address for collection of tender documents is:

Tender Distribution Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.

Documents may be collected during working hours between 08:30 – 15:00 from **7 October 2016**.

A non-refundable tender fee of R500.00 payable by crossed cheque made out in favour of the City of Cape Town, is required on collection of the tender documents.

Queries relating to any issues in these documents may be addressed to Mr , Tel Nc
e-mail

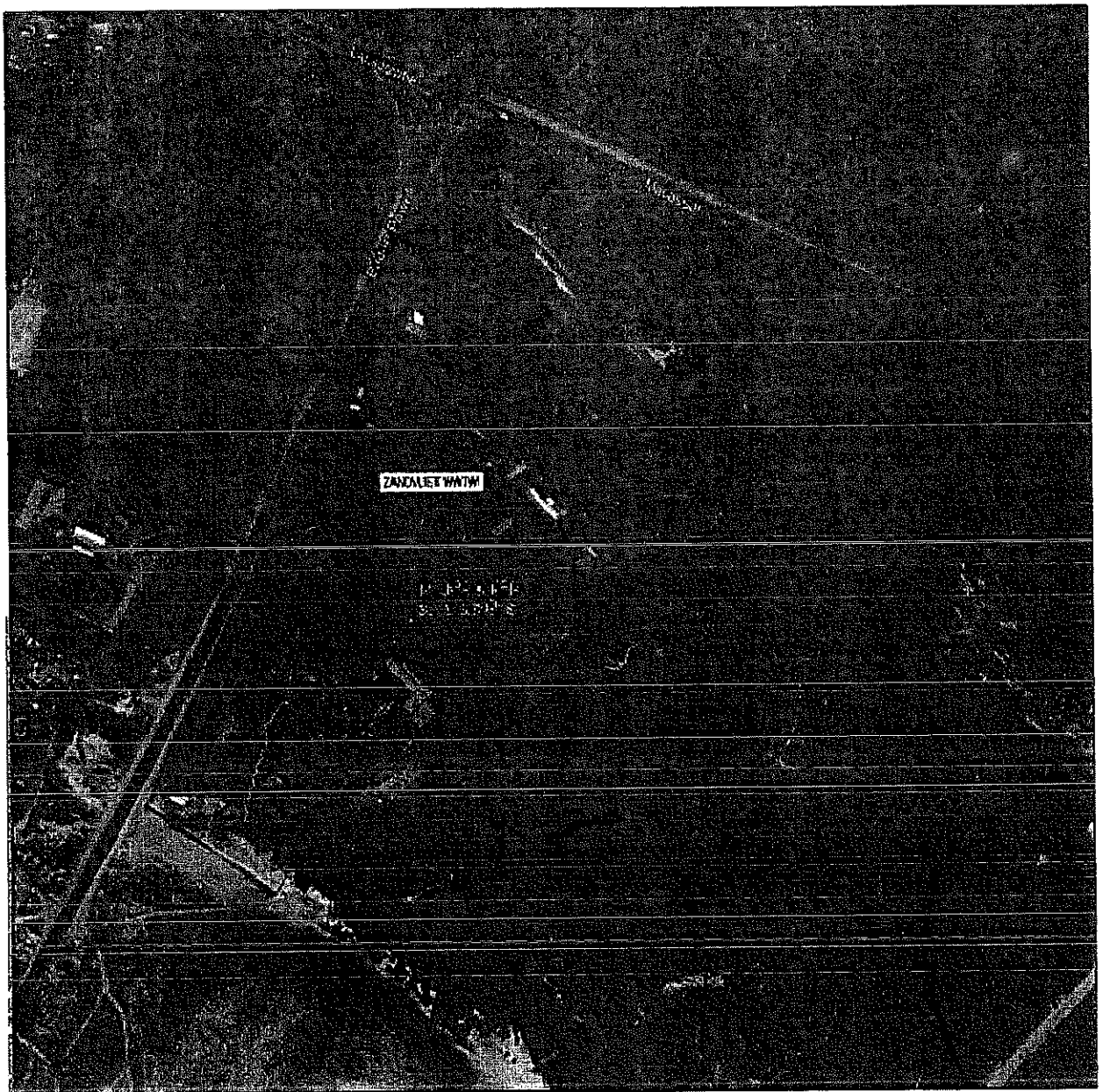
A compulsory site visit/clarification meeting with representatives of the Employer will take place at the entrance gate to the Zandvliet Wastewater Treatment Works (refer to Locality Plan – Site Visit / Clarification Meeting Venue) on **25 October 2016** starting at 12:00.

The closing time for receipt of tenders is **10:00 on 5 December 2016**.

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

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

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



CITY OF CAPE TOWN
WATER AND SANITATION
CONTRACT NO. 85Q/2016/17
DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY
TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

LOCALITY PLAN – SITE VISIT/CLARIFICATION MEETING VENUE

CITY OF CAPE TOWN

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T1.2 Tender Data

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of Board Notice 86 of 2010 in Government Gazette No. 33239 of 28 May 2010, Construction Industry Development Board (CIDB) Standard for Uniformity in Construction Procurement (see www.cidb.org.za), which are reproduced without amendment or alteration for the convenience of tenderers as an Annex to this Tender Data.

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

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

Clause number	Tender Data
---------------	-------------

F.1	General
------------	----------------

F.1.1	Actions
--------------	----------------

Add the following:

The Employer is the City of Cape Town, represented by the Director: Water and Sanitation.

F.1.2	Tender Documents
--------------	-------------------------

Add the following:

The following documents form part of this tender:

VOLUME 1: The Conditions of Contract for Plant and Design-Build for Electrical and Mechanical Works and for Building and Engineering Works Designed by the Contractor, First Edition 1999 (Yellow Book), published by the International Federation of Consulting Engineers (FIDIC).

This publication is available and tenderers must obtain copies at their own cost from the South African Institution of Civil Engineering (SAICE) or Consulting Engineers South Africa (CESA) (tel 011 463 2022).

Volume 1 may also be inspected, by appointment, at the offices of the Employer's agent during normal office hours.

The tender documents issued by the Employer comprise:

VOLUME 2: The Contract Document (this document, which may also be obtained in electronic format – or parts thereof – in terms of F.4.11), in which is bound:

The Tender

Part T1: Tendering procedures

T1.1 Tender notice and invitation to tender

T1.2 Tender data

Part T2: Returnable Documents

T2.1 List of returnable documents

T2.2 Returnable schedules

The Contract

Part C1: Agreements and Contract Data

- C1.1 Form of offer and acceptance
- C1.2 Contract data
- C1.3 Form of Performance Guarantee
- C1.4 Form of Advance Payment Guarantee
- C1.5 Occupational Health and Safety Agreement
- C1.6 Protection of the Environment Declaration
- C1.7 Insurance Broker's Warranty

Part C2: Pricing Data

- C2.1 Pricing Assumptions
- C2.2 Schedules of Quantities
- C2.3 Schedule of Rates for Electrical Variations (not used)

Part C3: Scope of Work

- C3.1 Description of the Works
- C3.2 Engineering
- C3.3 Procurement
- C3.4 Construction
- C3.5 Management
- C3.6 Annexes (see Volume 2A)

Part C4: Site information

- C4 Site information

VOLUME 2A: The balance of the Contract Document (which may also be obtained in electronic format – or parts thereof – in terms of F.4.11), in which is bound:

Scope of Work, Part C3.6 Annexes:

Specifications

- A Detailed Mechanical Specification (including General Works)
- B Detailed Electrical Specification
- C Detailed Electronic Specification
- D Standard Specification for Mechanical Works (including General Works)
- E Standard Specification for Electrical Works
- F Standard Specification for Electronic Works (not used)
- G Health and Safety Specification
- H Environmental Management Specification

VOLUME 2B: The Technical Data Sheets

VOLUME 3: Drawings

Volume 2 and Volume 2B are deemed the "Returnable Document" which must be returned to the Employer in terms of submitting a tender offer. Volume 2A is non-returnable.

F.1.4

Communication and employer's agent

Add the following:

Attention is drawn to the fact that verbal or any other form of communication, given by the Employer, its employees, agents or advisors during site visits/clarification meetings or at any other time prior to the award of the Contract, will not be regarded as binding on the Employer, unless issued formally by the Employer in writing to tenderers through its Director: Supply Chain Management or his nominee. Only information issued formally by the Employer's agent in writing to tenderers will be regarded as amending the Tender Documents.

The Employer's agent is:

Name:

Address:

Tel:

Fax:

E-mail:

F.1.6.2 Competitive negotiation procedure
Add the following to F.1.6.2:
A competitive negotiation procedure will not be followed.

F.1.6.3 Proposal procedure using the two-stage system
Add the following to F.1.6.3:
A two-stage system will not be followed.

F.2 Tenderer's obligations

F.2.1 Eligibility

Add the following to F.2.1.1:

F.2.1.1 Only those tenderers who satisfy the following criteria are eligible to submit tenders:

F.2.1.1.1 City of Cape Town (CoCT) Vendor Database Registration

Only those tenderers who are registered on the City of Cape Town's Vendor Database as a service provider prior to the evaluation of submissions are eligible to have their tenders evaluated (the evaluation of tenders takes place when the Employer's Bid Evaluation Committee meets to make a final recommendation to the Bid Adjudication Committee). The Employer will only enter into a formal contract with a tenderer who is registered on the City of Cape Town's Vendor Database. In the case of Joint Venture partnerships this requirement will apply individually to each party of the Joint Venture.

Tenderers who wish to register on the City of Cape Town's Vendor Database may collect registration forms from the Supplier Management Unit located within the Tender Distribution Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5). Registration forms and related information are also available on the City of Cape Town's website www.capetown.gov.za (follow the Supply Chain Management link to Supplier registration).

F.2.1.1.2 Construction Industry Development Board (CIDB) Registration

Only those tenderers who are registered with an active status with the CIDB in a contractor grading designation equal to or higher than a contractor grading designation determined in accordance with the sum tendered, or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations, for a ME class of construction work, are eligible to have their tenders evaluated.

Joint Ventures are eligible to submit tenders provided that:

- a) every member of the joint venture is registered with an active status with the CIDB;
- b) the lead partner has a contractor grading designation of not lower than one level below the required grading designation in the ME class of construction work; and
- c) the combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a ME class of construction work or a value determined in accordance with Regulation 25 (1B) or 25 (7A) of the Construction Industry Development Regulations.

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

For alpha-numerics associated with the Contractor Grading Designations see Annex G attached.

F.2.1.1.3 Minimum score for quality

Tender offers will be allocated a functionality score out of 120 in terms of the Functionality Criteria described herein. The score will be determined by the Employer, based on his interpretation of the comparative quality of the various tender offers, as evidenced by the documentation provided in the tender offer. Where information in support of a score for the various categories of Functionality Criteria is not provided fully and in compliance with:

- a) the requirements herein;
- b) the requirements of the corresponding schedules in Part T2.2: Returnable Schedules and the format stipulated in these

a score of zero will be allocated for that category.

The minimum score for Functionality Criteria that tender offers must attain in order to be deemed responsive is 78 out of 120. Tenderers whose tender offer does not achieve this minimum qualification score will be rejected as non-responsive.

A summary of the principle Functionality Criteria and the maximum possible score for each is shown in Table 1. The total score allocated for Functionality Criteria will be the sum of the scores allocated for each of the categories.

Table 1: Summary of principle functionality criteria	
Description of functionality criteria category	Weighting
Key personnel assigned to the work	40
Evidence of planning for the project	20
Tenderer's expertise and experience	60
Maximum possible score	120

The quality score will be the average of that determined by not less than three evaluators appointed by the Employer, based on their interpretation of the comparative quality of the various tender offers. Their evaluation will be based on the information provided in the tender, in accordance with the returnable schedules referenced in the above table.

Where the entity tendering is a Joint Venture, or where components of the work will be undertaken by sub-contractors, the tender offer must include a statement describing exactly what aspects of the Works will be undertaken by each party to the joint venture or each sub-contractor, as per Returnable Schedule. If this requirement is not met, the functionality criteria for the associated category will not be allocated to the tenderer.

The information submitted under each section of the quality criteria shall form part of the Contractor's Proposal.

Details regarding the manner in which points will be allocated for quality criteria are given below:

1. Key personnel assigned to the work (see Returnable Schedule 9)

Points will be awarded for key personnel in accordance with the table below.

Sub-Criteria Number	Position	Qualification		Professional accreditation		Relevant experience	
		Type	Points	Type	Points	Years	Points
1.1	Contractor's representative in terms of Clause 4.3 of the GCC (provide copy of qualification and registration certificate)	4yr degree OR 3yr diploma	2	ECSA	1	>15	6
						10-15	3
1.2	Design Engineer responsible for Contractor's obligations in terms of Clause 5 and the associated obligations in terms of Clause 6.8 of the General Conditions of Contract (Mechanical Works) (provide copy of qualification and registration certificate)	4yr degree OR 3yr diploma	2	ECSA	1	>15	6
						10-15	3
1.3	Design Engineer responsible for Contractor's obligations in terms of Clause 5 and the associated obligations in terms of Clause 6.8 of the General Conditions of Contract (Electrical Works)(provide copy of qualification and registration certificate)	4yr degree OR 3yr diploma	2	ECSA	1	>15	6
						10-15	3
1.4	Health /Safety Officer*	N/A	N/A	N/A	N/A	>5	3
1.5	Installation / Construction Foreman (Mechanical)*	3yr diploma or higher	1	N/A	N/A	>10	4
						5-10	1
1.6	Installation / Construction Foreman (Electrical)*	3yr diploma or higher	1	N/A	N/A	>10	4
						5-10	1
* Denotes full time on Site during construction activities							

2. Evidence of planning for the project (see Returnable Schedule 14)

Tenderers will be allocated a functionality score in accordance with Tables 2a to 2d, to rate the evidence and quality of preliminary planning for the Contract. The total points allocated in terms of Tables 3a to 3d will be added with a maximum allocation of 20 points (for Tables 2a to 2d). In order to receive a Functionality Criteria score for each category, the tender offer must provide the information required in terms of the respective table and the cross-referenced Returnable Schedules.

Table 2a: Functionality score for preliminary planning – Provision of method statement in compliance with Schedule 14, demonstrating thorough understanding of the Works and the key factors required for successful execution thereof			
<i>Extent to which associated preliminary planning is demonstrated</i>			<i>Points available</i>
2.1	Nil	No associated evidence of planning.	0
2.2	Poor	The technical approach and / or methodology is poor / is unlikely to satisfy project objectives or requirements. The Tenderer has misunderstood certain aspects of the scope of work and does not deal with the critical aspects of the project. The approach is generic and not tailored to address the specific project objectives and methodology. The quality plan, manner in which risk is to be managed etc is too generic.	1
2.3	Satisfactory	The approach is specifically tailored to address the specific project objectives and methodology and is sufficiently flexible to accommodate changes that may occur during execution. The quality plan and approach to managing risk etc is specifically tailored to the critical characteristics of the project.	3
2.4	Excellent	Besides meeting the "good" rating, the important issues are approached in an innovative and efficient way, indicating that the Tenderer has outstanding knowledge of state-of-the-art approaches. The approach paper details ways to improve the project outcomes and the quality of the outputs.	5
Total points available			5
Table 2b: Functionality score for preliminary planning – Provision of an organogram and associated supporting information in compliance with Schedule 14			
<i>Extent to which associated preliminary planning is demonstrated</i>			<i>Points available</i>
2.5	Nil	No associated evidence of planning.	0
2.6	Poor	The organization chart is sketchy; the staffing plan is weak in important areas. There is no clarity in allocation of tasks and responsibilities.	1
2.7	Satisfactory	The organizational chart is complete and detailed, the technical level and composition of the staffing arrangements are adequate.	3
2.8	Good	Besides meeting the "satisfactory" rating, staff are well balanced i.e. they show good co-ordination, complimentary skills, clear and defined duties and responsibilities. Some members of the project team have worked together before on limited occasions.	4
2.9	Excellent	Besides meeting the "good" rating, the proposed team is well integrated and several members have worked together extensively in the past.	5
Total points available			5

Table 2c: Functionality score for preliminary planning – Provision of a preliminary programme of the Works in compliance with Schedule 14

<i>Extent to which associated preliminary planning is demonstrated</i>			<i>Points available</i>
2.10	Nil	No associated evidence of planning.	0
2.11	Poor	Programme is inadequate and/or considered unrealistic and does not achieve required completion date.	1
2.12	Satisfactory	Programme is considered realistic and adequately shows the main components and compliance with completion date.	3
2.13	Excellent	Programme is considered realistic and includes the main components and subcomponents and linkages and compliance with completion date.	5
Total points available			5

Table 2d: Functionality score for preliminary planning – Provision of a realistic estimated monthly cash flow forecast in compliance with Schedule 18

<i>Extent to which associated preliminary planning is demonstrated</i>			<i>Points available</i>
2.14	Nil	No associated evidence of planning.	0
2.15	Poor	The cash flow forecast is inadequate and/or considered unrealistic and does not match the preliminary programme.	1
2.16	Satisfactory	The cash flow forecast is considered realistic, matches the preliminary programme, and matches terms of payment specified in the Contract.	3
2.17	Excellent	Besides meeting the "satisfactory" rating, the cash flow forecast identifies major components of work which become due for payment in a clear and understandable format.	5
Total points available			5

3. Tenderer's experience (see Returnable Schedule 8)

Points will be awarded up to a maximum of 60 points for experience over the past 10 years, with respect to the mechanical and electrical aspects of pump stations and wastewater treatment works, as detailed in the table below.

<i>Sub-Criteria Number</i>	<i>Category</i>	<i>Points/project</i>	<i>Maximum Points per category</i>
3.1	Experience with Archimedes Screw Pumps $\geq$ 75kW	2	8
3.2	Experience with centrifugal pumps with inlet and outlet diameters larger than DN500	2	8
3.3	Wastewater Treatment Works projects (specifically inlet works involving screens, degritting, screenings washing and grit classification) with a capacity of 50 Ml/d or larger successfully completed in the past 10 years: Mechanical Contractor	2	10
3.4	Wastewater Treatment Works projects (specifically primary sedimentation tanks and related pumping of primary sludge) for tanks with a diameter larger than 30 metres successfully completed in the past 10 years: Mechanical Contractor	2	8
3.5	Wastewater Treatment Works projects (specifically dewatering equipment involving belt presses, linear screens, polyelectrolyte equipment and positive displacement sludge pumps) for processing primary sludge and waste activated sludge with a capacity of 3 Ml/day (combined hydraulic flow of the sludge) or larger successfully completed in the past 10 years: Mechanical Contractor	2	10
3.6	Experience with miniature substations and MV cable work	2	8
3.7	Experience with LV MCC's and LV cabling	2	8

F.2.1.1.4 Local Content

- a) The supplier shall study the terms and conditions as stated in the **Local Content Declaration / Annexure C** returnable schedule.

F.2.1.1.4.1 The stipulated minimum threshold percentages for local production and content for the **Electrical and Telecoms Cable sector** ("the designated sector") is **90%** and will include all sub-sectors from the applicable National Treasury Instruction Note. The stipulated minimum threshold percentages for local production and content for the **Valves products and actuators** ("the designated sector") is **70%** and will include all sub-sectors from the applicable National Treasury Instruction Note.

F.2.1.1.4.2 Only tenders with locally produced or locally manufactured raw material or input will be considered. If the raw material or input to be used for a specific item is not available locally, bidders should obtain written authorisation from the Department of Trade and Industry (DTI) (Chief Director: Industrial Procurement, tel. _____ and fax _____) should there be a need to import such raw material or input.

F.2.1.1.4.3 A copy of the authorisation letter must be submitted together with the bid document at the closing date and time of the bid.

F.2.1.1.4.4 The Employer is obliged and must ensure that contracts for the **designated sector** are awarded at prices that are market related taking into account, among others, benchmark prices designated by the DTI for the sector, value for money and economies of scale. Where appropriate, prices may be negotiated with preferred bidders in accordance with provisions for Negotiation with Preferred Bidders as set out in the City of Cape Town SCM Policy.

F.2.1.1.4.5 A bid will be declared non-responsive / disqualified if the **Local Content Declaration / Annexure C** returnable schedule as well as the authorisation letter referred to above (if applicable) are not submitted as part of the bid documentation at the closing date and time of the bid.

F.2.1.1.4.6 For further information relating to the local production and content legislation, bidders may refer to website http://www.thedti.gov.za/industrial_development/ip.jsp or may contact the Chief Director: Industrial Procurement at the DTI at telephone number _____ and fax (012) _____ the Director: Fleet Procurement _____ at telephone number (012) _____ and _____ or the DTI Contact Centre no. _____

F.2.7 Clarification meeting

Add the following:

The arrangements for a compulsory site visit/clarification meeting are as stated in the Tender Notice and Invitation to Tender.

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

F.2.10 Pricing the tender offer

Add the following to F.2.10.3:

F.2.10.3 Tenderers are referred to Sub-Clause 13.8 in the Appendix to Tender in Part C1.2 Contract Data regarding contract price adjustment.

F.2.12 Alternative tender offers

Add the following to F.2.12.1:

F.2.12.1 If a tenderer wishes to submit an alternative tender offer, he shall do so as a separate offer on a separate set of tender documents. The alternative tender offer shall be submitted in a separate sealed envelope on a separate Form of Offer, both clearly marked "Alternative Tender" in order to distinguish it from the main tender offer.

While it is not necessary to duplicate all parts of the main tender offer, the alternative tender offer shall be supported by the following documents as applicable:

- the schedule that compares the alternative(s) offered with the requirements of the issued tender documents
- preliminary designs, calculations, drawings and all other pertinent technical information and characteristics must be submitted with the alternative tender offer, in order to enable the Employer to evaluate the efficacy of the alternatives proposed
- revised Schedules of Quantities, or parts thereof, highlighting the changes made, together with a revised Summary, the total of which has been carried to the Form of Offer
- details of any proposed amendments to the Pricing Assumptions

Only the alternative of the highest ranked acceptable main tender offer (that is, submitted by the same tenderer) will be considered, and if appropriate, recommended for award.

Alternative tender offers of any but the highest ranked main tender offer will not be considered.

An alternative of the highest ranked acceptable main tender offer that is priced higher than the main tender offer may be recommended for award, provided that the ranking of the alternative tender offer is higher than the ranking of the next ranked acceptable main tender offer.

The Employer's costs in confirming the acceptability of the alternative offer will be, inter alia, taken into account in considering the alternative offer.

The Employer will not be bound to consider alternative tenders and shall have sole discretion in this regard.

In the event that the alternative is accepted, the Contractor shall accept full responsibility that the alternative offer complies in all respects with the Employer's standards and requirements.

F.2.13 Submitting a tender offer
Add the following to F.2.13.1:

F.2.13.1 Deviations

Where the tenderer cannot tender in all respects in accordance with the foregoing provisions, such deviations shall be clearly and separately listed in Schedule 13: Proposed Deviations and Qualifications by Tenderer in T2.2 Returnable Schedules, or in a tenderer's covering letter expressly referenced in Schedule 13.

The Employer will examine such deviations but shall not be bound to accept any such deviations or qualifications.

The sum tendered in the Tender Offer shall be deemed to include for all such deviations or qualifications listed or referred to in Schedule 13: Deviations and Qualifications by Tenderer.

Deviations which are contained in literature, detailed or general descriptions, drawings, equipment lists, etc. provided with the tender but which are not clearly and separately listed as described above will not be considered by the Employer and the tender shall be deemed to comply in all respects with the foregoing provisions and all costs in this regard shall be for the Contractor's account.

Joint Venture Agreement

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

Add the following to F.2.13.2:
F.2.13.2 Printed Schedules of Quantities, in the same format (that is, layout, scheduled items and quantities) as those issued electronically by the Employer on request, may be submitted in terms of F.4.11 c).

Note that Volume 2A is not a returnable document.

Add the following to F.2.13.3:
F.2.13.3 Parts of each tender offer communicated on paper shall be submitted as an original, plus 0 (nought) copies, unless otherwise stated in the Tender Document.

Add the following after the first sentence of F.2.13.4:
F.2.13.4 The tender shall be signed by a person duly authorised to do so. Tenders submitted by joint ventures of two or more firms shall be accompanied by the document of formation of the joint venture, in which is defined precisely the conditions under which the joint venture will function, its period of duration, the persons authorised to represent and obligate it, the participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning.

Add the following to F.2.13.5:
F.2.13.5 The Employer's address for delivery of tender offers and identification details to be shown on each tender offer package are:

Location of tender box: Tender Box 45
Physical address: Tender Submission Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.

Identification details:

Tender number 85Q/2016/17

Title of tender: Design – Build of Mechanical and Electrical Works for the Construction of Primary Treatment and Sludge Handling Facilities at Zandvliet Wastewater Treatment Works

Sealed tenders (including any alternative tenders) with the Tenderer's name and address and the endorsement **"TENDER NO. 85Q/2016/17: DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS"** on the envelope(s), must be placed in the appropriate official tender box at the abovementioned address.

Add the following to F.2.13.6:

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

Add the following sub-clause after F.2.13.9:

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

F.2.15 **Closing time**

Add the following to F.2.15.1:

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

Telephonic, telegraphic, telex, facsimile or e-mailed tender offers will not be accepted.

F.2.16 **Tender offer validity**

Add the following to F.2.16.1:

F.2.16.1 The tender offer validity period is **12 weeks (84 days)**. Tenderers are also referred to F.4.12 in respect of the Section 33 process.

Replace sub-clause F.2.16.2 with the following:

F.2.16.2 Tender offers shall be deemed to remain valid until formal acceptance by the Employer of an offer at any time after the expiry date of the original tender offer validity period, unless the Employer is notified in writing of anything to the contrary, including any further conditions, by the tenderer.

Any further conditions introduced by the tenderer will be considered at the sole discretion of the Employer.

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

Add the following:

A tender will be rejected as non-responsive if the tenderer fails to provide any clarification or supporting documentation requested by the Employer within the time for submission stated in the Employer's written request for such clarification or documentation. A tender will also be rejected as non-responsive if the tenderer fails, within the time stated in writing by the Employer, to comply with the requirements of F.4.3.

F.2.18 **Provide other material**

Delete the following word in F.2.18.1:

F.2.18.1 notarized

Add the following to F.2.18.1:

F.2.18.1 Provide, on written request by the Employer, where the transaction value (tendered amount) inclusive of VAT **exceeds R10 million:**

- a) audited annual financial statements for the past 3 years, or for the period since establishment if established during the past 3 years, if required by law to prepare annual financial statements for auditing;
- b) a certificate signed by the tenderer certifying that the tenderer has no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days;
- c) particulars of any contracts awarded to the tenderer by an organ of state during the past five years, including particulars of any material non-compliance or dispute concerning the execution of such contract;
- d) a statement indicating whether any portion of the goods or services are expected to be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality or municipal entity is expected to be transferred out of the Republic.

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

F.2.23 Certificates

Add the following:

The tenderer is required to submit the following:

F.2.23.1 Tax Clearance Certificate

Tenderers shall be registered and in good standing with the South African Revenue Service (SARS). In this regard, it is the responsibility of the Tenderer to submit documentary evidence in the form of an **original** valid Tax Clearance Certificate issued by SARS to the Employer at the Supplier Management Unit located within the Tender Distribution Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town

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

Tenderers are to note that the Employer will not award a contract to a Tenderer whose tax matters are not in order.

F.2.23.2 Broad-Based Black Economic Empowerment Status Level Documentation

In order to qualify for preference points, it is the responsibility of the tenderer to submit documentary proof, either as certificates or sworn affidavits, of its B-BBEE status level of contribution in accordance with the applicable Codes of good practise as issued by the Department of Trade and Industry, to the CCT at the Supplier Management Unit located within the Tender Distribution Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town or included with the tender submission.

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

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

The applicable code for this tender is the **Amended Codes of Good Practise (Construction Sector Code)** unless in possession of a valid sector certificate.

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

F.3 The Employer's undertakings

F.3.2 Issue Addenda

Add the following to F.3.2:

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

F.3.4 Opening of tender submissions

Add the following to F.3.4.1:

F.3.4.1 The time and location for opening of the tender offers is:

Time: Tenders will be opened immediately after the closing time for receipt of tenders as stated in the Tender Notice and Invitation to Tender, or as stated in any Addendum extending the closing date.

Location: Tender Submission Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town.

F.3.8 Test for responsiveness

Replace sub-clause F.3.8.1 with the following:

F.3.8.1 Determine, after opening and before detailed evaluation, whether all tender offers properly received:

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

F.3.8.2 *Replace the final sentence of F.3.8.2 with the following:*
Reject a non-responsive tender offer, and not allow it to be subsequently made responsive by correction or withdrawal of the material deviation.

Add the following two sub-clauses after F.3.8.2:

- F.3.8.3 Tenders will be considered non-responsive if, inter alia:
- a) the tender is not in compliance with the Scope of Work;
 - b) the tenderer is not registered on the City of Cape Town's Vendor Database prior to the evaluation of submissions as stated in F.2.1.1.1 above;
 - c) the tenderer does not comply with the CIDB contractor grading designation specified in F.2.1.1.2 above;
 - d) the tenderer has failed to clarify or submit any supporting documentation within the time for submission stated in the employer's written request;
 - e) the tenderer does not comply with the instructions as contained in Clause F.2.1.1.4 relating to Local Content.
 - f) the tenderer has failed to achieve the minimum score for quality as stated in F.2.1.1.3
 - g) the tenderer has failed to complete the Technical Data Sheets (Schedule 19) contained in Volume 2B.
 - h) the tenderer has failed to attend the compulsory site clarification meeting;

Tenders may also be declared non-responsive if it is determined on reasonable grounds or evidence that the tenders are submitted by:

- i) tenderers who, notwithstanding having submitted duly completed certificates of independent tender determination (Returnable Schedule 2), are nevertheless deemed to have knowledge of the contents of any other tenderer's offer and/or a certificate is not true and correct in every respect;
- j) tenderers in a horizontal relationship which has the effect of substantially preventing or lessening competition in a market, subject to the exceptions as set out in section 4(1)(a) of the Competitions Act, 89 of 1998;
- k) tenderers who are presumed to be firms engaged in a restrictive horizontal practice as contemplated in section 4(1)(b) read with section 2 of the Competitions Act, 89 of 1998; as specified in Clause F.2.7
- l) tenderers in a vertical relationship which has the effect of substantially preventing or lessening competition in a market, subject to the exceptions as set out in section 5(1) of the Competitions Act, 89 of 1998.

F.3.8.4 The Employer reserves the right to accept a tender offer which does not, in the Employer's opinion, materially and/or substantially deviate from the terms, conditions, and specifications of the tender documents.

F.3.11 **Evaluation of tender offers**

F.3.11.3 **General**

Add the following:

The Employer shall adopt the following procedure when evaluating tender submissions:

- Step 1 (Only applicable where a minimum score for quality has been prescribed as a eligibility criterion). Evaluate all valid tender submissions in order to determine whether or not the minimum score for quality has been achieved. A tender will only be considered further if it achieves the required minimum quality score.
- Step 2 Conduct a preliminary ranking using **Method 2 Financial Offer and Preference** in accordance with F.3.11.3 a), b) and c) (excluding any tenders eliminated in Step 1)
- Step 3 Test three highest preliminary ranked tender offers for responsiveness, and reject any found to be non-responsive. Test additional tenders if necessary to ensure that a detailed evaluation of at least three responsive tenders is carried out, with Pm in Formula 2 (Option 1) (refer to F.3.11.7 below) being the most favourable comparative offer of the three.
- Step 4 Carry out a detailed evaluation of all of the highest preliminary ranked responsive tender offers as determined in Step 3.
- Step 5 Complete final ranking of tender offers and make a recommendation for award in accordance with F.3.11.3 c), d) and e), unless an alternative tender is being considered.

Note that, unless determined otherwise, all tender offers shall be deemed to be responsive and shall be included in the final ranking of tenders.

Step 6 Should it be considered that there is merit for accepting an alternative tender submitted in terms of F.2.12.1, include the alternative tender in the final ranking and re-score if necessary.

F.3.11.3 Method 2 : Financial offer and preferences

Add the following to F.3.11.3 d):

Such reasons (objective criteria) include whether the recommended tenderer:

- has demonstrated that it has the necessary resources and skills required to fulfil its obligations in terms of the tender document;
- poses any commercial or legal risk to the City;
- is currently subject to action in accordance with the policy for combating abuse of the Supply Chain Management System.

F.3.11.7 Scoring Financial Offers

Add the following:

The financial offer will be scored using **Formula 2 (Option 1)** where the value of W_1 is 90 points.

F.3.11.8 Scoring Preferences

Add the following:

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

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

Points for Preference

A maximum of 100 minus W_1 tender evaluation points will be awarded for preference to tenderers with responsive tenders, who are eligible for such preference, in accordance with the criteria listed below.

The Tenderer shall indicate on the **Preference Schedule** his or her company/firm/entity's B-BBEE status level of contributor.

Up to 10 tender evaluation points (N_p) will be awarded for the level of B-BBEE contribution, in accordance with the tables below:

Exempted Micro Enterprises (EMEs)

Black Ownership	Deemed B-BBEE Status Level of Contributor	Number of Points (N_p)
less than 51%	4	5
at least 51% but less than 100%	2	9
100%	1	10

Qualifying Small Enterprises (QSEs)

Black Ownership	Deemed B-BBEE Status Level of Contributor	Number of Points (N_p)
at least 51% but less than 100%	2	9
100%	1	10

B-BBEE Status Level of Contributor	Number of Points (N_p)
1	10
2	9
3	8
4	5
5	4
6	3
7	2
8	1
Non-compliant contributor ¹	0

¹ A non-compliant contributor is one who does not meet the minimum score for a level 8 contributor, or who is not verified in terms of the applicable Codes of Good Practice.

Add the following new subclause after F.3.11.9:

F.3.11.10

Risk Analysis

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

- a) reasonableness of the financial offer
- b) reasonableness of unit rates and prices
- c) the tenderer's ability to fulfill its obligations in terms of the tender document, that is, that the tenderer can demonstrate that he/she possesses the necessary professional and technical qualifications, professional and technical competence, financial resources, equipment and other physical facilities, managerial capability, reliability, capacity, experience, reputation, personnel to perform the contract, etc.; the employer reserves the right to consider a tenderer's existing contracts with the City of Cape Town in this regard.

No tenderer will be recommended for an award unless the tenderer has demonstrated to the satisfaction of the employer that he/she has the resources and skills required.

F.3.13

Acceptance of tender offer

Add the following to F.3.13:

F.3.13.1

Tender offers will only be accepted if:

- a) the tenderer is registered and in good standing with the South African Revenue Service (SARS) and has submitted evidence in the form of an **original** valid Tax Clearance Certificate issued by SARS;
- b) the tenderer or any of its directors is not listed on the Register of Tender Defaulters in terms of the Prevention and Combating of Corrupt Activities Act, 12 of 2004 as a person prohibited from doing business with the public sector;
- c) the tenderer has not:
 - i) abused the Employer's Supply Chain Management System; or
 - ii) failed to pay municipal rates and taxes or service charges and such rates, taxes and charges are in arrears for more than three months;
- d) the tenderer has completed the Compulsory Enterprise Questionnaire and there are no conflicts of interest which may impact on the tenderer's ability to perform the contract in the best interests of the employer or potentially compromise the tender process.

F.3.13.2

Objections, complaints, queries and disputes/ Appeals in terms of Section 62 of the Systems Act/ Access to court

F.3.13.2.1

Disputes, objections, complaints and queries

In terms of Regulations 49 and 50 of the Local Government: Municipal Finance Management Act, 56 of 2003 – Municipal Supply Chain Management Regulations (Board Notice 868 of 2005):

- a) Persons aggrieved by decisions or actions taken by the City of Cape Town in the implementation of its supply chain management system, may lodge within 14 days of the decision or action, a written objection or complaint or query or dispute against the decision or action.

F.3.13.2.2

Appeals

- a) In terms of Section 62 of the Local Government: Municipal Systems Act, 32 of 2000 a person whose rights are affected by a decision taken by the City, may appeal against that decision by giving written notice of the appeal and reasons to the City Manager within 21 days of the date of the notification of the decision.
- b) An appeal must contain the following:
 - i) Must be in writing
 - ii) It must set out the reasons for the appeal
 - iii) It must state in which way the Appellant's rights were affected by the decision;
 - iv) It must state the remedy sought; and
 - v) It must be accompanied with a copy of the notification advising the person of the decision

F.3.13.2.3

Right to approach the courts and rights in terms of Promotion of Administrative Justice Act, 3 of 2000 and Promotion of Access to Information Act, 2 of 2000

The sub-clauses above do not influence any affected person's rights to approach the High Court at any time or its rights in terms of the Promotion of Administrative Justice Act and Promotion of Access to Information Act.

F.3.13.2.4

All requests referring to this clause must be submitted in writing to:

The City Manager - C/o the Manager: Statutory Compliance Unit, Legal Services Department,
Corporate Services and Compliance Directorate

Via hand delivery at: 20th Floor, Tower Block, 12 Hertzog Boulevard, Cape Town 8001

Via post at: Private Bag X918, Cape Town, 8000

Via fax at: 021 400 5963 or 021 400 5830

Via email at: MSA.Appeals@capetown.gov.za

Via fax at: 086 202 9981 or 021 400 5830

Via email at: MSA.Appeals@capetown.gov.za

- F.3.16 **Notice to unsuccessful tenderers**
Replace the heading with:
Notice to successful and unsuccessful tenderers

Add the following to F.3.16.1:

- F.3.16.1 Before accepting the tender of the successful tenderer the Employer shall notify the successful tenderer in writing of the decision of the Employer's Bid Adjudication Committee to award the tender to the successful tenderer. No rights shall accrue to the successful tenderer in terms of this notice, and only once the processes described in F.3.13.2 and F.3.13.3 above have been completed can the Employer sign the Acceptance part of the Form of Offer and Acceptance.

Replace F.3.16.2 with the following:

- F.3.16.2 The Employer shall, at the same time as notifying the successful tenderer of the Bid Adjudication Committee's decision to award the tender to the successful tenderer, also give written notice to the other tenderers informing them that they have been unsuccessful.

- F.3.17 **Provide copies of the contract**
Add the following:
The number of paper copies of the signed contract to be provided by the Employer is one.

F.4 Additional Conditions of Tender

The additional conditions of tender are:

F.4.1 **Compliance with Occupational Health and Safety Act, 85 of 1993**

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

In this regard the Tenderer shall submit with his tender, appended to Schedule 12: Health and Safety Plan in T2.2 Returnable Schedules, a Health and Safety Plan in respect of the Works in sufficient detail to demonstrate the necessary competencies and resources to perform the construction work all in accordance with the Act, Regulations, and Health and Safety Specification in Volume 2A. Such Health and Safety Plan shall cover, *inter alia*, the following details:

- a) Management Structure, Site Supervision and Responsible Persons including a succession plan.
- b) Contractor's induction training programme for employees, sub-contractors and visitors to the Site.
- c) Health and safety method statements and procedures (inclusive of PPE requirements) to be adhered to in order to ensure compliance with the Act, Regulations and the project specific Health and Safety Specification.
- d) Regular monitoring procedures to be performed.
- e) Regular liaison, consultation and review meetings with all parties.
- f) Site security, welfare facilities and first aid.
- g) Site rules and fire and emergency procedures.

F.4.2 Claims arising after submission of tender

No claim for any extras arising out of any doubt or obscurity as to the true intent and meaning of anything shown on the Contract Drawings or contained in the Conditions of Contract, Scope of Work and Pricing Data, will be admitted by the Employer after the submission of any tender and the Tenderer shall be deemed to have:

- a) inspected the Contract Drawings and read and fully understood the Conditions of Contract,
- b) read and fully understood the whole text of the Scope of Work and Pricing Data and thoroughly acquainted himself with the nature of the works proposed and generally of all matters which may influence the Contract,
- c) visited the site of the proposed works, carefully examined existing conditions, the means of access to the Site, the conditions under which the work is to be done, and acquainted himself with any limitations or restrictions that may be imposed by the Municipal or other Authorities in regard to access and transport of materials, plant and equipment to and from the site and made the necessary provisions for any additional costs involved thereby,
- d) requested the Employer or his duly authorised agent to make clear the actual requirements of anything shown on the Contract Drawings or anything contained in the Scope of Work and Pricing Data, the exact meaning or interpretation of which is not clearly intelligible to the Tenderer, and
- e) received any Addenda to the tender documents which have been issued in accordance with the Employer's Supply Chain Management Policy.

Before submission of any tender, the Tenderer should check the number of pages, and if any are found to be missing or duplicated, or the figures or writing indistinct, or if the Pricing Data contain any obvious errors, the Tenderer must apply to the Employer's agent at once to have the same rectified, as no liability will be admitted by the Employer in respect of errors in any tender due to the foregoing.

F.4.3 Imbalance in tendered rates

In the event of tendered rates or lump sums being declared by the Employer to be unacceptable to it because they are not priced, either excessively low or high, or not in proper balance with other rates or lump sums, the Tenderer may be required to produce evidence and advance arguments in support of the tendered rates or lump sums objected to. If, after submission of such evidence and any further evidence requested, the Employer is still not satisfied with the tendered rates or lump sums objected to, it may request the Tenderer to amend these rates and lump sums along the lines indicated by it.

The Tenderer will then have the option to alter and/or amend the rates and lump sums objected to and such other related amounts as are agreed on by the Employer, but this shall be done without altering the tender offer as tendered or, if applicable, the corrected total of prices in accordance with F.3.9.3.

Should the Tenderer fail to amend his tender in a manner acceptable to and within the time stated by the Employer, the Employer may reject the tender.

F.4.4 Invalid tenders

Tenders shall be considered invalid by the Bid Evaluation Committee if:

- a) the tender offer (including the tender price/amount) is not submitted on the Form of Offer and Acceptance (form C1.1, Part C1: Agreements and Contract Data);
- b) the returnable document is not completed in non-erasable handwritten, or printed, ink or toner;
- c) the Form of Offer and Acceptance has not been signed with an original signature;
- d) the Form of Offer and Acceptance is signed, but the name of the tenderer is not stated or is indecipherable;
- e) in a two envelope system, the tenderer fails to submit a separately sealed financial offer.

F.4.5 Negotiations with preferred tenderers

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

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

If negotiations fail to result in acceptable contract terms, the Employer may terminate the negotiations and invite the next ranked tenderer for negotiations. The original preferred tenderer will be informed of the reasons for termination of the negotiations. Once negotiations are commenced with the next ranked tenderer, the Employer will not re-open earlier negotiations.

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

F.4.6 General supply chain management conditions applicable to tenders

In terms of its Supply Chain Management Policy, the Employer may not consider a tender unless the provider who submitted the tender:

- a) has furnished the Employer with that provider's:

- i) full name;
- ii) identification number or company or other registration number; and
- iii) tax reference number and VAT registration number, if any.
- b) has indicated whether:
 - i) the provider is in the service of the state, or has been in the service of the state in the previous twelve months;
 - ii) if the provider is not a natural person, whether any of the directors, managers, principal shareholders or stakeholders is in the service of the state, or has been in the service of the state in the previous twelve months; or
 - iii) whether a spouse, child or parent of the provider or of a director, manager, shareholder or stakeholder referred to above is in the service of the state, or has been in the service of the state in the previous twelve months.
- c) has attended a compulsory site inspection, where applicable.

Irrespective of the procurement process followed, the Employer is prohibited from making an award to:

- d) a person who is in the service of the state;
- e) a juristic entity of which any director, manager or principal shareholder or stakeholder is in the service of the state;
- f) an advisor or consultant contracted with the Employer; or
- g) a person, advisor or corporate entity involved with the bid specification committee, or a director of such corporate entity. "Involved with the bid specification committee" includes where a person, advisor or corporate entity (or its director) was involved in the initial stages of the project which resulted in the specification; and they are therefore prohibited from tendering for resulting contracts.

In this regard, tenderers shall complete Schedule 1, Part T2.2 Returnable Schedules: Compulsory Enterprise Questionnaire. Failure to complete this schedule may result in the tender not being considered.

F.4.7 Combating abuse of the Supply Chain Management Policy

In terms of its Supply Chain Management Policy, the Employer may reject the tender of any tenderer if that tenderer or any of its directors has:

- a) failed to pay municipal rates and taxes or municipal service charges and such rates, taxes and charges are in arrears for more than three months;
- b) failed, during the last five years, to perform satisfactorily on a previous contract with the Employer or any other organ of state after written notice was given to that tenderer that performance was unsatisfactory;
- c) abused the supply chain management system of the Employer or has committed any improper conduct in relation to this system;
- d) been convicted of fraud or corruption during the past five years;
- e) wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years; or
- f) been listed with the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act, 12 of 2004 or has been listed on National Treasury's Database of Restricted Suppliers as a person or juristic entity prohibited from doing business with the public sector.

In this regard, tenderers shall complete Schedules 2 and 4, Part T2.2 Returnable Schedules: Certificate of Independent Tender Determination and Declaration of Tenderer's past Supply Chain Management Practices, respectively. Failure to complete these schedules may result in the tender not being considered.

F.4.8 UIF payments

The Tenderer shall submit to the Employer a letter from the Industrial Council indicating his or her good standing with regard to UIF payments upon being requested to do so.

F.4.9 Information to be provided with the tender

Tenderers must provide the information listed in Schedule 18, Part T2.2 Returnable Schedules: Information to be provided with the Tender, with their tenders.

F.4.10 Tender Programme

The Tenderer's attention is drawn to the contract Commencement Date, Time for Completion of the Works, and Time for access to and possession of the Site, in the Appendix to Tender in Part C1.2 Contract Data.

F.4.11 Requests for contract documents, or parts thereof, in electronic format

The Employer shall not formally issue tender documents in electronic format as contemplated in F.2.13.2 and F.2.13.3 and shall only issue tender documents in hardcopy. An electronic version of the issued tender documents may be made available to the tenderer, upon written request in terms of this clause, subject to the following:

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

Annex F

(normative)

Standard Conditions of Tender

F.1 General

F.1.1 Actions

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

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

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

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

F.1.2 Tender Documents

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

F.1.3 Interpretation

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

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

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

- a) **conflict of interest** means any situation in which:
 - i) someone in a position of trust has competing professional or personal interests which make it difficult to fulfill his or her duties impartially;
 - ii) an individual or organisation is in a position to exploit a professional or official capacity in some way for their personal or corporate benefit; or
 - iii) incompatibility or contradictory interests exist between an employee and the organisation which employs that employee.
- b) **comparative offer** means the tenderer's financial offer after all tendered parameters that will affect the value of the financial offer have been taken into consideration in order to enable comparisons to be made between offers on a comparative basis
- c) **corrupt practice** means the offering, giving, receiving or soliciting of anything of value to influence the action of the employer or his staff or agents in the tender process; and
- d) **fraudulent practice** means the misrepresentation of the facts in order to influence the tender process or the award of a contract arising from a tender offer to the detriment of the employer, including collusive practices intended to establish prices at artificial levels
- e) **organization** means a company, firm, enterprise, association or other legal entity, whether incorporated or not, or a public body
- f) **quality (functionality)** means the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

F.1.4 Communication and employer's agent

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

F.1.5 The employer's right to accept or reject any tender offer

F.1.5.1 The employer may accept or reject any variation, deviation, tender offer, or alternative tender offer, and may cancel the tender process and reject all tender offers at any time before the formation of a contract. The employer shall not accept or incur any liability to a tenderer for such cancellation and rejection, but will give written reasons for such action upon written request to do so.

F.1.5.2 The employer may not subsequent to the cancellation or abandonment of a tender process or the rejection of all responsive tender offers re-issue a tender covering substantially the same scope of work within a period of six months unless only one tender was received and such tender was returned unopened to the tenderer.

F.1.6 Procurement procedures

F.1.6.1 General

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

F.1.6.2 Competitive negotiation procedure

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

F.1.6.2.2 All responsive tenderers, or not less than three responsive tenderers that are highest ranked in terms of the evaluation method and evaluation criteria stated in the tender data, shall be invited in each round to enter into competitive negotiations, based on the principle of equal treatment and keeping confidential the proposed solutions and associated information. Notwithstanding the provisions of F.2.17, the employer may request that tenders be clarified, specified and fine-tuned in order to improve a tenderer's competitive position provided that such clarification, specification, fine-tuning or additional information does not alter any fundamental aspects of the offers or impose substantial new requirements which restrict or distort competition or have a discriminatory effect.

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

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

F.1.6.3 Proposal procedure using the two stage-system

F.1.6.3.1 Option 1

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

F.1.6.3.2 Option 2

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

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

F.2 Tenderer's obligations

F.2.1 Eligibility

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

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

F.2.2 Cost of tendering

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

F.2.3 Check documents

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

F.2.4 Confidentiality and copyright of documents

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

F.2.5 Reference documents

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

F.2.6 Acknowledge addenda

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

F.2.7 Clarification meeting

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

F.2.8 Seek clarification

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

F.2.9 Insurance

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

F.2.10 Pricing the tender offer

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

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

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

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

F.2.11 Alterations to documents

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

F.2.12 Alternative tender offers

F.2.12.1 Unless otherwise stated in the tender data submit alternative tender offers only if a main tender offer, strictly in accordance with all the requirements of the tender documents, is also submitted. The alternative tender offer is to be submitted with the main tender offer together with a schedule that compares the requirements of the tender documents with the alternative requirements the tenderer proposes.

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

F.2.13 Submitting a tender offer

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

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

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

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

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

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

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

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

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

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

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

F.2.15 Closing time

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

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

F.2.16 Tender offer validity

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

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

F.2.16.3 Accept that a tender submission that has been submitted to the employer may only be withdrawn or substituted by giving the employer's agent written notice before the closing time for tenders that a tender is to be withdrawn or substituted.

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

F.2.17 Clarification of tender offer after submission

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

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

F.2.18 Provide other material

F.2.18.1 Provide, on request by the employer, any other material that has a bearing on the tender offer, the tenderer's commercial position (including notarized joint venture agreements), preferencing arrangements, or samples of materials, considered necessary by the employer for the purpose of a full and fair risk assessment. Should the tenderer not provide the material, or a satisfactory reason as to why it cannot be provided, by the time for submission stated in the employer's request, the employer may regard the tender offer as non-responsive.

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

F.2.19 Inspections, tests and analysis

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

F.2.20 Submit securities, bonds, policies, etc.

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

F.2.21 Check final draft

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

F.2.22 Return of other tender documents

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

F.2.23 Certificates

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

F.3 The Employer's undertakings

F.3.1 Respond to requests from the tenderer

F.3.1.1 Unless otherwise stated in the Tender Data, respond to a request for clarification received up to five working days before the tender closing time stated in the Tender Data and notify all tenderers who drew procurement documents.

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

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

F.3.2 Issue Addenda

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

F.3.3 Return late tender offers

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

F.3.4 Opening of tender submissions

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

F.3.4.2 Announce at the meeting held immediately after the opening of tender submissions, at a venue indicated in the tender data, the name of each tenderer whose tender offer is opened and, where applicable, the total of his prices, preferences claimed and time for completion for the main tender offer only.

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

F.3.5 Two-envelope system

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

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

F.3.6 Non-disclosure

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

F.3.7 Grounds for rejection and disqualification

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

F.3.8 Test for responsiveness

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

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

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

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

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

F.3.9 Arithmetical errors, omissions and discrepancies

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

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

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

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

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

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

F.3.10 Clarification of a tender offer

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

F.3.11 Evaluation of tender offers

F.3.11.1 General

Appoint an evaluation panel of not less than three persons. Reduce each responsive tender offer to a comparative offer and evaluate them using the tender evaluation methods and associated evaluation criteria and weightings that are specified in the tender data.

F.3.11.2 Method 1: Financial offer

In the case of a financial offer:

- a) Rank tender offers from the most favourable to the least favourable comparative offer.
- b) Recommend the highest ranked tenderer for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- c) Re-rank all tenderers should there be compelling and justifiable reasons not to recommend the highest ranked tenderer and recommend the highest ranked tenderer, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.3 Method 2: Financial offer and preference

In the case of a financial offer and preferences:

- a) Score each tender in respect of the financial offer made and preferences claimed, if any, in accordance with the provisions of F.3.11.7 and F.3.11.8.
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_P$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;
 N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8.

- c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points, and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.4 Method 3: Financial offer and quality

In the case of a financial offer and quality:

- a) Score each tender in respect of the financial offer made and the quality offered in accordance with the provisions of F.3.11.7 and F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula:

$$T_{EV} = N_{FO} + N_Q$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;
 N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

- c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- d) Recommend tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.
- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.5 Method 4: Financial offer, quality and preferences

In the case of a financial offer, quality and preferences:

- a) Score each tender in respect of the financial offer made, preference claimed, if any, and the quality offered in accordance with the provisions of F.3.11.7 to F.3.11.9, rejecting all tender offers that fail to score the minimum number of points for quality stated in the tender data, if any.
- b) Calculate the total number of tender evaluation points (T_{EV}) in accordance with the following formula, unless otherwise stated in the Tender Data:

$$T_{EV} = N_{FO} + N_P + N_Q$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer made in accordance with F.3.11.7;
 N_P is the number of tender evaluation points awarded for preferences claimed in accordance with F.3.11.8;
 N_Q is the number of tender evaluation points awarded for quality offered in accordance with F.3.11.9.

- c) Rank tender offers from the highest number of tender evaluation points to the lowest.
- d) Recommend the tenderer with the highest number of tender evaluation points for the award of the contract, unless there are compelling and justifiable reasons not to do so.

- e) Rescore and re-rank all tenderers should there be compelling and justifiable reasons not to recommend the tenderer with the highest number of tender evaluation points and recommend the tenderer with the highest number of tender evaluation points, unless there are compelling and justifiable reasons not to do so and the process set out in this subclause is repeated.

F.3.11.6 Decimal places

Score financial offers, preferences and quality, as relevant, to two decimal places.

F.3.11.7 Scoring Financial Offers

Score the financial offers of remaining responsive tender offers using the following formula:

$$N_{FO} = W_1 \times A$$

where: N_{FO} is the number of tender evaluation points awarded for the financial offer.
 W_1 is the maximum possible number of tender evaluation points awarded for the financial offer as stated in the Tender Data.
 A is a number calculated using the formula and option described in Table F.1 as stated in the Tender Data.

Table F.1: Formulae for calculating the value of A

Formula	Comparison aimed at achieving	Option 1 ^a	Option 2 ^a
1	Highest price or discount	$A = (1 + \frac{(P - P_m)}{P_m})$	$A = P/P_m$
2	Lowest price or percentage commission/ fee	$A = (1 - \frac{(P - P_m)}{P_m})$	$A = P_m/P$
^a P_m is the comparative offer of the most favourable comparative offer. P is the comparative offer of the tender offer under consideration.			

F.3.11.8 Scoring preferences

Confirm that tenderers are eligible for the preferences claimed in accordance with the provisions of the tender data and reject all claims for preferences where tenderers are not eligible for such preferences.

Calculate the total number of tender evaluation points for preferences claimed in accordance with the provisions of the tender data.

F.3.11.9 Scoring quality

Score each of the criteria and subcriteria for quality in accordance with the provisions of the Tender Data.

Calculate the total number of tender evaluation points for quality using the following formula:

$$N_Q = W_2 \times S_Q / M_S$$

where: S_Q is the score for quality allocated to the submission under consideration;
 M_S is the maximum possible score for quality in respect of a submission; and
 W_2 is the maximum possible number of tender evaluation points awarded for the quality as stated in the tender data.

F.3.12 Insurance provided by the employer

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

F.3.13 Acceptance of tender offer

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

- a) is not under restrictions, or has principals who are under restrictions, preventing participating in the employer's procurement,

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

F.3.14 Prepare contract documents

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

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

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

F.3.15 Complete adjudicator's contract

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

F.3.16 Notice to unsuccessful tenderers

F.3.16.1 Notify the successful tenderer of the employer's acceptance of his tender offer by completing and returning one copy of the form of offer and acceptance before the expiry of the validity period stated in the tender data, or agreed additional period.

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

F.3.17 Provide copies of the contracts

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

F.3.18 Provide written reasons for actions taken

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

Annex G
(normative)

Alpha-numeric associated with the Contractor Grading Designations

Table G1: Contractor grading designations and associated parameters

Contractor Grading Designation	Tender Value Range designation	Maximum value of contract that a contractor is considered capable of performing (R)
1 (class of construction works)	1	200 000
2 (class of construction works)	2	650 000
3 (class of construction works)	3	2 000 000
4 (class of construction works)	4	4 000 000
5 (class of construction works)	5	6 500 000
6 (class of construction works)	6	13 000 000
7 (class of construction works)	7	40 000 000
8 (class of construction works)	8	130 000 000
9 (class of construction works)	9	No Limit

Table G2: Classes of construction work (see next page)

Table G2: Classes of construction work

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

Description	Designation	Definition	Worktypes	Examples
General building works	GB	Construction works that: a) are primarily concerned with the development, extension, installation, renewal, renovation, alteration, or dismantling of a permanent shelter for its occupants or contents; or b) cannot be categorised in terms of the definitions provided for civil engineering works, electrical engineering works, mechanical engineering works, or specialist works.	Buildings and ancillary works other than those categorised as being: a) civil engineering works; b) electrical engineering works; c) mechanical engineering works; or d) specialist works.	Buildings for domestic, industrial, institutional or commercial occupancies Car ports Stores Walls
Mechanical engineering works	ME	Construction works that are primarily concerned with the development, extension, installation, removal, alteration, renewal of engineering infrastructure for gas transmission and distribution, solid waste disposal, heating, ventilation and cooling, chemical works, metallurgical works, manufacturing, food processing and, materials handling	Machine systems including those relating to the environment of building interiors: a) gas transmission and distribution systems b) pipelines c) solid waste disposal d) materials handling, lifting machinery, heating, ventilation and cooling, pumps, e) continuous process systems f) chemical works, metallurgical works, manufacturing, food processing such as that in concentrator machinery and apparatus, oil and gas wells, smelters, cyanide plants, acid plants, metallurgical machinery, equipment and apparatus, and works necessary for the beneficiation of metals, minerals, rocks, petroleum and organic substances or other chemical processes.	Air-conditioning and mechanical ventilation Boiler installations and steam distribution Central heating Centralised hot water generation Cranes and hoists Dust and sawdust extraction Compressed air, gas and vacuum installations Conveyor and materials handling installations Continuous process systems involving chemical works, metallurgical works, oil and gas wells, acid plants, metallurgical machinery, equipment and apparatus, and works necessary for the beneficiation of metals, minerals, rocks, petroleum and organic substances and other chemical processes Kitchen equipment Laundry equipment Lift installations and escalators Refrigeration and cold rooms Waste handling systems (including compactors)

Description	Designation	Definition	Work types	Examples
Specialist works	SB	A subset of construction works identified and defined by the Board that involves specialist capabilities for its execution	The extension, installation, repair, maintenance or renewal, or removal, of asphalt	
	SC		The development, extension, installation, removal, and dismantling, as relevant, associated with building excavations, shaft sinking and lateral earth support	
	SD		The development, extension, installation, repair, renewal, removal, or alteration of corrosion protection systems (cathodic, anodic and electrolytic)	
	SE		Demolition of buildings and engineering infrastructure and blasting	
	SF		The development, extension, installation, renewal, removal, renovation, alteration or dismantling of fire prevention and protection infrastructure (drencher and sprinkler systems and fire installation)	
	SG		The development, extension, installation, renewal, removal, renovation, alteration or dismantling of glazing, curtain walls and shop fronts	
	SH		The development, extension, installation, maintenance, renewal, removal, alteration or dismantling, as relevant, of landscaping, irrigation and horticultural works	
	SI		The development, extension, installation, repair, maintenance, renewal, removal, renovation, alteration or dismantling of lifts, escalators, travellers and hoisting machinery	
	SJ		The development, installation, removal, or dismantling, as relevant, of piles and other specialized foundations for buildings and structures	
	SK		The installation, renewal, removal, alteration or dismantling, as relevant, road markings and signage	
	SL		The development, extension, installation, renewal, removal, renovation, alteration or dismantling of structural steelwork and scaffolding	
	SM		Timber buildings and structures	
	SN		The extension, installation, repair, maintenance, renewal, removal, renovation or alteration, as relevant, of the waterproofing of basements, roofs and walls using specialist systems.	
	SO		The development, extension, installation, renewal, removal, alteration or dismantling or demolition of water installations and soil and waste water drainage associated with buildings (wet services, plumbing)	
	SQ		The development, extension, installation, repairs, dismantling of precast walls, installation of wire perimeter fencing, diamond perimeter fencing, palisade steel fencing with posts and stay at intervals	

Part T2: Returnable Documents

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T2.1 List of Returnable Documents

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

1. Returnable Schedules required for tender evaluation purposes

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2. Other documents required for tender evaluation purposes

- a) Joint Venture Agreement (if applicable) - append to Schedule 3.
- b) Certificate of Compliance issued by the relevant Bargaining Council (if applicable) - append to Schedule 6.
- c) Health and Safety Plan - append to Schedule 12.
- d) Quality Criteria - append to Schedule 14.

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T2.2 Returnable Schedules

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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:

Address of enterprise:

Section 2: VAT registration number, if any:

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

Section 2b: SARS Tax Compliance Status PIN :

Section 3: CIDB registration number, if any:

Section 4: Particulars of sole proprietors and partners in partnerships

Name*	Identity number*	Personal income tax number*

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

Section 5: Particulars of companies and close corporations

Company registration number

Close corporation number

Tax reference number

Section 6: Record of service of the state

Indicate by marking the relevant boxes with a cross, if any sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months in the service of any of the following:

- | | |
|---|---|
| ☐ a member of any municipal council | ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| ☐ a member of any provincial legislature | ☐ a member of an accounting authority of any national or provincial public entity |
| ☐ a member of the National Assembly or the National Council of Provinces | ☐ an employee of Parliament or a provincial legislature |
| ☐ a member of the board of directors of any municipal entity | |
| ☐ an official of any municipality or municipal entity | |

If any of the above boxes are marked, disclose the following:

Name of sole proprietor, partner, director, manager, principal shareholder or stakeholder	Identity Number	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
			current	Within last 12 months

*insert separate page if necessary

Section 7: Record of spouses, children and parents in the service of the state

Indicate by marking the relevant boxes with a cross, if any spouse, child or parent of a sole proprietor, partner in a partnership or director, manager, principal shareholder or stakeholder in a company or close corporation is currently or has been within the last 12 months been in the service of any of the following:

- | | |
|--|---|
| ☐ a member of any municipal council | ☐ an employee of any provincial department, national or provincial public entity or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act 1 of 1999) |
| ☐ a member of any provincial legislature | ☐ a member of an accounting authority of any national or provincial public entity |
| ☐ a member of the National Assembly or the National Council of Province | ☐ an employee of Parliament or a provincial legislature |
| ☐ a member of the board of directors of any municipal entity | |
| ☐ an official of any municipality or municipal entity | |

Name of spouse, child or parent	Identity Number	Name of institution, public office, board or organ of state and position held	Status of service (tick appropriate column)	
			current	Within last 12 months

*insert separate page if necessary

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

- authorizes the Employer to obtain a tax clearance certificate from the South African Revenue Services that my/our tax matters are in order;
- confirms that the neither the name of the enterprise or the name of any partner, manager, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears on the Register of Tender Defaulters established in terms of the Prevention and Combating of Corrupt Activities Act of 2004;
- confirms that no partner, member, director or other person, who wholly or partly exercises, or may exercise, control over the enterprise appears, has within the last five years been convicted of fraud or corruption;
- confirms that I/we are not associated, linked or involved with any other tendering entities submitting tender offers and have no other relationship with any of the tenderers or those responsible for compiling the scope of work that could cause or be interpreted as a conflict of interest;
- 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 ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

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SCHEDULE 2 : CERTIFICATE OF INDEPENDENT TENDER DETERMINATION

I, the undersigned, in submitting this tender for Contract No. 85Q/2016/17 **DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS**

in response to the invitation for the tender made by the City of Cape Town, do hereby make the following statements that I certify to be true and complete in every respect:

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

1. I have read and I understand the contents of this Certificate;
2. I understand that this tender will be disqualified if this Certificate is found not to be true and complete in every respect;
3. I am authorized by the tenderer to sign this Certificate, and to submit this tender on behalf of the tenderer;
4. Each person whose signature appears on this tender has been authorized by the tenderer to determine the terms of, and to sign, the tender, on behalf of the tenderer;
5. For the purposes of this Certificate and this tender, I understand that the word "competitor" shall include any individual or organization, other than the tenderer whether or not affiliated with the tenderer, who:
 - (a) has been requested to submit a tender in response to this invitation to tender;
 - (b) could potentially submit a tender in response to this invitation to tender, based on their qualifications, abilities or experience; and
 - (c) provides the same goods and services as the tenderer and/or is in the same line of business as the tenderer;
6. The tenderer has arrived at this tender independently from, and without consultation, communication, agreement or arrangement with any competitor. However, communication between partners in a joint venture or consortium¹ will not be construed as collusive tendering;
7. In particular, without limiting the generality of paragraph 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
 - (a) prices;
 - (b) geographical area where product or service will be rendered (market allocation);
 - (c) methods, factors or formulas used to calculate prices;
 - (d) the intention or decision to submit or not to submit a tender;
 - (e) the submission of a tender which does not meet the specifications and conditions of the tender; or
 - (f) tendering with the intention not to win the tender;

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

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

.....
Signature

16/11/2016
Date

.....
Name

MANAGING DIRECTOR
Position

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SCHEDULE 3 : CERTIFICATE OF AUTHORITY FOR JOINT VENTURES

This returnable schedule is to be completed by joint ventures.

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

Mr/Ms, authorised signatory of the company,

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

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

Note:

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

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SCHEDULE 4 : DECLARATION OF TENDERER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

Item	Question	Yes	No
1.1	Is the Tenderer or any of its directors listed on the National Treasury's Database of Restricted Suppliers as a company or person prohibited from doing business with the public sector? (Companies or persons who are listed on this Database were informed in writing of this restriction by the Accounting Officer/Authority of the institution that imposed the restriction after the <i>audi alteram partem</i> rule was applied). The Database of Restricted Suppliers now resides on the National Treasury's website www.treasury.gov.za and can be accessed by clicking on its link at the bottom of the home page.	Yes ☐	No ☒
1.1.1	If so, furnish particulars:		
1.2	Is the Tenderer or any of its directors listed on the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act, 12 of 2004? The Register for Tender Defaulters can be accessed on the National Treasury's website (www.treasury.gov.za) by clicking on its link at the bottom of the home page.	Yes ☐	No ☒
1.2.1	If so, furnish particulars:		
1.3	Was the Tenderer or any of its directors convicted by a court of law (including a court of law outside the Republic of South Africa) for fraud or corruption during the past five years?	Yes ☐	No ☒
1.3.1	If so, furnish particulars:		
1.4	Does the Tenderer or any of its directors owe any municipal rates and taxes or municipal charges to the municipality / municipal entity, or to any other municipality / municipal entity, that is in arrears for more than three months?	Yes ☐	No ☒
1.4.1	If so, furnish particulars:		
1.5	Was any contract between the Tenderer and the municipality / municipal entity or any other organ of state terminated during the past five years on account of failure to perform on or comply with the contract?	Yes ☐	No ☒
1.5.1	If so, furnish particulars:		

I, _____, the undersigned,
(full name in block letters)

certify that the information furnished on this declaration form is true and correct, and accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.

Signature

Date

16/11/2016

Position

Name of Tenderer/Contractor

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

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SCHEDULE 5 : CERTIFICATE FOR MUNICIPAL SERVICES AND PAYMENTS TO SERVICE PROVIDER

To: THE CITY MANAGER, CITY OF CAPE TOWN

**CERTIFICATE FOR MUNICIPAL SERVICES
AND PAYMENTS TO SERVICE PROVIDER**

TENDER NO: 85Q/2016/17: DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

NAME OF THE TENDERER:

FURTHER DETAILS OF THE TENDERER/S; Proprietor / Director/s / Partners, etc:

Physical Business address of the Tenderer	Municipal Account number(s)

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

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

I, _____, the undersigned,

(Full name in block letters)

certify that the information furnished on this declaration form is correct and that I/we have no undisputed commitments for municipal services towards a municipality or other service provider in respect of which payment is overdue for more than 30 days or 3 (three) months.

Signature /

THUS DONE AND SIGNED for and on behalf of the Tenderer/Contractor

at on the 16 day of NOVEMBER 2016
(PLACE) (DATE) (MONTH) (YEAR)

Even if the requested information is not applicable to the Tenderer, the table above should be endorsed **Not Applicable** and THIS DECLARATION MUST STILL BE SIGNED

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SCHEDULE 6 : BARGAINING COUNCIL CERTIFICATE AND DECLARATION IN RESPECT OF MINIMUM WAGE

Not used

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WATER AND SANITATION

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DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIEET WASTEWATER TREATMENT WORKS

SCHEDULE 7: CONFIRMATION OF CoCT VENDOR DATABASE REGISTRATION

CoCT VENDOR DATABASE REGISTRATION		
COMPANY NAME	REGISTERED YES/NO	REGISTRATION NUMBER IF APPLICABLE
	YES	

Tenderers who are not registered on the City of Cape Town's Vendor Database are not precluded from submitting tenders, but must however be registered prior to the evaluation of tenders in order for their tenders to be responsive (the evaluation of tenders takes place when the Employer's Bid Evaluation Committee meets to make a final recommendation to the Bid Adjudication Committee).

In this regard it is the sole responsibility of tenderers to ensure that this requirement is complied with. In the case of Joint Venture Partnerships this requirement will apply to each party to the Joint Venture.

SIGNED ON BEHALF OF TENDERER:

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SCHEDULE 8 : SCHEDULE OF WORK EXPERIENCE

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

EMPLOYER (NAME, TEL No. AND FAX No.)	CONSULTING ENGINEER (NAME, TEL No. AND FAX No.)	NATURE OF WORK	VALUE OF WORK R(m)	COMPLETION DATE
COMPLETED CONTRACTS				
			R63m	2013
			R140m	2015
CURRENT CONTRACTS				
			R11m	2017
			R37m	2017

NB: PLEASE REFER TO SECTION 7.10 OF OUR OFFER FOR THE PAST

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

10 YEARS OF
PROJECTS COMPLETION

SIGNED ON BEHALF OF TENDERER:

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SCHEDULE 9 : DETAILS OF CONTRACTOR'S REPRESENTATIVE'S EXPERIENCE

The Conditions of Contract require the Contractor to appoint a Contractor's Representative (Sub-Clause 4.3). Tenderers shall complete Part 2 of the Appendix to Tender in this regard.

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

WE HAVE PROPOSED 3 POSSIBLE CANDIDATES AND GIVE AN EXAMPLE FOR EACH.

CONTRACTOR'S REPRESENTATIVE	NAME: NQF LEVEL.....			
CONTRACT & CLIENT	NATURE OF WORK	POSITION HELD	VALUE OF WORK	YEAR COMPLETED
		PROJECT MANAGER	R140M	2015
		PROJECT MANAGER	R63M	2013
		PROJECT MANAGER	R50M	2004

FOR FULL DETAILS & CV'S PLEASE REFER TO SECTION 1 OF OUR

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

COVERING LITTEAL FUNCTIONALITY CRITERIA,

SIGNED ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

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SCHEDULE 10 : DETAILS OF TENDERER'S WORKSHOP FACILITIES

The tenderer shall state below what workshop facilities will be available for this Contract.

.....

.....

.....

.....

.....

.....

Address of Workshop

.....

.....

.....

Number of Artisans Normally Employed by Firms IN EXCESS OF 70 COMBINED.

.....

Number of Technically Qualified Persons Employed IN EXCESS OF 30

.....

SIGNED ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

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SCHEDULE 11 : SCHEDULE OF SUB-CONTRACTORS

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

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

SUB-CONTRACTORS		
Sub-contractor's name	Work activities to be undertaken by the Sub-contractor	Estimated value of work (Rand)
	ELECTRICAL -	± R 60 m.
	INSTALL WASTEWATER EQUIPMENT	± R 18 m.
	SCREW PUMPS.	± R 16 m.
	BOLT PRESSORS SUPERVISOR	± R 2 m.

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

SIGNED ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

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SCHEDULE 12 : HEALTH AND SAFETY PLAN

Tenderers are referred to the requirements of Clause F.4.1 in Part T1.2 Tender Data and shall append the required Health and Safety Plan to this Schedule.

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

*PLEASE REFER TO SECTION 8 OF OUR COVERING
LETTER SUBMISSION*

SIGNED ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

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SCHEDULE 13 : PROPOSED DEVIATIONS AND QUALIFICATIONS BY TENDERER

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

The Tenderer's attention is drawn to clause F.3.8 of the Standard Conditions of Tender referenced in the Tender Data regarding the Employer's handling of material deviations and qualifications, and to clause F.2.13.1 Deviations in the Tender Data.

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

PAGE	CLAUSE OR ITEM	PROPOSED DEVIATION OR QUALIFICATION
		PLEASE REFER TO OUR TECHNICAL AND COMMERCIAL OFFER.

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

SIGNED ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

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SCHEDULE 14 : QUALITY CRITERIA

The Tenderer shall provide information for the quality criteria listed in this Returnable Schedule. All the information submitted in this schedule shall form part of the Contractor's Proposal.

The Tenderer's attention is drawn to clause F.2.1.1.3 in the Tender Data for a more detailed explanation of the quality criteria given in the table below and how the score will be calculated (with applicable values).

Criteria Number	Description of quality criteria	Maximum possible score
1.	Key personnel assigned to the work	40
2.	Evidence of planning for the project	20
3.	Tenderer's expertise and experience	60
	Maximum possible score	120

The minimum score for quality is **78 out of 120**. Tenderers that fail to achieve the minimum score for quality will be rejected.

Number of sheets appended by the tenderer to this Schedule *11/1* (If nil, enter NIL).

SIGNED ON BEHALF OF TENDERER:

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SCHEDULE 14A : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS

This declaration is based on and replaces Municipal Bid Document 6.2 (MBD 6.2).

The amendments made to the MBD 6.2 document have been necessary to clarify this standard document as it relates to local production and content in the designated sector.

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

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

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

1. General Conditions

- 1.1 Preferential Procurement Regulations, 2011 (Regulation 9) makes provision for the promotion of local production and content.
- 1.2 Regulation 9(1) prescribes that in the case of designated sectors, where in the award of bids where local production and content is of critical importance, such bids must be advertised with the specific bidding condition that only locally produced goods, services or works or locally manufactured goods, with a stipulated minimum threshold for local production and content will be considered.
- 1.3 The designated sector **Electrical and Telecom Cables** is applicable to items tendered for as detailed in Annexure C and all products tendered for these items must comply with the requirements in respect of the local production and content legislation.
- 1.4 A person awarded a contract in relation to a designated sector, may not sub-contract in such a manner that the local production and content of the overall value of the contract is reduced to below the stipulated minimum threshold.
- 1.5 The local content (LC) expressed as a percentage of the bid price must be calculated in accordance with the SABS approved technical specification number SATS 1286: 2011 as follows:

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

Where

x is the imported content in Rand

y is the bid price in Rand excluding value added tax (VAT)

Prices referred to in the determination of x must be converted to Rand (ZAR) by using the exchange rate published by ABSA Bank at close of business on the date of advertisement of the bid as required in paragraph 4.1 below.

NOTE: The SABS approved technical specification number SATS 1286:2011 is accessible on http://www.thedti.gov.za/industrial_development/ip.jsp at no cost.

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

SCHEDULE 14A : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

2 Definitions

- 2.1 "bid" includes written price quotations, advertised competitive bids or proposals;
- 2.2 "bid price" price offered by the supplier, excluding value added tax (VAT);
- 2.3 "contract" means the agreement that results from the acceptance of a bid by an organ of state;
- 2.4 "designated sector" means a sector, sub-sector or industry that has been designated by the Department of Trade and Industry (dti) in line with national development and industrial policies for local production, where only locally produced services, works or goods or locally manufactured goods meet the stipulated minimum threshold for local production and content;
- 2.5 "duly sign" means a Declaration Certificate for Local Content that has been signed by the Chief Financial Officer or other legally responsible person nominated in writing by the Chief Executive, or senior member / person with management responsibility(close corporation, partnership or individual) as per Returnable Schedule 1.
- 2.6 "imported content" means that portion of the bid price represented by the cost of components, parts or materials which have been or are still to be imported (whether by the supplier or its subcontractors) and which costs are inclusive of the costs abroad (this includes labour and intellectual property costs), plus freight and other direct importation costs, such as landing costs, dock duties, import duty, sales duty or other similar tax or duty at the South African port of entry;
- 2.7 "local content" means that portion of the bid price which is not included in the imported content, provided that local manufacture does take place;
- 2.8 "stipulated minimum threshold" means that portion of local production and content as determined by the Department of Trade and Industry; and
- 2.9 "sub-contract" means the primary contractor's assigning, leasing, making out work to, or employing another person to support such primary contractor in the execution of part of a project in terms of the contract.
3. **The stipulated minimum threshold(s) for local production and content (refer to Annex A of SATS 1286:2011) for this bid is/are as follows:**

Description of services, works or goods Stipulated minimum threshold

Electrical and Telecom Cable sector 90%

4. Does any portion of the services, works or goods offered for Items as detailed in Annexure C have any imported content?
(Tick applicable box)

YES	☒	NO	☐
-----	-------------------------------------	----	--------------------------

- 4.1 If yes, the rate(s) of exchange to be used in this bid to calculate the local content as prescribed in paragraph 1.2 of the above General Conditions must be the rate(s) published by Absa Bank at close of business on the date of advertisement of the bid.

Indicate the rate(s) of exchange against the appropriate currency in the table below (refer to Annex A of SATS 1286:2011):

Currency	Rates of exchange
US Dollar	
Pound Sterling	
Euro	R 14.81
Yen	
Other	

NB: Suppliers must submit proof of the ABSA Bank rate(s) of exchange used.

5. Where, after the award of a bid, challenges are experienced in meeting the stipulated minimum threshold for local content the dti must be informed accordingly in order for the dti to verify and in consultation with the CCT provide directives in this regard.

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SCHEDULE 14A : DECLARATION CERTIFICATE FOR LOCAL PRODUCTION AND CONTENT FOR DESIGNATED SECTORS (Cont'd)

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

IN RESPECT OF BID NO. 85Q/2016/17

ISSUED BY: (Procurement Authority / Name of Municipality / Municipal Entity): CITY OF CAPE TOWN

NB

- 1 The obligation to complete, duly sign and submit this declaration cannot be transferred to an external authorized representative, auditor or any other third party acting on behalf of the bidder.
- 2 Guidance on the Calculation of Local Content together with Local Content Declaration Templates (Annex C, D and E) is accessible on [http://www.thedti.gov.za/industrial development/ip.jsp](http://www.thedti.gov.za/industrial%20development/ip.jsp). Bidders should first complete Declaration D. After completing Declaration D, bidders should complete Declaration E and then consolidate the information on Declaration C. **Declaration C should be submitted with the bid documentation at the closing date and time of the bid in order to substantiate the declaration made in paragraph (c) below.** Declarations D and E should be kept by the bidders for verification purposes for a period of at least 5 years. The successful bidder is required to continuously update Declarations C, D and E with the actual values for the duration of the contract.

I, the undersigned, ... (full names),
do hereby declare MANAGING DIRECTOR
of (name of bidder entity), the following:

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

Bid price, excluding VAT (y)	R
Imported content (x), as calculated in terms of SATS 1286:2011	R
Stipulated minimum threshold for local content (paragraph 3 above)	
Local content %, as calculated in terms of SATS 1286:2011	

If the bid is for more than one product, the local content percentages for each product contained in Declaration C shall be used instead of the table above. The local content percentages for each product has been calculated using the formula given in clause 3 of SATS 1286:2011, the rates of exchange indicated in paragraph 4.1 above and the information contained in Declaration D and E.

- (d) I accept that the Procurement Authority / Municipality /Municipal Entity has the right to request that the local content be verified in terms of the requirements of SATS 1286:2011.
- (e) I understand that the awarding of the bid is dependent on the accuracy of the information furnished in this application. I also understand that the submission of incorrect data, or data that are not verifiable as described in SATS 1286:2011, may result in the Procurement Authority / Municipal / Municipal Entity imposing any or all of the remedies as provided for in Regulation 13 of the Preferential Procurement Regulations, 2011 promulgated under the Preferential Policy Framework Act (PPFPA) 2000 (Act No. 5 of 2000).

SIGNATURE:

DATE: 16/11/2016

WITNESS No. 1

DATE: 16/11/2016

WITNESS No. 2

DATE: 16/11/2016

Local Content Declaration - Summary Schedule

GBP

Note: VAT to be excluded from all calculations

[illegible]

Tender item no's	List of items	Calculation of local content					Tender summary		
		Tender price per UoM (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)	Anticipated Annual Tender Qty (m)	Total tender value
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)	(C16)	(C17)

(C20) Total tender value

R 14 809 707.00

Signature of tenderer from Annex B

(C21) Total Exempt imported content

R 0

(C22) Total Tender value net of exempt imported content

R 14 809 707.00

(C23) Total Imported content

R 0

(C24) Total local content

R 14 809 707.00

(C25) Average local content % of tender

100 %

Date:

16/11/2016

Annex C

Local Content Declaration - Summary Schedule

(C1)	Tender No.	85Q/2016/17
(C2)	Tender description:	ZANDULIST.
(C3)	Designated product(s)	VALUES.
(C4)	Tender Authority:	CITY OF CAPE TOWN.
(C5)	Tendering Entity name:	
(C6)	Tender Exchange Rate:	Pula EU
(C7)	Specified local content %	14.81

GBP

Note: VAT to be excluded from all calculations

Tender item no's	List of items	Calculation of local content					Tender summary		
		Tender price per UoM (excl VAT)	Exempted imported value	Tender value net of exempted imported content	Imported value	Local value	Local content % (per item)	Anticipated Annual Tender Qty (#)	Total tender value
(C8)	(C9)	(C10)	(C11)	(C12)	(C13)	(C14)	(C15)	(C16)	(C17)
Schedule M11	Complete Schedule								(C18)
									(C19)

CITY OF CAPE TOWN

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SCHEDULE 15 : AUTHORISATION FOR THE DEDUCTION OF OUTSTANDING AMOUNTS OWED TO THE CITY OF CAPE TOWN

To: THE CITY MANAGER, CITY OF CAPE TOWN

From: _____
(Name of Tenderer)

AUTHORISATION FOR THE DEDUCTION OF OUTSTANDING AMOUNTS OWED TO THE CITY OF CAPE TOWN

The Tenderer:

- a) hereby acknowledges that according to SCM Regulation 38(1)(d)(i) the City Manager may reject the tender of the Tenderer if any municipal rates and taxes or municipal service charges owed by the Tenderer or any of its directors/members/partners to the City of Cape Town, or to any other municipality or municipal entity, are in arrears for more than 3 (three) months; and
- b) therefore hereby agrees and authorises the City of Cape Town to deduct the full amount outstanding by the Tenderer or any of its directors/members/partners from any payment due to the Tenderer.

I, _____, the undersigned,
(full name in block letters)

hereby authorise the City of Cape Town to deduct the full amount outstanding by the Tenderer/Contractor or any of its directors/members/partners from any payment due to the Tenderer/Contractor.

Signature

THUS DONE AND SIGNED for and on behalf of the Tenderer/Contractor

at MONEDAW on the 16 day of NOVEMBER 2016
(PLACE) (DATE) (MONTH) (YEAR)

CITY OF CAPE TOWN

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SCHEDULE 16 : RECORD OF ADDENDA TO TENDER DOCUMENTS

We confirm that the following communications received from the Employer before the submission of this tender offer, amending the tender documents, have been taken into account in this tender offer:

	Date	Title or Details
1.	8/11/2016	NOTICE TO TENDERERS NO: 1
2.	15/11/2016	NOTICE TO TENDERERS NO: 2
3.	21/11/2016	NOTICE TO TENDERERS NO: 3
4.	28/11/2016	NOTICE TO TENDERERS NO: 4
5.		
6.		
7.		
8.		
9.		
10.		

Attach additional pages if more space is required.

REFER SECTION 3 OF TENDER SUBMISSION

SIGNED ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

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SCHEDULE 17 : PREFERENCING SCHEDULE

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

1 Definitions

The following definitions shall apply to this schedule:

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

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

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

B-BBEE status level of contributor: The B-BBEE status received by a measured entity based on its overall performance using the relevant scorecard contained in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act.

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

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

Comparative Price: The price after the factors of a non-firm price and all unconditional discounts that can be utilized have been taken into consideration.

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

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

Exempted Micro Enterprise (EME): Any enterprise with an annual total revenue of R10 million or less.

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

Functionality: The measurement according to predetermined norms, as set out in the bid documents, of a service or commodity that is designed to be practical and useful, working or operating, taking into account, among other factors, the quality, reliability, viability and durability of a service and the technical capacity and ability of a bidder.

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

Person: Includes a juristic person.

Qualifying Small Enterprise (QSE): Any enterprise with an annual total revenue of greater than R10 million but less than R50 million or less.

Rand Value: means the total estimated value of a contract in South African currency, calculated at the time of bid invitations, and includes all applicable taxes and excise duties.

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

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

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

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

2 Conditions associated with the granting of preferences

A supplier that is granted a preference undertakes to:

- 1) accept that the number of preference points allocated will be based on the B-BBEE status level of contributor of the supplier as at the closing date for submission of quotation offers;
- 2) not sub-contract more than 25% of the value of the contract to sub-contractors that do not have an equal or higher B-BBEE status level of contributor than the supplier, unless the intended sub-contractors are exempted micro enterprises that have the capability and ability to execute the sub-contract works or unless otherwise declared in terms of Section 5 below;
- 3) accept the sanctions set out in Section 3 below should Condition 2(2) be breached, or should the B-BBEE status level of contribution be found to have been claimed or obtained on a fraudulent basis;
- 4) accept that, in order to qualify for preference points, it is the responsibility of the supplier to submit documentary proof of its BBEE level of contribution in accordance with the Codes of Good Practise, 2013, to the CCT at the Supplier Management Unit located within the Tender Distribution Office, 2nd Floor (Concourse Level), Civic Centre, 12 Hertzog Boulevard, Cape Town (Tel 021 400 9242/3/4/5);
- 5) accept that, further to 4) above, Consortiums/Joint Ventures will qualify for preference points, provided that the entity submits the relevant certificate/scorecard in terms of the Preferential Procurement Regulations, 2011. Note that, in the case of unincorporated entities, a verified scorecard in the name of the consortium/Joint Venture must be submitted with the quotation (attached to this schedule);
- 6) accept that if it is found that, in the performance of the contract, the participation of the various partners in a Consortium/ Joint Venture differs substantially from that upon which the consolidated scorecard submitted in terms of 5) above was based, and the impact of which is that the Joint Venture would not have been awarded the contract in terms of the actual B-BBEE level of contribution achieved by the Joint Venture, then a financial penalty shall be applied (in addition to any other remedies that the CCT may have) in accordance with Section 3 below;
- 7) accept that suppliers are required to be registered on the City of Cape Town's Supplier Database prior to the acceptance of tenders in order to qualify for preference points. The CCT will verify the B-BBEE level of contributor of the supplier as at the closing date for submission of tender offers, to determine the number of preference points to be awarded to the supplier. In the case of Consortiums/Joint Ventures which tender as unincorporated entities, a verified scorecard submitted with the tender and valid as at the closing date will be used to determine the number of preference points to be awarded to the supplier;
- 8) accept that, notwithstanding 7) above, a supplier will **not** be awarded points for B-BBEE status level of contributor if he indicates in his tender that he intends sub-contracting more than 25% of the value of the contract to sub-contractors that do not qualify for at least the points that the supplier qualifies for unless the intended sub-contractors are exempted micro enterprises that have the capability and ability to execute the sub-contract works; and
- 9) immediately inform the City of Cape Town of any change that may affect the tenderer's B-BBEE level of contribution upon which preference points will be or have been allocated.

3 Sanctions relating to breaches of preference conditions

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

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

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

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

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

where:

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

P* = Value of the contract

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

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

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

where:

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

B-BBEE^l = The B-BBEE level of contribution that was used to determine the number of preference points granted to the Joint Venture at the time of quotation evaluation

P* = Value of the contract

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

In the interest of transparency, suppliers are required to complete Table 1: Level of Contribution below.

Table 1: Level of Contribution

Type of B-BBEE Contributor	Status (tick box(es) below as applicable)
Exempted Micro Enterprise (EME), 100% black-owned	☐
Exempted Micro Enterprise (EME), at least 51% but less than 100% black-owned	☐
Exempted Micro Enterprise (EME), less than 51% black-owned	☐
Qualifying Small Enterprise (QSE), 100% black-owned	☐
Qualifying Small Enterprise (QSE), at least 51% but less than 100% black-owned	☐
Qualifying Small Enterprise (QSE), less than 51% black-owned	☐
Verified B-BBEE contributor B-BBEE Status Level of Contributor ¹ 2	☒
Non-compliant contributor	☐

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

5 Declarations

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

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

☐

Note:

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

- 2) The undersigned, who warrants that he/she is duly authorised to do so on behalf of the supplier, hereby certifies that the preference claimed based on the B-BBEE status level of contribution indicated in Table 1, qualifies the supplier, subject to condition 7 in Section 2 above, for such preference claimed, and acknowledges that:

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

Signature

16/11/2016
Date

Name (PRINT)

(For and on behalf of the Supplier (duly authorised))

For official use.		
SIGNATURE OF CITY OFFICIALS AT QUOTATION OPENING		
1. <u>A</u>	2.	3.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

SCHEDULE 18 : INFORMATION TO BE PROVIDED WITH THE TENDER

The following information shall be provided with the Tender:

- a) Technical description of offer, including confirmation that the tenderer's design will be adequately accommodated in the buildings proposed on the drawings.
- b) Technical literature for all items of plant and equipment; including penstocks, screens, washer compactors, conveyors, degritters, pump sets, dewatering equipment, ventilation equipment, odour equipment, lifting equipment, VFCs, valves and instrumentation.
- c) Power margins provided by pump motors proposed and confirmation of the suitability of the pump motors for operation on the specified VFCs.
- d) Power rating of genset's alternator and diesel engine. Detail calculations to be provided or report from manufacturer's design software simulation.
- e) Drawings indicating generator and fuel tank room layout, fuel pipework, ventilation, cable entry and exit routes.
- f) The name of the "internationally accepted technical design standard" which will be used for the design of the lifting equipment.
- g) Name of the proposed electrical panel manufacturer.
- h) Proposed corrosion protection systems, including data sheets for coatings proposed.
- i) A programme which accommodates the restrictions described in F.4.10 in T1.2 Tender Data, and estimated month-by-month cash flow indicating the value of work done and Plant and Materials not yet built into the Permanent Works.
- j) The various technical details and data required by the Technical Data Sheets (see Volume 2B) and information required in the Returnable Schedules.
- k) A Health and Safety Plan in terms of F.4.1 in T1.2 Tender Data.
- l) The following schedules included in T2.2 Returnable Documents, along with information requested and provided in terms of the applicable schedule:
 - Schedule 3: Certificate of Authority for Joint Ventures
 - Schedule 9: Details of Contractor's Representative's Experience
 - Schedule 10: Details of Tenderer's Workshop Facilities
 - Schedule 11: Schedule of Sub-Contractors
 - Schedule 12: Health and Safety Plan
 - Schedule 14: Quality Criteria
 - Schedule 16: Record of Addenda to Tender Documents
 - Schedule 17: Preferencing Schedule
 - Schedule 19: Technical Data Sheets
 - Schedule 20: Price Basis for Imported Plant and Materials

SIGNED ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

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SCHEDULE 19 : TECHNICAL DATA SHEETS

The technical data sheets that must be completed by the Tenderer are included in a separate volume, Volume 2B.

The technical data sheets will be issued electronically as well on the CD that comes with the document. The datasheets may be completed electronically but the completed schedules **MUST STILL BE PRINTED OUT AND SIGNED** by the Tenderers and submitted with their offer. A completed, signed, hard copy of all the technical data sheets **MUST** be submitted with the tender documents.

Part C1: Agreements and Contract Data

	Pages
C1.1 Form of Offer and Acceptance (Agreement).....	72 – 76
C1.2 Contract Data	77 – 106
C1.3 Form of Performance Guarantee	107 – 110
C1.4 Form of Advance Payment Guarantee	111 – 114
C1.5 Occupational Health and Safety Agreement.....	115 – 116
C1.6 Protection of the Environment Declaration	117
C1.7 Insurance Broker's Warranty	118

CITY OF CAPE TOWN

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DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT 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. 85Q/2016/17 : DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT 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 * THREE HUNDRED AND FORTY ONE MILLION, SEVEN HUNDRED AND FORTY
THREE THOUSAND, NINE HUNDRED AND FIFTY SIX RAND AND FIFTY SEVEN CENTS (in words);
R. 341 743 956.57 (in figures)

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 MADAGALA DIRECTOR

for the tenderer

(Name of organization/tenderer) *

(Address of organization/tenderer)

Name and
signature
of witness

Date 16/11/2016

* Refer to Clause F.4.4 Invalid tenders in Part T1.2 Tender Data

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

Acceptance

By signing this part of this form of offer and acceptance, the employer identified below accepts the tenderer's offer. In consideration thereof, the employer shall pay the contractor the amount due in accordance with the conditions of contract identified in the contract data. Acceptance of the tenderer's offer shall form an agreement between the employer and the tenderer upon the terms and conditions contained in this agreement and in the contract that is the subject of this agreement.

The terms of the contract are contained in:

- Part C1: Agreements and contract data (which includes this agreement)
- Part C2: Pricing data
- Part C3: Scope of work
- Part C4: Site information
- The Contractor's Proposal

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 tenderer and the employer during this process of offer and acceptance, are contained in the schedule of deviations attached to and forming part of this form of offer and acceptance. No amendments to or deviations from said documents are valid unless contained in this schedule.

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

Notwithstanding anything contained herein, this agreement comes into effect on the date when the tenderer receives one fully completed original copy of this document, including the schedule of deviations (if any). Unless the tenderer (now contractor) within five working days of the date of such receipt notifies the employer in writing of any reason why he cannot accept the contents of this agreement, this agreement shall constitute a binding contract between the parties.

Signature(s)

Name(s)

Capacity **EXECUTIVE DIRECTOR : INFORMAL SETTLEMENTS WATER & WASTE**

for the
Employer

CITY OF CAPE TOWN
Tower Block, Civic Centre,
12 Hertzog Boulevard
Cape Town

Name and
signature
of witness

Date **5/9/2018**

Schedule of Deviations

Notes:

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

1 Subject NOT APPLICABLE
Details

2 Subject NOT APPLICABLE
Details

3 Subject NOT APPLICABLE
Details

4 Subject NOT APPLICABLE
Details

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

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

For the Tenderer:

Signature(s)

Name(s)

Capacity **DIRECTOR**

(Name of organization/tenderer)

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

Name and
signature
of witness

Date **10/9/2018**

For the Employer:

Signature(s)

Name(s)

Capacity **EXECUTIVE DIRECTOR: INFORMAL SETTLEMENTS, WATER & WASTE**

(Name and
address of
organization) CITY OF CAPE TOWN
Tower Block, Civic Centre,
12 Hertzog Boulevard
Cape Town

Name and
signature
of witness

Date **5/9/2018**

Confirmation of Receipt

The tenderer, (now contractor), identified in the offer part of this agreement hereby confirms receipt from the employer, identified in the acceptance part of this agreement, of one fully completed original copy of this agreement, including the schedule of deviations (if any) today:

the 10TH(day)
of SEPTEMBER(month)
2018(year)
at KRAAIFONTEIN(place)

For the Contractor:

Signature(s)
Name(s)
Capacity DIRECTOR

Signature and name of witness:

Signature
Name 2/9/2018

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

C1.2 Contract Data

GENERAL CONDITIONS OF CONTRACT

The following standardised General Conditions of Contract:

General Conditions which form part of the **Conditions of Contract for Plant and Design-Build for Electrical and Mechanical Works and for Building and Engineering Works Designed by the Contractor, First Edition 1999 (Yellow Book)** published by the International Federation of Consulting Engineers (FIDIC).

Copies of these Conditions of Contract (Yellow Book) may be obtained from the South African Institution of Civil Engineering (SAICE) (tel 011 805 5947) or Consulting Engineers South Africa (CESA) (tel 011 463 2022).

Copies of the Conditions of Contract (Yellow Book) are also available for inspection and scrutiny at the offices of the Employer.

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

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

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

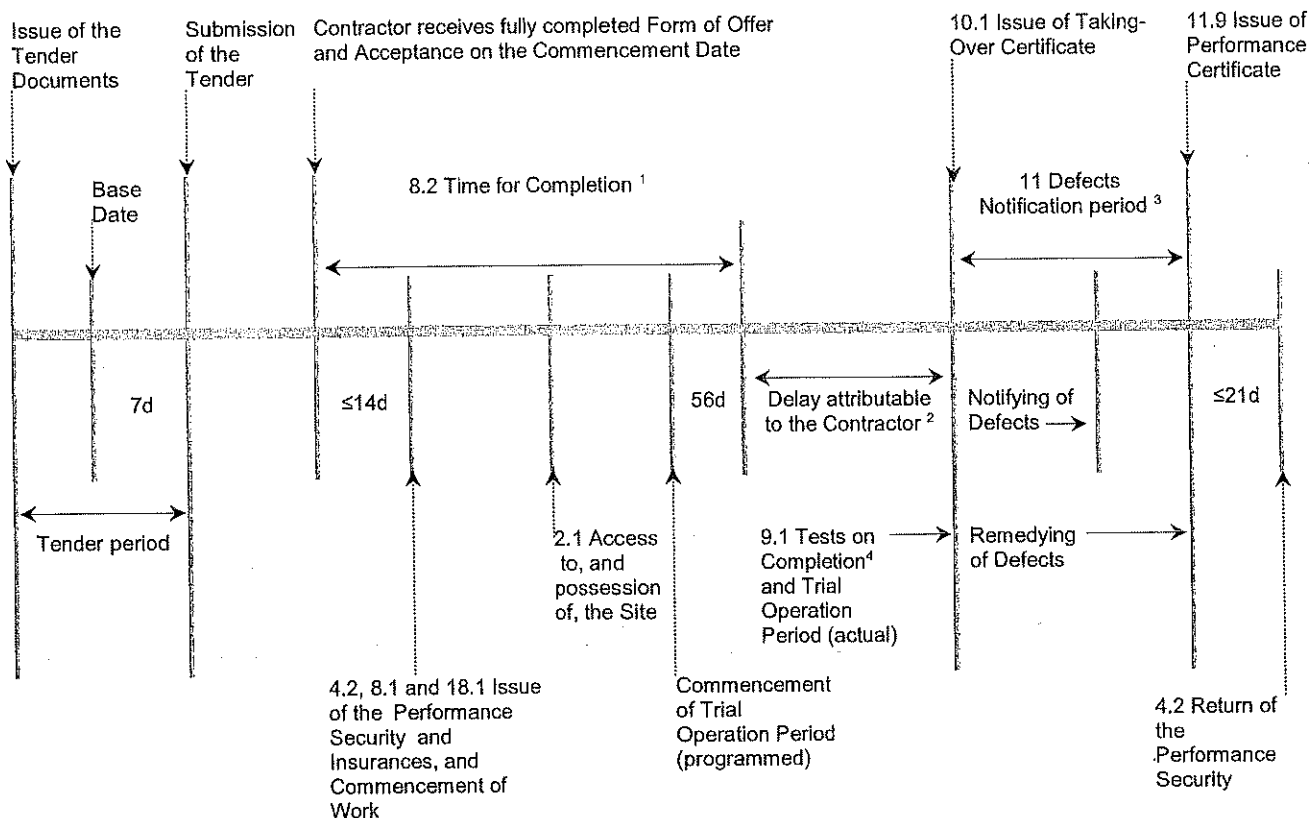
The Contract Data and General Conditions shall have precedence over the Scope of Work, Standardised Specifications and Drawings in the interpretation of any ambiguity or inconsistency between these documents.

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

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

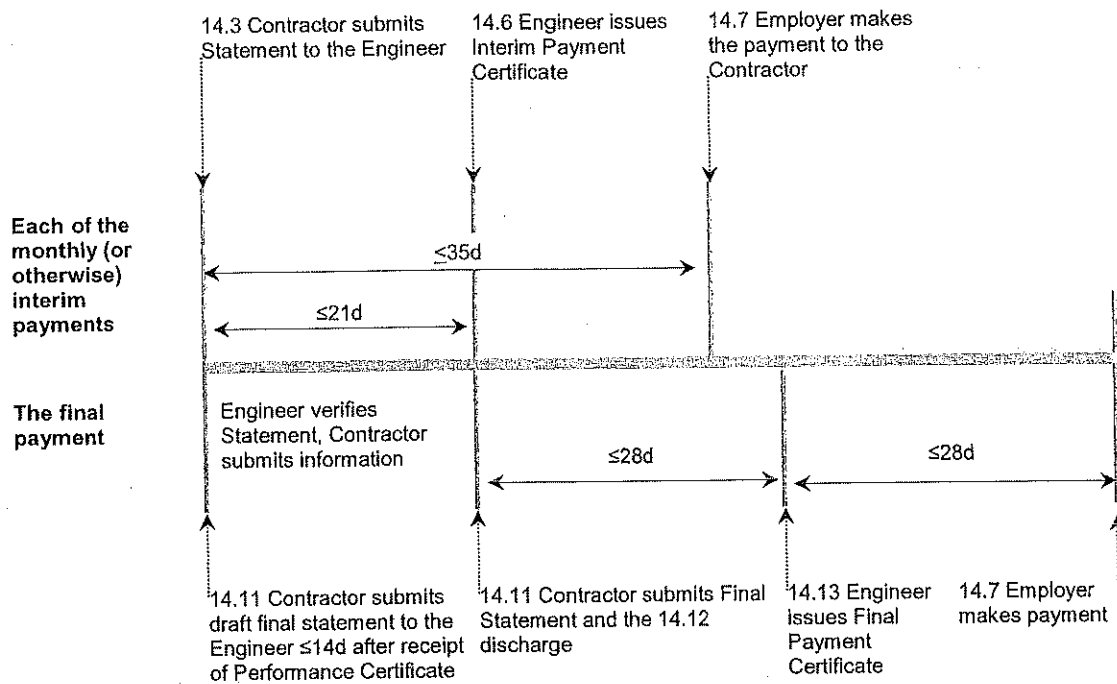
1.1.3.1	&	13.7	Base Date
1.1.3.2	&	8.1	Commencement Date
1.1.6.6	&	4.2	Performance Security
1.1.4.7	&	14.3	Interim Payment Certificate
1.1.3.3	&	8.2	Time for Completion (as extended under 8.4)
1.1.3.4	&	9.1	Tests on Completion
1.1.3.5	&	10.1	Taking-Over Certificate
1.1.3.6	&	12.1	Tests after Completion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

The charts referred to above are reproduced on the following two pages, amended and amplified where necessary to conform to the Particular Conditions for this Contract. The charts are illustrative and must not be taken into consideration in the interpretation of the Conditions of Contract.

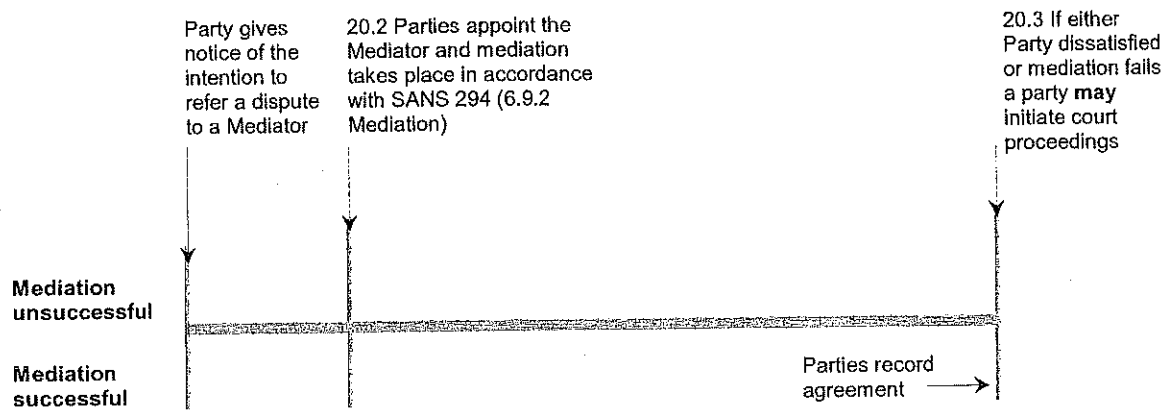


Typical sequence of Principal Events during Contracts for Plant and Design-Build (Modified to suit this Contract)

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



Typical Sequence of Payment Events Envisaged in Clause 14 (Modified to suit this Contract)



Typical Sequence of Dispute Events Envisaged in Clause 20 (Modified to suit this Contract)

APPENDIX TO TENDER

Part 1 : Contract Data completed by the Employer

Item	Sub-Clause	Entry						
Employer's name and address	1.1.2.2 & 1.3(b)	CITY OF CAPE TOWN, represented by the Director: Water and Sanitation, Tower Block, Civic Centre, 12 Hertzog Boulevard, Cape Town, 8001 and/or such other person or persons duly authorised thereto by the Employer in writing; the Employer is referred to in this Contract Document by the terms "Employer", "City of Cape Town" or "Council" as the context provides.						
The Engineer is:	1.1.2.4 & 1.3	..., Cape Town, ..., represented by a director, associate or an employee duly authorised thereto in writing.						
The Engineer's address for receipt of communications is:		e-mail: Physical Address: Postal Address:						
Time for Completion of the Works	1.1.3.3 & 8.2	<table><tr><th>Section of the Works</th><th>Period after Commencement Date</th></tr><tr><td>Section A</td><td>795 days</td></tr><tr><td>Section B</td><td>1077 days</td></tr></table> These periods include the 14 day period referred to in Sub-Clause 8.1 and the 56 day trial operation period referred to in Sub-Clause 9.1 of the Particular Conditions. Based on an anticipated Commencement Date of 2017-03-16, Section A shall be completed by 2019-05-20 and Section B shall be completed by 2020-02-26.	Section of the Works	Period after Commencement Date	Section A	795 days	Section B	1077 days
Section of the Works	Period after Commencement Date							
Section A	795 days							
Section B	1077 days							
Defects Notification Period	1.1.3.7	365 days						
Special non-working days	1.1.3.9	The Special non-working days are: a) all statutory holidays as declared by National Government, and b) the year-end builder's holidays of: i) 15 December 2017 to 5 January 2018 inclusive for the second year of the Contract; ii) 14 December 2018 to 4 January 2019 inclusive for the third year of the Contract; iii) 13 December 2019 to 3 January 2020 inclusive for the third year of the Contract; and						

Item	Sub-Clause	Entry						
		iv) 11 December 2020 to 4 January 2021 inclusive for the third year of the Contract						
Electronic transmission systems	1.3(a)	Formal signed correspondence may be scan copied in PDF format and issued via email messaging for information (the originals sent as per method of formal communication). All other correspondence may be affected directly by email messaging.						
Governing Law	1.4	Republic of South Africa						
Ruling language	1.4	English						
Language for communications	1.4	English						
Time for access to, and possession of, the Site	2.1*	The right and possession are not exclusive to the Contractor. The right of access to and possession of the Site shall be in terms of the Work Breakdown Schedule and the Right of Access to Site specified in Scope of Work, Part C3.5: Management.						
Amount of Performance Security	4.2	7 % of the Accepted Contract Amount, in South African Rands (ZAR)						
Period for notifying unforeseeable errors, faults and defects in the Employer's Requirements	5.1	21 days						
Time for submission of Contractor's Documents required in terms of Phase 2: Design of the Work Breakdown Schedule specified in Scope of Works, Part C3.5: Management	5.2	42 days						
Normal working hours	6.5	07:30 to 17:30 on days other than locally recognised days of rest and special non-working days						
Locally recognised days of rest	6.5	Sundays						
Time for submission of programme	8.3	Within 14 days of receipt of notice under 8.1						
Amount of penalties	8.7(c) & 14.15(b)	<table><tr><th>Section of the Works</th><th>Amount of Penalties (Exclusive of VAT)</th></tr><tr><td>Section A</td><td>R 50 000 per day</td></tr><tr><td>Section B</td><td>R 30 000 per day</td></tr></table>	Section of the Works	Amount of Penalties (Exclusive of VAT)	Section A	R 50 000 per day	Section B	R 30 000 per day
Section of the Works	Amount of Penalties (Exclusive of VAT)							
Section A	R 50 000 per day							
Section B	R 30 000 per day							
Maximum amount of Delay penalties	8.7	No limit						
Adjustments for Changes in Cost	13.8	The Contract Price shall be subject to Contract Price Adjustment in strict accordance with Sub-Clauses 13.8.1 and 13.8.2 in the Particular Conditions.						
Advance payment	14.2	20% of the value of any one item being claimed.						
Percentage of retention	14.3(d)*	10% up to a limit of 5% of the contract value, reducing by half for the duration of the defects notification period						
Limit of Retention Money	14.3(d)*	No limit						

Item	Sub-Clause	Entry
Minimum amount of Interim Payment Certificates	14.6	No minimum
Currency/currencies of payment	14.15	Rand, as named in that section of the Form of Offer and Acceptance called "Offer"
Periods for submission of insurance:		
(a) evidence of insurance	18.1*	14 days
(b) relevant policies	18.1	14 days
Maximum amount of deductibles for insurance of the Employer's risks	18.2(d)	Not applicable
Minimum amount of third party insurance	18.3	R20 000 000,00
Disputes	20	Dispute resolution shall be by mediation failing which by court proceedings
Name of entity or official for appointment of Mediator	20.2*	President of the South African Institution of Mechanical Engineers
*See Particular Conditions		

APPENDIX TO TENDER (CONTD)

Part 2 : Contract Data completed by the Contractor

Item	Sub-Clause	Entry
Contractor's name is	1.1.2.3 & 1.3(b)	
The Contractor's address for receipt of communication is		
Contractor's Representative's name	4.3	
Percentage profit on additional work and provisional sums	13	Based on typical mark-ups for similar items in the Bill of Quantities.
The Tenderer shall complete the above Part 2 of the Appendix to Tender.		

SIGNED ON BEHALF OF TENDERER.....

PARTICULAR CONDITIONS

The Particular Conditions are:

1 General Provisions

Sub-Clause 1.1 Definitions

1.1.1 The Contract

1.1.1.1 is deleted and replaced by:

"**Contract**" means the Form of Offer and Acceptance, Contract Data, these General Conditions, the Employer's Requirements, the Drawings, the Schedules, and the further documents (if any) which are listed in the Form of Offer and Acceptance, and further includes drawings and documents or parts thereof which any of the aforesaid documents incorporate by reference.

1.1.1.2 is deleted and replaced by:

"**Contract Agreement**" means the document called "Form of Offer and Acceptance".

1.1.1.3 is deleted and replaced by:

"**Letter of Acceptance**" means that section of the Form of Offer and Acceptance called "Acceptance".

1.1.1.4 is deleted and replaced by:

"**Letter of Tender**" means that section of the Form of Offer and Acceptance called "Offer".

1.1.1.5 is deleted and replaced by:

"**Employer's Requirements**" means the document called "Scope of Work", as included in the Contract, and any additions and modifications to such document in accordance with the Contract. Such document specifies the purpose, scope, and/or design and/or other technical criteria, for the Works, and includes the Specifications, which may be included in a separate volume (Volume 2A).

1.1.1.6 is deleted and replaced by:

"**Schedules**" means the Returnable Schedules and Documents that are identified in T2.1 to be part of the Contractor's Proposal, and which are completed by the Contractor and submitted with the tender. Such document(s) may include data, lists and schedules of payments and/or prices.

1.1.1.7 is deleted and replaced by:

"**Contractor's Proposal**" means the information which the Contractor submitted with the Form of Offer and Acceptance, as included in the Contract. Such information shall include the information listed in Schedule 18 in Part T2.2 Returnable Schedules and may also include the Contractor's preliminary design and all other schedules indicated as "Part of Contractor's Proposal".

1.1.1.8 is deleted and replaced by:

"**Tender**" means that section of the Form of Offer and Acceptance called "Offer" and all other documents which the Contractor submitted as Returnable Documents, as included in the Contract.

1.1.1.9 is deleted and replaced by:

"**Appendix to Tender**" means the completed section entitled appendix to tender included in the Contract Data.

Add the following Sub-Clause after Sub-Clause 1.1.1.10:

1.1.1.11

"**Returnable Schedules**" means the Schedules contained in Part T2.2 in the Tender Data and Part C2.1 in the Pricing Data, and "**Schedules of Quantities**" means the document entitled schedules of quantities contained in Part C2.2 in the Pricing Data.

1.1.2 Parties and Persons

1.1.2.3 is deleted and replaced by:

"Contractor" means the person(s) named as Contractor in that section of the Form of Offer called "Offer" accepted by the Employer and the legal successors in title to this person(s).

1.1.2.9 is deleted and replaced by:

"Mediator" means the person appointed under Sub-Clause 20.2 [*Mediation*] in the Contract Data.

1.1.3 Dates, Tests, Periods and Completion

1.1.3.1 is deleted and replaced by:

"Base Date" means the date 7 days prior to the closing date for the submission of the Tender.

1.1.3.2 is deleted and replaced by:

"Commencement Date" means the date the Contractor receives the fully completed Form of Offer and Acceptance.

Add the following to the end of Sub-Clause 1.1.3.9:

"Where a specific number of days is allowed in the Contract for the performance of any act or is stipulated for the extinction of any right or the duration of any event or circumstance, the special non-working days as stated in the Appendix to Tender shall be excluded from the calculation of the number of days concerned.

1.1.4 Money and Payments

1.1.4.1 is deleted and replaced by:

"Accepted Contract Amount" means the amount accepted in that section of the Form of Offer and Acceptance called "Acceptance" for the execution and completion of the Works and the remedying of any defects.

1.1.4.6 is deleted and replaced by:

"Foreign Currency" means a currency in which part (if any) of the Contract Price is payable, but not the Local Currency.

Add the following Sub-Clause after Sub-Clause 1.1.4.12:

1.1.4.13 **"Contract Price Adjustment"** means the adjustment to be included in the Contract Price for fluctuations in the Cost of Plant and Materials, Site Installation, General Items (comprising General Requirements and Conditions, Health and Safety, Environmental Management, Sundries, etc.), and Variations in Rates of Exchange, Customs Surcharge and Customs Duty, all as provided for in Sub-Clause 13.8 [*Adjustments for Changes in Cost*] in the Contract Data.

1.1.5 Works and Goods

1.1.5.6 is deleted and replaced by:

"Section" means a part of the Works specified in the Appendix to Tender as a Section (if any), or a part of the Works specified as a Section during the course of the Contract by the Employer (such Section may be an item of Plant).

1.1.6 Other Definitions

Add the following Sub-Clause after Sub-Clause 1.1.6.9:

1.1.6.10 **"Letter of Notification"** means the letter 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 Form of Offer and no rights shall accrue.

Add to Sub-Clause 1.1:

“1.1.7 Terms that may be used elsewhere in other portions of the Contract documents

1.1.7.1 “Certificate of Completion” is synonymous with “Taking-over Certificate”.

1.1.7.2 “Defects Liability Period” is synonymous with “Defects Notification Period”.

1.1.7.3 “Performance Guarantee” is synonymous with “Performance Security”.

1.1.7.4 “Final Approval Certificate” and “Final Certificate” are synonymous with “Performance Certificate”.

1.1.7.5 “Contract Price Adjustment Factor” is synonymous with “table of adjustment data” as used in Sub-Clause 13.8 [Adjustments for Changes in Cost].

1.1.7.6 “Site Agent” is synonymous with “Contractor’s Representative”.

1.1.7.7 “Plant” is synonymous with “Contractor’s Equipment” where the context so indicates.

1.1.7.8 “Agreement” is synonymous with “Contract Agreement”.

Sub-Clause 1.5 Priority of Documents

Deleted and replaced by:

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 Appendix to Tender within the Contract Data,
- (c) the Particular Conditions within the Contract Data,
- (d) these General Conditions,
- (e) the Employer’s Requirements,
- (f) the Drawings, and
- (g) the Schedules.

If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.

Sub-Clause 1.6 Contract Agreement

Deleted and replaced by:

The Parties shall enter into a Contract Agreement after the Contractor is called upon to do so by the Employer. The Agreement shall be the fully completed Form of Offer and Acceptance contained in the Contract Document.

Sub-Clause 1.8 Care and Supply of Documents

Delete “six copies” in the second sentence of the first paragraph and replace with “three copies”.

2 The Employer

Sub-Clause 2.1 Right of Access to the Site

Delete “Performance Security has been received” and replace with “Performance Security and all documentation required to be submitted in terms of Sub-Clause 8.1 in the Particular Conditions has been received and approved by the Engineer”.

Add the following to the end of the first sentence in the first paragraph:

(where a date is stated in lieu of a number of days, such date shall be independent of the Commencement Date)

Delete sub-paragraph (b) and replace with:

(b) payment, which shall be included in the Contract Price, as follows:

An item has (or items have) been included in the Schedules of Quantities to cover Cost resulting from a delay in terms of Sub-clause 8.4(e) in the event of the Employer failing to give the Contractor access to, and possession of, the Site within the time (or times) stated in the Appendix to Tender.

The period of delay which may be allowed by the Engineer and paid for under this sub-paragraph shall be agreed margins of latitude to cover delays, normally beyond control of the Employer, for which the Contractor may be compensated by the stipulated amount. These delays shall not be regarded as an instruction to suspend the work in terms of Sub-Clause 8.8 [*Suspension of Work*].

The amount tendered shall include for all additional Cost incurred as a result of such delays, including but not limited to financing; protection, storage and securing of the Works against deterioration, loss or damage; extension of warranties; labour; handling; insurance; overheads; etc.; and profit. Should no delays be experienced in terms of this sub-paragraph, the sum included in the Schedules of Quantities therefor shall be excluded from the Contract Price.

For Contracts subject to Adjustment for Changes in Cost (Sub-Clause 13.8 in the Particular Conditions) the abovementioned amount shall be regarded as "extra over" any Contract Price Adjustment.

Add the following:

The Site shall consist of the general area of the new inlet works, lifting stations and diversion structure. It shall also consist of the general area of the PST's, primary sludge pump station, MBR transfer pump station and dewatering facility. Possession of the Site shall not affect the City of Cape Town's or the designated works operator's duty to operate and maintain the Zandvliet WWTW.

Access to, and possession of, the Site will be granted for the purpose of executing the specified Works. The Contractor shall be aware that the Zandvliet WWTW is in permanent use and that CoCT and designated operator's staff will be present in the area.

The entrance to the Zandvliet WWTW is off Baden Powell Drive as indicated on the Locality Plan on page 3. A new access road and entrance gate will be constructed by other as part of the civil construction contract.

It is anticipated that the Employer will give the Contractor access to, and possession of, the Site within the time stated in the Appendix to Tender, provided that all documentation required to be submitted in terms of Sub-Clause 8.1 in the Particular Conditions has been approved by the Engineer.

Sub-Clause 2.4 Employer's Financial Arrangements

Delete this Sub-Clause.

Sub-Clause 2.5 Employer's Claims

Insert "or by law" after "Contract" in the first sentence of the first paragraph.

Delete the second sentence of the last paragraph.

3 The Engineer

Sub-Clause 3.1 Engineer's Duties and Authority

Add the following at the end of the third paragraph:

The requirements for the Engineer to obtain the approval of the Employer before exercising a specified authority are:

- (a) The issuing of instructions for dealing with fossils and the like in terms of Sub-Clause 4.24.
- (b) Giving consent for work to be carried out on days of rest or outside normal working hours in terms of Sub-Clause 6.5 (b).
- (c) The approval of a revised programme and supporting report in order to expedite progress in terms of Sub-Clause 8.6.
- (d) Agreeing to advance payment in terms of Sub-Clause 14.2, for items not listed in the Advance Payment Schedule.

Sub-Clause 3.4 Replacement of the Engineer

Deleted and replaced by:

The Employer shall have the right to replace the Engineer.

4 The Contractor

Sub-Clause 4.2 Performance Security

Delete the first sentence of the second paragraph and replace with:

The Contractor shall deliver the Performance Security to the Employer within 14 days from the Commencement Date.

Add the following at the end of the second paragraph:

The form of Performance Security 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, as listed in the Annexure attached thereto.

Sub-Clause 4.3 Contractor's Representative

Add the following after "Contract," in the first line of the second paragraph: "as provided for in Part 2 of the Appendix to Tender,".

Delete "prior to the Commencement Date" in the first sentence of the second paragraph and replace with "within 14 days from the Commencement Date".

Sub-Clause 4.4 Subcontractors

Delete "28 days' notice" in sub-paragraph (c) and replace with "14 days' notice".

Sub-Clause 4.8 Safety Procedures

Add the following:

The Contractor's attention is also drawn to Sub-Clause 4.22(c) in the Particular Conditions, and to the Health and Safety Specification in the Employer's Requirements.

Sub-Clause 4.10 Site Data

Add the following:

The "relevant data" referred to in the first sentence of the first paragraph shall be as contained in the Employer's Requirements, if applicable

Sub-Clause 4.16 Transport of Goods

Delete "and" after sub-paragraph (b) and add the following to sub-paragraph(c):

In this regard the Contractor's attention is also drawn to Sub-Clause 18.2(f)(i) in the Particular Conditions; and

Add the following sub-paragraph:

(d) the Contractor shall provide all lifting facilities unless specified otherwise in the Detailed Mechanical Specification in the Employer's Requirements.

Sub-Clause 4.17 Contractor's Equipment

Add the following:

The Contractor shall provide all necessary storage facilities on Site.

Sub-Clause 4.18 Protection of the Environment

Add the following:

The Contractor's attention is also drawn to the Environmental Management Specification in the Employer's Requirements.

Sub-Clause 4.19 Electricity, Water and Gas

Delete "and prices" and "and for measuring the quantities consumed" in the second paragraph.

Delete "shall be entitled" and "are given" in the first and third lines of the second paragraph and replace with "may be entitled" and "may be given", respectively.

Delete the last paragraph.

Sub-Clause 4.21 Progress Reports

Deleted and replaced by:

Progress reports (if any) shall be prepared and submitted as specified in the Employer's Requirements.

Sub-Clause 4.22 Security of the Site

Add the following sub-paragraph:

- (c) The Contractor shall in connection with the Works provide and maintain at his own cost all lights, guards, fencing, watching and other appropriate security measures when and where necessary or required by the Engineer or by any competent statutory or other authority for the protection and security of the Works and the Contractor's Equipment, or for the safety and convenience of the public and for the protection of life and property.

Sub-Clause 4.23 Contractor's Operations on Site

Add the following:

The Contractor shall protect and cover up all works as may be required and take all other precautions necessary to avoid causing damage or soiling of new and existing plant, equipment, buildings and structures. This shall inter alia apply when activities such as abrasive blasting, painting, welding, grinding, sealing, lagging and so forth, must be performed on the Site. The Contractor shall, on completion, remove all covers and shall at his cost rectify all soiling and damage to finishes to the satisfaction of the Engineer.

5 Design

Sub-Clause 5.1 General Design Obligations

Add the following at the end of the first paragraph:

The Contractor's design shall comply with the Employer's outline design in Volume 2A. Where the Contract is based on an alternative tender offer submitted in terms of F.2.12.1 in Part T1.2 Tender Data 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.

In the third paragraph:

Delete "Upon receiving notice under Sub-Clause 8.1" in the first sentence of the third paragraph and replace with "Subject to the provisions of Sub-Clause 8.1".

Sub-Clause 5.2 Contractor's Documents

In Sub-Clause 5.2, the sixth paragraph, delete Sub-paragraph (a)(iii).

In Sub-Clause 5.2, add the following to the end of the sub-clause: "The Contractor shall submit the Contractor's Documents required in terms of Phase 2: Design of the Work Breakdown Schedule specified in C3.5 of the Scope of Work within the time stated in the Appendix to Tender."

Sub-Clause 5.5 Training

Add the following:

Particular training requirements are specified in the Standard Specification for Mechanical Works in Volume 2A.

6 Staff and Labour

Sub-Clause 6.5 Working Hours

Add the following:

The days of rest referred to in the first line are: Saturdays, Sundays and all gazetted public holidays.

Sub-Clause 6.7 Health and Safety

Delete the second sentence in the first paragraph and delete the second paragraph.

Add the following:

The Contractor's attention is also drawn to the Health and Safety Specification in the Employer's Requirements.

The Employer and the Contractor shall enter into an agreement to complete the work required for the construction of the Works in terms of the provisions of Section 37(2) of the Occupational Health and Safety Act, 85 of 1993 and the Construction Regulations, 2014 promulgated thereunder.

An agreement is included in the Contract Document (Part C1.5 in Agreements and Contract Data) and shall be completed and submitted to the Employer together with a letter of good standing from the Compensation Commissioner (if not insured with a licenced compensation insurer) within fourteen (14) days after the Commencement Date. The Contractor shall ensure that any letter of good standing shall be timeously renewed in order that it remains in full force for the duration of the Contract.

Sub-Clause 6.9 Contractor's Personnel

In Sub-Clause 6.9, after the first sentence, insert "The Contractor shall assign suitable Personnel to each of the Key Personnel Roles identified in the respective Returnable Schedule submitted with the Tender Offer, who shall be dedicated to these roles full-time for the period stated in the schedule where applicable. The personnel proposed in the abovementioned Returnable Schedule shall not be changed without written permission of the Engineer, and such permission will not be granted unless the alternate scores the same or higher than the originally offered key person in terms of the Functionality Criteria prescribed in T1.2: Tender Data.

Sub-Clause 6.10 Records of Contractor's Personnel and Equipment

Add the following:

The Contractor shall also submit the monthly returns as described in the Scope of Work, Part C3.5 Management, Clause 8.

7 Plant, Materials and Workmanship

Sub-Clause 7.3 Inspection

Add the following after the last paragraph:

The Contractor shall ensure that Plant and equipment complies with the specified requirements before arranging for the Engineer's factory inspections. The Contractor shall then make all arrangements for the Engineer to perform the inspections specified in the Detailed Mechanical Specification and/or the Detailed Electrical Specification. The Contractor shall carry all costs related to any inspection, unless otherwise provided for in this Sub-Clause.

An item has been included in the Schedules of Quantities for the Contractor to arrange for the Engineer to perform specified inspections outside the Cape Metropolitan Area, including the Engineer's travelling and associated costs.

The purpose of these inspections is to reduce the risk of non-compliant Plant and equipment being transported to Site. The inspections do not reduce the Contractor's responsibility for complying with the Contract.

Sub-Clause 7.4 Testing

Add the following:

Notwithstanding anything to the contrary contained in this in Sub-Clause, the City of Cape Town will provide all dosing consumables, unless the Detailed Mechanical Specification states otherwise.

8 Commencement, Delays and Suspension

Sub-Clause 8.1 Commencement of Work

Delete the first paragraph.

Delete the words "the design and execution of the Works as soon as is reasonably practicable after" in the second paragraph and replace with "executing the Works within 14 days from".

Add the following:

Notwithstanding the above, the Contractor will not be permitted to commence executing the Works before the following documentation has been submitted and approved by the Engineer:

- (a) Performance Security (refer to Sub-Clause 4.2 in the Particular Conditions)
- (b) Occupational Health and Safety Agreement (refer to Sub-Clause 6.7 in the Particular Conditions)
- (c) Letter of good standing from the Compensation Commissioner, or a licensed compensation insurer (refer to Sub-Clause 6.7 in the Particular Conditions)
- (d) Evidence that insurances have been effected (refer to Sub-Clause 18.1 in the Particular Conditions)
- (e) Protection of the Environment Declaration (Part C1.6 in Agreements and Contract Data)
- (f) Proof of Registration / Letter of Good Standing with the Metal and Engineering Industries Bargaining Council

Furthermore, the Contractor will not be given access to, and possession of the Site, until the following documentation has been submitted and approved by the Engineer:

- (g) Contractor's Documents (Part C3.2 Engineering in the Scope of Work)
- (h) Health and Safety Plan (refer to the Health and Safety Specification in Volume 2A)
- (i) Method Statements (refer Environmental Management Specification in Volume 2A)

Sub-Clause 8.2 Time for Completion

Add the following before the full stop at the end of sub-paragraph (a):

"including achieving the passing of the Tests on Completion which incorporate the Trial Operation Period referred to in Sub-Clause 9.1"

Sub-Clause 8.3 Programme

Delete the first sentence of the first paragraph and replace with:

The Contractor shall submit a detailed time programme to the Engineer within 28 days from the Commencement Date.

Add the following after the first paragraph:

The Contractor shall incorporate any programming restrictions that may be specified in Sub-Clause 2.1 in the Particular Conditions into the programme.

Sub-Clause 8.4 Extension of Time for Completion

Add the following:

Regarding sub-paragraph (c), no extension of the Time for Completion 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 exceptionally adverse climatic conditions shall be deemed to exist, and an extension of the Time for Completion shall be granted in accordance with the provisions of this Sub-Clause.

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 adverse 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

Sub-Clause 8.7 Delay Damages

Delete "Damages" in the title and "damages" in the body of this Sub-Clause and replace with "Penalties" in the title and "penalties" in the body, respectively.

Insert the following at the end of the second sentence in the first paragraph:

...or, in the event of termination by the Employer under Sub-Clause 15.2 [*Termination by Employer*], the actual date of termination.

Sub-Clause 8.10 Payment for Plant and Materials in Event of Suspension

Replace sub-paragraph (b) with the following:

- (b) the Contractor has provided an advance payment guarantee in accordance with Sub-Clause 14.2 in the Particular Conditions.

9 Tests on Completion

Sub-Clause 9.1 Contractor's Obligations

Add the following before the last paragraph of this Sub-Clause:

The Contractor shall provide all necessary test equipment, materials and tools and competent staff for the performance of the specified performance acceptance tests and shall submit for the approval of the Engineer certified copies of the calibration certificates for the test equipment.

In Sub-Clause 9.1, the third paragraph, Sub-paragraph (b), after "which shall include" insert "putting the whole of the Works into operation and".

In Sub-Clause 9.1, the third paragraph, Sub-paragraph (c), after "trial operation" insert "(if a trial operation is required in terms of the Appendix to the Tender or the Employer's Requirements and for the period stated therein)".

In Sub-Clause 9.1, insert the following after the fourth paragraph:

"The trial operation will be deemed to have commenced only once the Engineer certifies in writing to the Contractor and the Employer, that the Works have passed the commissioning tests in terms of Sub-Item (b). Such certification will be given within 21 days of receipt by the Engineer, of the documentation specified in the Scope of Work to be submitted by the Contractor to demonstrate that the Works have passed the commissioning tests. Further requirements concerning the Contractor's obligations during the trial operation are specified in the Employer's Requirements."

When all tests have been successfully completed to the satisfaction of the Engineer, a Trial Operation Period shall start and shall consist of a continuous period of operation of 56 days free from trouble. During the Trial Operation Period the Contractor shall carry out all necessary servicing and any adjustments required. The Council's site staff will assist the Contractor in operating the Works or Section during this period and at this time the Contractor shall train the Council's operational staff in the starting, operating and stopping of the Works or Section, and the Council's maintenance staff on the maintenance requirements and procedures.

When an extended performance test period is specified, the Trial Operation Period will run concurrently with the first 56 days of the performance acceptance test period.

Before the end of the Trial Operation Period the Contractor shall arrange for an acceptance inspection to be carried out together with the Engineer for the purpose of taking over the Works or Section in terms of Clause 10 [Employer's Taking Over].

Sub-Clause 9.4 Failure to Pass Tests on Completion

Add the following:

If the reduction referred to in the final paragraph, based on the extent of the failure, is defined in the Employer's Requirements, minimum acceptable performance criteria shall also be specified.

10 Employer's Taking Over

Deleted and replaced by:

Except as stated in Sub-Clause 9.4 [Failure to Pass Tests on Completion], the Works or a Section shall be taken over by the Employer when (i) the Works or Section have been completed in accordance with the Contract, including the matters described in Sub-Clause 8.2 [Time for Completion] and except as allowed below, and (ii) a Taking-Over Certificate for the Works or Section has been issued in accordance with this Sub-Clause.

At the end of the Trial Operation Period an acceptance inspection, referred to in Sub-Clause 9.1 in the Particular Conditions, shall be done by the Contractor and the Engineer for the purpose of taking over the Works or a Section.

Upon successful (trouble free) completion of the Trial Operation Period the Engineer shall, within 28 days, issue the Taking-Over Certificate to the Contractor, stating the date on which the Works or Section were completed in accordance with the Contract (including provision of the required Installation, Operation and Maintenance Manuals and "as built" drawings in terms of Part C3.5 Management in the Scope of Work), except for any minor outstanding work and defects which will not substantially affect the use of the Works or Section for their intended purpose (either until or whilst this work is completed and these defects are remedied).

If the Engineer fails to issue the Taking-Over Certificate within the period of 28 days, and if the Works or Section (as the case may be) are substantially in accordance with the Contract, taking-over shall be deemed to have occurred on the day of the successful completion of the Trial Operational Period, provided that the required Installation, Operation and Maintenance Manuals and "as built" drawings have been submitted to the Engineer, and this date shall be reflected on any Taking-Over Certificate subsequently issued.

Sub-Clause 10.2 Taking Over of Parts of the Works

In Sub-Clause 10.2, the second paragraph, Sub-paragraph (a), delete "it is used" and substitute "the trial operation ends".

Sub-Clause 10.3 Interference with Tests on Completion

Delete paragraphs 1 and 2 and replace with:

The Contractor is entitled to an extension of time and costs if prevented from carrying out the Tests on Completion by a cause for which the Employer is responsible.

Delete sub-paragraph (b) and replace with:

(b) payment, which shall be included in the Contract Price, as follows:

An item has been included in the Schedules of Quantities to cover Cost in the event that the Contractor cannot commence testing and commissioning within the contractually agreed period, and the resultant delay in the commencement of the Defects Notification Period, from causes not attributable to the Contractor.

The period of delay which may be allowed by the Engineer and paid for under this sub-paragraph shall be agreed margins of latitude to cover delays, normally beyond control of the Employer, for which the Contractor may be compensated by the stipulated amount. These delays shall not be regarded as an instruction to suspend the work in terms of Sub-Clause 8.8 [Suspension of Work].

The amount tendered shall include for all additional Cost incurred by such delays, including financing, storage, labour, handling, protection, insurance, overheads, etc., and profit. Should no delays be experienced in terms of this sub-paragraph, the sum included in the Schedules of Quantities therefor shall be deducted.

For Contracts subject to Adjustment for Changes in Cost (Sub-Clause 13.8 in the Particular Conditions) the abovementioned amount shall be regarded as "extra over" any Contract Price Adjustment.

11 Defects Liability

Sub-Clause 11.1 Completion of Outstanding Work and Remedying Defects

Add the following before the first paragraph:

A Defects Notification Period shall commence on the date stated in the Taking-Over Certificate for the Works or a Section, or the date that taking-over is deemed to have occurred in accordance with Sub-Clause 10.1 in the Particular Conditions (as the case may be).

Sub Clause 11.3 Extension of Defects Notification Period

Delete the first paragraph and replace with:

The Employer shall be entitled subject to Sub-Clause 2.5 [*Employer's Claims*] to an extension of the relevant Defects Notification Period for the Works or a Section if and to the extent that the Works or Section (as the case may be, and after taking-over) cannot be used for the purposes for which they are intended by reason of a defect or damage. However, a Defects Notification Period shall not be extended by more than five years.

13 Variations and Adjustments

Sub-Clause 13.1 Right to Vary

Delete the last sentence in the first paragraph.

Sub-Clause 13.3 Variation Procedure

Delete "and the Schedule of Payments" in the last paragraph.

Sub-Clause 13.5 Provisional Sums

Add the following to the last paragraph:

The number of quotations shall be three (3). Quotations shall include full technical descriptions as well as a breakdown of prices.

Sub-Clause 13.7 Adjustments for Changes in Legislation

Add the following to the first paragraph:

Any increase or decrease in the amount of Value Added Tax inserted in the Schedules of Quantities due to a change in the percentage rates applicable shall be the subject of adjustment under this Sub-Clause.

Sub-Clause 13.8 Adjustments for Changes in Cost

Deleted and replaced by:

13.8.1 General

The Accepted Contract Amount shall be deemed to have included amounts to cover the contingency of all other rises and falls in costs not covered by the provisions of this or other Clauses.

If provision has been made in the Appendix to Tender for prices to be subject to adjustment, such adjustments claimed by the Contractor shall be made in accordance with the Sub-Clauses referred to therein.

The following general provisions shall apply in all cases:

- (a) The Base Date shall be as defined in Sub-Clause 1.1.3.1 in the Particular Conditions.
- (b) Adjustments for changes in cost shall be calculated as if the Works are executed within the time for completion and no additional costs due to any work being executed outside the time for completion shall be payable unless the Engineer allows an extension of time in accordance with Sub-Clause 8.4 [Extension of Time for Completion] and Sub-Clause 8.4 in the Particular Conditions.
- (c) Claims for adjustments for changes in cost shall be supported by such documentary evidence that may be required by the Engineer. Failure to render this information may result in the rejection of claims for price adjustment.
- (d) The value of imported Plant and Materials shall be as defined in Sub-Clause 13.8.2.2.4.
- (e) No claims for adjustments for changes in cost will be accepted which are submitted later than 28 days after the date of issue of the Taking-Over Certificate.

13.8.2 Contract Price Adjustment

Contract Price Adjustment shall be as defined in Sub-Clause 1.1.4.13 in the Particular Conditions.

13.8.2.1 Plant and Materials Manufactured in South Africa

13.8.2.1.1 Permissible Adjustments

Adjustment to the Contract Price for the design, manufacture, painting, testing, supply, delivery, offloading and storage of Plant and Materials manufactured in the Republic of South Africa, shall be allowed **only** for variations in the cost of labour and material based on the indices published by the Steel and Engineering Industries Federation of South Africa (SEIFSA) using the method described in Sub-Clause 13.8.2.1.2.

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

Table C3	Index of actual labour cost
Table G	Statistics SA - production price index, Mechanical and Electrical Engineering Materials, as applicable
Table E -	EX Merchant Steel Price Index, Hot Rolled Sheets
Table Q -	(A) Index of stainless steel flat products (excluding imports), Hot rolled steel
Table Q -	1 (A) Corrosion resisting steel 3CR12, Hot rolled plate
Table N	Ruling price of certain electrical cable manufacturing materials, Copper rod 7,90 mm

13.8.2.1.2 Method of Price Adjustment

Adjustment of the total values inserted in the Schedules of Quantities for the design, manufacture, painting, testing, supply, delivery, offloading and storage of Plant and Materials manufactured in the Republic of South Africa shall be based on the following:

- (a) The estimated proportions (represented by the coefficients "b", "c", "d" and "e" in the formulae in sub-paragraph (b) below) of the total values shall be adjusted on the basis of the increase or decrease between the indices in the relevant tables at the Base Date and these indices at a date 42 days prior to the valuation date, for each month in which the Plant and Materials are contractually delivered to Site, by multiplying the monthly values certified by the relevant Adjustment Factor in the formulae in sub-paragraph (b) below.

(b) the applicable formulae are:

Mechanical Plant and Materials

$$A = a + b \frac{L_n}{L_o} + c \frac{M_n}{M_o} + d \frac{S_n}{S_o} + e \frac{SS_n}{SS_o} - 1$$

where

A	=	Adjustment Factor rounded off to the sixth decimal place
a	=	0.10 Fixed coefficient (non-adjustable portion)
b	=	0.15)
c	=	0.35) Coefficients (sum of these coefficients shall be 0,90)
d	=	0.25)
e	=	0.15)
L _n	=	Current labour index in Table C3
L _o	=	Base labour index in Table C3
M _n	=	Current mechanical engineering materials index in Table G
M _o	=	Base mechanical engineering materials index in Table G
S _n	=	Current steel price index in Table E-EX
S _o	=	Base steel price index in Table E-EX
SS _n	=	Current stainless steel index type 316 in Table Q-(A)
SS _o	=	Base stainless steel index type 316 in Table Q-(A)

"Current" indices are those applicable 42 days prior to date of claim, as stated in sub-paragraph (a) above

"Base" indices are those applicable at Base Date, as stated in sub-paragraph (a) above

Electrical Plant and Materials

$$A = a + b \frac{L_n}{L_o} + c \frac{E_n}{E_o} + d \frac{CR_n}{CR_o} + e \frac{C_n}{C_o} - 1$$

where

A	=	Adjustment Factor rounded off to the sixth decimal place
a	=	0.10 Fixed coefficient (non-adjustable portion)
b	=	0.10)
c	=	0.30) Coefficients (sum of these coefficients shall be 0,90)
d	=	0.20)
e	=	0.30)
L _n	=	Current labour index in Table C3
L _o	=	Base labour index in Table C3
E _n	=	Current electrical engineering materials index in Table G
E _o	=	Base electrical engineering materials index in Table G
CR _n	=	Current 3CR12 steel index in Table Q -1 (A)
CR _o	=	Base 3CR12 steel index in Table Q -1 (A)
C _n	=	Current copper rod index in Table N
C _o	=	Base copper rod index in Table N

"Current" indices are those applicable 42 days prior to date of claim, as stated in sub-paragraph (a) above

"Base" indices are those applicable at Base Date, as stated in sub-paragraph (a) above

(c) The value of any Plant and Materials imported from outside South Africa inserted in Schedule 21 and subject to Sub-Clause 13.8.2.2(a) shall be deducted from the total values to be adjusted by the SEIFSA Index adjustment. Any Plant and Materials not inserted in Schedule 21 shall be deemed to be manufactured in South Africa for the purposes of Contract Price Adjustment.

13.8.2.2 Plant and Materials Imported from Outside South Africa

13.8.2.2.1 Permissible Adjustments

Adjustment to the Contract Price for the design, manufacture, painting, testing, supply, delivery, offloading and storage of any Plant and Materials imported from outside the Republic of South Africa will be permitted **only** in respect of the following variables:

- (a) Variations in Rates of Exchange as detailed in Sub-Clause 13.8.2.2.2,
- (b) Variations in Customs Surcharge and Customs Duty as detailed in Sub-Clause 13.8.2.2.3, and
- (c) Labour and material cost variations in the mechanical and electrical industries of the countries from which the Plant and Materials are imported as detailed in Sub-Clause 13.8.2.2.5.

13.8.2.2.2 Variations in Rates of Exchange

Adjustment for variations in rates of exchange shall be based on the following:

- (a) The Tenderer shall have completed Schedule 20 for all imported Plant and Materials intended to be subject to variations in rates of exchange, subject to the following:
 - i. the value in foreign currency inserted in column (A) shall be subject to Sub-Clause 13.8.2.2.2(e) when recalculating the Rand value,
 - ii. the rate of exchange inserted in column (B) shall be the closing spot selling rate quoted by Council's main banker, ABSA, on the Base Date, rounded to the second decimal place, subject to sub-paragraph iii. below,
 - iii. 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, and
 - iv. if a quotation 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 (b) below.
- (b) 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 in Schedule 20.
- (c) 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.
- (d) Based on the evidence provided in sub-paragraph (c) above, the value in Rand inserted in column (C) of Schedule 20 shall be recalculated using the forward cover rate obtained, and any increase or decrease in the Rand value defined in Sub-Clause 13.8.2.2.4 shall be adjusted accordingly, subject to sub-paragraph (e) below.
- (e) 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 Schedule 20, then the value in column (A) shall be used.

13.8.2.2.3 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 in Schedule 20 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 Engineer of any changes which occur.

13.8.2.2.4 Value of Imported Plant and Materials at Base Date

The Rand value of imported Plant and Materials inserted in Schedule 20 (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 Council's main banker, ABSA, on the Base 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)).

13.8.2.2.5 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.

13.8.2.3 Site Installation and General Items

For the purpose of this Sub-Clause, General Items (defined below) are included with Site Installation for the sake of convenience, and which otherwise have no relationship with each other.

General Items shall comprise General Requirements and Conditions, Health and Safety, Environmental Management, Sundries, and any other items so described or implied in the Schedules of Quantities to be adjusted under this Sub-Clause.

Adjustment of the total values inserted in the Schedules of Quantities for Site Installation and General Items, shall be based on the following:

- (a) No Contract Price Adjustment shall be applied to the total values in respect of providing the Performance Security (Demand Guarantee under URDG 758) and Insurances.
- (b) The estimated proportion (represented by the 0.90 coefficient in the formula in sub-paragraph (c) below) of the total values shall be adjusted on the basis of the increase or decrease between SEIFSA Table C3(A) Index of actual labour cost (field force) where subsistence allowance is paid, at the Base Date and this index at the valuation date, for each month in which the work is contractually executed, by multiplying the monthly values certified by the Adjustment Factor in the formula in sub-paragraph (c) below.
- (c) the applicable formula is:

Site Installation and General Items

$$A = 0.10 + 0.90 \frac{L_n}{L_o} - 1$$

where

A	=	Adjustment Factor rounded off to the sixth decimal place
0.10	=	Fixed coefficient (non-adjustable portion)
0.90	=	Coefficient
L_n	=	Current labour index in Table C3(A)
L_o	=	Base labour index in Table C3(A)

"Current" index is that applicable at the valuation date, as stated in sub-paragraph (b) above

"Base" index is that applicable at Base Date, as stated in sub-paragraph (b) above

14 Contract Price and Payment

Sub-Clause 14.1 The Contract Price

Delete sub-paragraphs (c) and (d) and replace with:

- (c) prices entered in the Schedules of Quantities, together with any schedule of rates for which provision is made in a Schedule, will be used for calculating the value of completed works for the purpose of interim payments or for determining the value of changes, omissions and additions for variation instructions when in the opinion of the Engineer such prices are applicable.
- (d) the amounts of work and material given in the Schedules of Quantities are not to be considered as limiting or extending the amount of work to be done or material to be supplied by the Contractor.
- (e) the percentage completion of the amounts of work and materials given in the Schedules of Quantities shall be determined by the Engineer for interim payment certificates when checking the Contractor's Statement referred to in Sub-Clause 14.3 [Application for Interim Payment Certificates] and Sub-Clause 14.6 [Issue of Interim Payment Certificates].

Sub-Clause 14.2 Advance Payment

Deleted and replaced by:

Subject to sub-paragraphs (a) and (e) of Sub-Clause 14.3 in the Particular Conditions, 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 Sub-Clause.

Unless and until the Employer receives this guarantee, the following paragraphs shall not apply.

The Engineer shall issue an Interim Payment Certificate for, or including, advance payment after receiving a Statement under Sub-Clause 14.3 [Application for Interim Payment Certificates] 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 Sub-Clause and elsewhere by reference to this Sub-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.

Sub-Clause 14.3 Application for Interim Payment Certificates

Delete "in six copies" in the first line of the first paragraph.

Delete "supporting documents" in the fourth line of the first paragraph and replace with "receipts and supporting documents".

Delete sub-paragraphs (a) to (g) and replace with:

- (a) the estimated contract value (including Variations, but excluding items described in sub-paragraphs (b) to (f) below) of any approved Plant and Materials which have been delivered to Site but have not yet been installed, provided the conditions for delivery and storage specified in the Employer's Requirements are followed to the complete satisfaction of the Engineer;

except for the provisions of sub-paragraph (e) below, no such payment will be made for Plant and Materials stored elsewhere, unless in the event of suspension in terms of Sub-Clause 8.10 [Payment for Plant and Materials in Event of Suspension] and Sub-Clause 8.10 in the Particular Conditions, in which case sub-paragraph (e) below will also apply to such Plant and Materials;

- (b) the estimated contract value (including Variations, but excluding items described in sub-paragraphs (c) to (f) below) of any Site installation and General items, Health and Safety, Environmental Management and Sundry work executed, including the value of any other items so described or implied in the Schedules of Quantities to be included with this work, as determined from time to time until the commencement of the Defects Notification Period;
- (c) any amounts to be added and deducted for changes in legislation and changes in Cost, in accordance with Sub-Clause 13.7 [*Adjustments for Changes in Legislation*] and Sub-Clauses 13.7 and 13.8 in the Particular Conditions;
- (d) any amount to be deducted for retention, calculated by applying the percentage of retention stated in the Appendix to Tender to the total of the above amounts, until the amount so retained by the Employer reaches the limit of Retention Money (if any) stated in the Appendix to Tender;
- (e) the estimated value of Plant and Materials:
 - (i) 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;
 - (ii) 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 Sub-Clause 14.2 in the Particular Conditions and in the Advance Payment Schedule at the end of this Part C1.2 Contract Data;
- (f) any other additions or deductions (including fines or penalties) which have become due under the Contract or otherwise, including those under Sub-Clause 20.1 [*Contractor's Claims*] and Sub-Clauses 20.2 and 20.3 in the Particular Conditions;
- (g) the deduction of amounts certified in all previous Payment Certificates; and
- (h) any sales tax or value added tax which the law requires the Employer to pay to the Contractor.

Sub-Clause 14.4 Schedule of Payments

Delete this Sub-Clause.

Sub-Clause 14.5 Plant and Materials intended for the Works

Deleted and replaced by:

Interim Payment Certificates shall include, under sub-paragraphs (a) and/or (e) of Sub-Clause 14.3 in the Particular Conditions, the amount(s) for Plant and Materials to be incorporated into the Permanent Works and which have (i) been delivered to Site and/or (ii) not yet been delivered to Site and for which an advance payment guarantee has been provided in accordance with Sub-Clause 14.2 in the Particular Conditions.

Sub-Clause 14.6 Issue of Interim Payment Certificates

Delete "within 28 days" in the second sentence of the first paragraph and replace with "within 21 days".

Sub-Clause 14.7 Payment

Delete sub-paragraphs (a) to (c) and replace with:

- (a) the amount certified in each Interim Payment Certificate within 35 days after the Engineer receives the Statement and supporting documents; and
- (b) the amount certified in the Final Payment Certificate within 28 days after the Employer receives this Payment Certificate.

Add the following paragraph:

Notwithstanding the above, the Engineer shall be empowered to withhold the delivery of a payment certificate until the Contractor has complied with his obligations to submit the monthly returns in terms of Sub-Clause 6.10 in the Particular Conditions and as described in the Employer's Requirements.

Sub-Clause 14.9 Payment of Retention Money

Delete "the first half of the Retention Money shall be certified by the Engineer for payment to the Contractor" in the first sentence of the first paragraph and replace with "the Retention Money shall be reduced to 5% as stated in the Appendix to Tender."

Delete "the first half of" in the second sentence of the first paragraph.

Delete "certified and paid" in the second sentence of the first paragraph and replace with "reduced to 5%".

Delete "Promptly" in the first sentence of the second paragraph and replace with "Within 14 days".

Delete "percentage of the second half" in the second sentence of the second paragraph and replace with "balance".

Delete "certified and paid promptly" in the second sentence of the second paragraph and replace with "certified by the Engineer for payment to the Contractor".

Delete the last paragraph and replace with:

The relevant contract value for each Section shall be determined by the Engineer, based on the Schedules of Quantities and any variations and adjustments thereto.

Sub-Clause 14.10 Statement at Completion

Delete "Within 84 days" in the first paragraph and replace with "Within 14 days".

Delete "six copies of" in the first paragraph.

Sub-Clause 14.11 Application for Final Payment Certificate

Delete "Within 56 days" in the first paragraph and replace with "Within 14 days".

Delete "six copies of" in the first paragraph.

Sub-Clause 14.15 Currencies of Payment

Delete "damages" in sub-paragraph (b) and replace with "penalties".

Add the following new Sub-Clause:

Sub-Clause 14.16 Tax Invoices

Section 20(1) of the Value Added Tax Act, 89 of 1991 requires that a supplier (person supplying goods or services) who is registered as a VAT vendor issue to the recipient a tax invoice within 21 days of the date of a supply whether requested or not.

The Contractor shall provide a tax invoice (VAT invoice) which shall be included with each Payment Certificate and a Final Payment Certificate delivered to the Employer by the Engineer in terms of Sub-Clause 14.6 [*Issue of Interim Payment Certificates*] and Sub-Clause 14.6 in the Particular Conditions, and Sub-Clause 14.13 [*Issue of Final Payment Certificate*], respectively. Failure by the Contractor to provide a tax invoice (VAT invoice) timeously may delay payment by the Employer and no interest shall accrue.

Tax invoices shall be dated as at the date of delivery of the Contractor's Statement to the Engineer.

15 Termination by Employer

Sub-Clause 15.2 Termination by Employer

Delete "or" at the end of sub-paragraph (e), replace the full stop with a comma after "termination" at the end of sub-paragraph (f), and add the following sub-paragraphs:

- (g) fails to provide the required insurances within the prescribed time,
- (h) has committed a corrupt or fraudulent act during the tender process or the execution of the Contract, or

- (i) has benefitted from an official or other role player committing any corrupt or fraudulent act during the tender process or in the execution of the Contract.

Delete "(e) or (f)" in the second sentence of the second paragraph and replace with "(e), (f), (h) or (i)".

16 Suspension and Termination by Contractor

Sub-Clause 16.1 Contractor's Entitlement to Suspend Work

Delete "Sub-Clause 2.4 [Employer's Financial Arrangements] or" in the first paragraph.

Sub-Clause 16.2 Termination by Contractor

Delete the content of sub-paragraph (a) and replace with "sub-paragraph deleted,".

17 Risk and Responsibility

Sub-Clause 17.3 Employer's Risks

Delete sub-paragraphs (a) to (h) and replace with:

- (a) war, invasion, act of foreign enemies, hostilities or warlike operations (whether war be declared or not) or civil war,
- (b) insurrection, rebellion or revolution,
- (c) mutiny, military rising, military or usurped power, martial law or state of siege, or any other event or cause which determines the proclamation or maintenance of martial law or state of siege,
- (d) any event which, at the Base Date, is defined as a risk in terms of insurance offered by the South African Special Risks Insurance Association,
- (e) any occurrence for which a fund has been established in terms of the War Damage Insurance and Compensation Act, as amended,
- (f) the impact of meteorites,
- (g) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- (h) ionising radiation or contamination by radioactivity from any nuclear fuel or from any nuclear waste from the combustion of nuclear fuels,
- (i) the use of or occupation by the Employer or the Employer's Personnel or the Employer's agents or other contractors (not employed by the Contractor) of any part of the Works,
- (j) the design, specification or instruction of the Engineer, Employer or any of their employees or agents, or defects in the materials supplied by the Employer for incorporation in the Works,
- (k) the confiscation, commandeering, nationalisation, requisition or destruction of or damage to property by an order of government, or any public or local authority, and
- (l) the fact that the value of materials, as supplied by the Employer for incorporation in the Works, exceeds the value thereof as specified by or on behalf of the Employer at the time of delivery thereof by the Employer.

Sub-Clause 17.4 Consequences of Employer's Risks

Delete "(f) and (g)" in the second line of sub-paragraph (b) and replace with "(i) and (j)".

18 Insurance

Sub-Clause 18.1 General Requirements for Insurances

Add the following:

The evidence that the insurances have been effected in terms of sub-paragraph (a) above, shall be in the form of an insurance broker's warranty worded precisely as given in Part C1.7 Insurance Broker's Warranty.

The Contractor shall be liable for the payment of the deductibles in respect of each claim settlement in terms of the policies effected by the Contractor.

In respect of Subcontractors, the Contractor shall be deemed to have complied with the provisions of the requirements relating to insurance by ensuring that the Subcontractors have effected such insurance.

Save as otherwise provided in the Contract, nothing herein contained shall oblige the Contractor to effect any insurance which is not generally obtainable from a registered insurer in South Africa.

The insurances shall be effected with an insurance company registered in South Africa and the terms thereof shall be subject to approval by the Employer, which approval shall not be unreasonably withheld.

If required, the Contractor shall provide proof to the Engineer that the Contractor is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in this Contract.

Sub-Clause 18.2 Insurance for Works and Contractor's Equipment

Delete "Sub-Clause 14.5 [*Plant and Materials intended for the Works*]" in sub-paragraph (e) (iv) and replace with "sub-paragraphs (a) and (e) of Sub-Clause 14.3 in the Particular Conditions".

Add the following sub-paragraph:

(f) which are to be effected and maintained by the Contractor and endorsed to note the interests of the Employer are:

- (i) transit insurance, including whilst in temporary storage and intended for incorporation in the Contract en route to Site,
- (ii) professional indemnity insurance; the Contractor shall ensure that all design work to be undertaken by the Contractor or on behalf of the Contractor is undertaken by registered professionals who carry adequate professional indemnity insurance to cover their liability for professional negligence. Proof of such insurance shall be submitted to the Engineer on demand, and
- (iii) 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, plant 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.

Sub-clause 18.3 Insurance against Injury to Persons and Damage to Property

Add the following sub-paragraph:

(e) shall include a cross-liability clause such that the Insurance shall apply to the Contractor and to the Employer as separate insured parties.

Sub-Clause 18.4 Insurance of Contractor's Personnel

Add the following:

The insurance shall be in terms of the provisions of the Compensation for Occupational Injuries and Diseases Act, 130 of 1993.

Add the following new Sub-Clause:

Sub-Clause 18.5 Special Risks Insurance

The Contractor shall effect and maintain the following insurance in the joint names of the Employer and the Contractor:

A Coupon Policy for Special Risks Insurance issued by the South African Special Risks Insurance Association.

Sub-Clause 19.7 Release from Performance under the Law

Add the following Sub-Clause after Sub-Clause 19.7:

19.8 Death of Sole Proprietor/Member

Further to Sub-Clause 19.7 [*Release from Performance under the Law*], 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 Sub-Clause 15.3 [*Valuation at Date of Termination*], in full and final settlement thereof.

20 Claims, Disputes and Arbitration

Delete Sub-Clauses 20.2 to 20.8 inclusive and replace with the following new Sub-Clauses:

Sub-Clause 20.2 Mediation

If the Appendix to Tender provides for dispute resolution by mediation, any dispute or difference which arises between the Contractor and the Employer out of or in connection with the Contract, including any determination or other decision of the Employer, shall be referred by either Party to a mediator for mediation in accordance with the provisions of SANS 294, *Construction Procurement Processes, Methods and Procedures* (6.9.2 Mediation, reproduced below, with "court proceedings" added in parenthesis). Where the parties fail to agree on a mediator, the mediator shall be appointed by the entity or official named in the Appendix to Tender.

"6.9.2 Mediation

6.9.2.1 The mediator shall be selected by agreement between the parties or, failing such agreement, by a mutually agreed upon person. Mediation shall be conducted without legal representation with the costs being borne equally by the parties.

6.9.2.2 The mediator shall convene a hearing of the parties and may hold separate discussions with any party. The mediator shall assist the parties in reaching a mutually acceptable settlement of their differences through means of reconciliation, interpretation, clarification, suggestion and advice. The parties shall record such agreement in writing and thereafter they shall be bound by such agreement.

6.9.2.3 The mediator shall be authorized to end the mediation process whenever, in his opinion, further efforts at mediation would not contribute to a resolution of the dispute between the parties.

6.9.2.4 If either party is dissatisfied with the opinion expressed by the mediator or should the mediation fail, then such party may require that the dispute be settled in terms of the contract (court proceedings)."

Sub-Clause 20.3 Court Proceedings

If the Appendix to Tender provides for the court proceedings to finally resolve disputes, disputes shall be determined by court proceedings in a South African court of law.

Add the following new Clauses after Clause 20:

Clause 21 Contractor to provide everything necessary

The Contractor is to provide all labour, material, workmanship, machinery, and everything which is or may be necessary in and for the execution and entire completion of the Contract in accordance with the Conditions of Contract and Employer's Requirements.

Clause 22 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 Engineer.

Clause 23 Employer's Requirements referred to in Conditions of Contract

The matters referred to in some or all of the following Sub-Clauses in the General Conditions may be included in the Employer's Requirements and are not repeated in the Contract Data, unless otherwise indicated:

- 1.8 Number of copies of Contractor's Documents*
- 1.13 Permissions being obtained by the Employer
- 2.1 Phased possession of foundations, structures, plant or means of access*
- 4.1 Intended purposes for which the Works are required
- 4.6 Other contractors (and others) on the Site
- 4.7 Setting-out points, lines and levels of reference
- 4.14 Third parties
- 4.18 Environmental constraints*
- 4.19 Electricity, water, gas and other services available on the Site*
- 4.20 Employer's Equipment and free-issue material
- 5.1 Criteria for design personnel*
- 5.2 Contractor's Documents required, and whether for approval**
- 5.4 Technical standards and building regulations
- 5.5 Operational training for the Employer's Personnel*
- 5.6 As-built drawings and other records of the Works
- 5.7 Operation and maintenance manuals
- 6.6 Facilities for Personnel
- 7.2 Samples
- 7.4 Testing during manufacture and/or construction*
- 9.1 Tests on Completion*
- 9.4 Failure to pass Tests on Completion*
- 12.1 Tests after Completion
- 12.4 Failure to pass Tests after Completion
- 13.5 Provisional Sums*

*These Sub-Clauses are/are also referred to in the Contract Data.

**See also Part C3.2 Engineering in Scope of Work

ADVANCE PAYMENT SCHEDULE

This Advance Payment Schedule is to be read in conjunction with Sub-Clauses 14.2 and 14.3 (sub-paragraphs (a) and (e)) in the Particular Conditions. 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:
Steel bridges for settling tanks	Belt presses and linear screens
Electrical distribution boards	Archimedes Screw Pumps
Diesel Generator sets	Screens

Minisubs	Centrifugal Pumps
Sluice Gates	Washer Compactors
	Grit Classifiers
	Positive Displacement Pumps
	Odour Control Equipment
	Instruments and PLCs
	Degritting equipment

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, and in respect of condition 5) below. 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.
- 5) In the event of suspension in terms of Sub-Clause 8.10 in the General and Particular Conditions, as referred to in sub-paragraph (a) in Sub-Clause 14.3 in the Particular Conditions, the Employer shall also permit advance payment for Plant and Materials which have not been delivered to Site, subject also to the terms of Sub-Clause 14.2 in the Particular Conditions.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

C1.3 Form of Performance Guarantee

PERFORMANCE GUARANTEE

For use with the General Conditions of Contract for Plant and Design-Build for Electrical and Mechanical Works and for Building and Engineering Works Designed by the Contractor, First Edition, 1999 (Yellow Book) published by the International Federation of Consulting Engineers (FIDIC).

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

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

"Contractor" means:

"Engineer" means:

"Works" means: Contract No. 85Q/2016/17: Design – build of mechanical and electrical works for the construction of primary treatment and sludge handling facilities at Zandvliet wastewater treatment works

"Site" means: The site as defined in Sub-Clause 1.1.6.7 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 Engineer of the Performance Certificate.

CONTRACT DETAILS

Engineer issues: Interim Payment Certificates, Final Payment Certificate and the Performance Certificate 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 Engineer and/or the Employer shall advise the Guarantor in writing of the date on which the Performance Certificate 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 Engineer 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 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. Payment by the Guarantor in terms of 5 will only be made against the return of the original Performance Guarantee by the Employer.
10. 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.
11. The Guarantor chooses the physical address as stated above for the service of all notices for all purposes in connection herewith.
12. This Performance Guarantee is neither negotiable nor transferable and shall expire in terms of 2, whereafter no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
13. 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.

14. 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 8 March 2016) approved for issue of contract guarantees to the City:

National Banks:

International Banks (with branches in SA):

Insurance companies:

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

C1.4 Form of Advance Payment Guarantee

ADVANCE PAYMENT GUARANTEE

For use with the General Conditions of Contract for Plant and Design-Build for Electrical and Mechanical Works and for Building and Engineering Works Designed by the Contractor, First Edition, 1999 (Yellow Book) published by the International Federation of Consulting Engineers (FIDIC).

GUARANTOR DETAILS AND DEFINITIONS

"Guarantor" means:

"Physical address:

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

"Contractor" means:

"Engineer" means:

"Works" means: Contract No. 85Q/2016/17: Design – build of mechanical and electrical works for the construction of primary treatment and sludge handling facilities at Zandvliet wastewater treatment works

"Site" means: The site as defined in Sub-Clause 1.1.6.7 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 Engineer as having been built into the Permanent Works.

CONTRACT DETAILS

Engineer 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 Engineer in an Interim or Final Payment Certificate has not been made in terms of the Contract and falling 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.
8. Payment by the Guarantor in terms of 5 will only be made against the return of the original Advance Payment Guarantee by the Employer.
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, whereafter no claims will be considered by the Guarantor. The original of this Guarantee shall be returned to the Guarantor after it has expired.
12. This 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 Advance Payment 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)

For use with Advance Payment Guarantees on contracts using the General Conditions of Contract for Plant and Design-Build for Electrical and Mechanical Works and for Building and Engineering Works Designed by the Contractor, First Edition, 1999 (Yellow Book) published by the International Federation of Consulting Engineers (FIDIC).

Contractor

Payment Certificate No.

Advance payment is requested in respect of the following items of Plant and Materials, which have been manufactured and are stored at places other than the Site, or in respect of which a deposit with order is required from the Contractor by a manufacturer/supplier:

[illegible]

Signed at on the day of 20.....

.....
for the Contractor

As witness
.....

Approved by Engineer

Contract
Part C1: Agreements and Contract Data
Reference No. 85Q/2016/17

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

C1.5 Occupational Health and Safety Agreement

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

.....
(Contractor/Mandatory/Company/CC Name)

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

I, ..., representing

....., as an employer
in its own right, do hereby undertake to ensure, as far as is reasonably practicable, that all work will be performed, and all equipment, machinery or plant used in such a manner as to comply with the provisions of the Occupational Health and Safety Act (OHSA) and the Regulations promulgated thereunder.

I furthermore confirm that I am/we are registered with the Compensation Commissioner and that all registration and assessment monies due to the Compensation Commissioner have been fully paid or that I/We are insured with an approved licensed compensation insurer.

COID ACT Registration Number:

OR Compensation Insurer: Policy No.:

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

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

I hereby declare that I have read and understand the appended Occupational Health and Safety Conditions and undertake to comply therewith at all times.

I hereby also undertake to comply with the Occupational Health and Safety Specification and Plan.

Signed at on the day of 20....

Witness

Mandatory

Signed at on the day of 20

Witness

for and on behalf of
City of Cape Town

OCCUPATIONAL HEALTH AND SAFETY CONDITIONS

1. The Chief Executive Officer of the Contractor shall assume the responsibility in terms of Section 16(1) of the Occupational Health and Safety Act (as amended). Should the Contractor assign any duty in terms of Section 16(2), a copy of such assignment shall immediately be provided to the representative of the Employer as defined in the Contract.
2. All work performed on the Employer's premises shall be performed under the supervision of the construction supervisor who understand the hazards associated with any work that the Contractor performs on the site in terms of Construction Regulations, 2014.
3. The Contractor shall appoint a Competent Person who shall be trained on any occupational health and safety aspect pertaining to them or to the work that is to be performed.
4. The Contractor shall ensure that he familiarises himself with the requirements of the Occupational Health and Safety Act and that he, his employees, and any sub-contractors, comply with them.
5. Discipline in the interests of occupational health and safety shall be strictly enforced.
6. Personal protective equipment shall be issued by the Contractor as required and shall be worn at all times where necessary.
7. Written safe work procedures and appropriate precautionary measures shall be available and enforced, and all employees shall be made conversant with the contents of these practices.
8. No substandard equipment/machinery/articles or substances shall be used on the site.
9. All incidents referred to in terms of Section 24 of the Occupational Health and Safety Act shall be reported by the Contractor to the Department of Labour and the Employer.
10. The Employer hereby obtains an interest in the issue of any formal inquiry conducted in terms of Section 32 of the Occupational Health and Safety Act and into any incident involving a Contractor and/or his employees and/or his sub-contractor/s.
11. No use shall be made of any of the Employer's machinery/plant/equipment/substance/personal protective equipment or any other article without prior arrangement and written approval.
12. No alcohol or any other intoxicating substance shall be allowed on the site. Any person suspected of being under the influence of alcohol or any other intoxicating substance shall not be permitted access to, or allowed to remain on the site.
13. Prior to commencement of any work, verified copies of all documents mentioned in the agreement, must be presented to the Employer.
14. The Contractor shall prepare and maintain a Health and Safety File in respect of the project, which shall be available for inspection on Site at all times and handed over to the Employer on Final Completion of the project.

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

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.: 85Q/2016/17

CONTRACT TITLE: DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

I/ we (Contractor) record as follows:

1. I/ we, the undersigned, do hereby declare that I/ we am/ are aware of the increasing requirement by society that construction activities shall be carried out with due regard to their impact on the environment.
2. In view of this requirement of society and a corresponding requirement by the Employer with regard to this Contract, I/ we will, in addition to complying with the letter of the terms of the Contract dealing with protection of the environment, also take into consideration the spirit of such requirements and will, in selecting appropriate employees, plant, materials and methods of construction, in-so-far as I/ we have the choice, include in the analysis not only the technical and economic (both financial and with regard to time) aspects but also the impact on the environment of the options. In this regard, I/ we recognise and accept the need to abide by the "precautionary principle" which aims to ensure the protection of the environment by the adoption of the most environmentally sensitive construction approach in the face of uncertainty with regard to the environmental implications of construction.
3. I/ we declare that I/ we have read and understood the contents of the Environmental Management Programme (which is comprised of the Environmental Management Specification and its Annexures) for this Contract, and that I/ we understand my/our responsibilities in terms of enforcing and implementing the Environmental Management Programme. I/ we also declare that I/ we have made appropriate provision in my/ our pricing of the Schedules of Quantities 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 Engineer 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 Engineer, 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 Engineer shall, with respect to any fine imposed, provide me/ us with a written statement giving details of the offence, the facts on which the Engineer has based his assessment and the terms of the Contract (by reference to the specific clause) which has been contravened.

Signed
CONTRACTOR

Date.....

CITY OF CAPE TOWN

WATER AND SANITATION

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DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

C1.7 Insurance Broker's Warranty

Pro Forma



Letterhead of Contractor's Insurance Broker

Date _____

CITY OF CAPE TOWN
City Manager
Civic Centre
12 Hertzog Boulevard
Cape Town
8001

Dear Sir

CONTRACT NO.: 85Q/2016/17

CONTRACT TITLE: DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

NAME OF CONTRACTOR: _____

I, the undersigned, do hereby confirm and warrant that all the insurances required in terms of the abovementioned contract have been issued and/or in the case of blanket/umbrella policies, have been endorsed to reflect the interests of the CITY OF CAPE TOWN with regard to the abovementioned 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: _____

Part C2: Pricing Data

	Pages
C2.1 Pricing Assumptions	120 – 122
C2.2 Schedules of Quantities	123 – 215
C2.3 Schedule of Rates for Electrical Variations	216

CITY OF CAPE TOWN

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DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET 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 Schedules of Quantities contain only brief descriptions to identify the salient items required and the Tenderer is referred to the Scope of Work and drawings for the full requirements.
2. The prices and rates to be inserted in the Schedules 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.
3. A price or rate is to be entered against each item in the Schedules of Quantities, whether the quantities are stated or not. An item against which no price or a nil rate is entered will be considered to be covered by the other prices or rates in the Schedules of Quantities.
4. 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.
5. The units of measurement described in the Schedules of Quantities are metric units, as well as the following:

No.	=	number
Item/Sum	=	lump sum
Prov Sum	=	Provisional sum
%	=	percentage
Days	=	"Day" as defined in the Conditions of Contract
6. Items have been provided where any further items considered necessary by the Tenderer can be priced. The Tenderer must provide full details of what has been allowed for with his Tender under these items.
7. If any change in design is contemplated during the course of the Contract, the Contractor will be required to provide the Engineer with a detailed breakdown of the contract price involved with a similarly detailed breakdown of the suggested revised price together with supporting quotations and other relevant documentation to satisfy the Engineer that the revised price is built up in a similar manner to the original contract price.
8. The Tenderer is referred to Sub-Clause 4.11, Sufficiency of the Accepted Contract Amount, of the General Conditions of Contract ("General Conditions").
9. The Tenderer is referred to Sub-Clause 14.1, The Contract Price, of the General Conditions as amended in the Particular Conditions in Part C1.2 Contract Data.
10. References to the Conditions of Contract in the Schedules of Quantities shall mean the General Conditions read in conjunction with the Appendix to Tender and Particular Conditions, all as set out in Part C1.2 Contract Data.
11. The Tenderer is referred to F2.13.1 in Part T1.2 Tender Data regarding the pricing of Deviations and/or Options.
12. Tenderers are referred to Sub-Clause 13.8 in the Appendix to Tender in Part C1.2 Contract Data regarding contract price adjustment.

13. The Rand value of imported Plant and Materials listed in Returnable Schedule 20 shall be carried forward from column (F) and included in the price of each of the relevant items in the Schedules of Quantities.
14. The word "equipment" used in the Schedules of Quantities shall mean Plant as defined in the General Conditions, unless the context provides otherwise. Without limiting the definition of Materials in the General Conditions, "equipment" shall also mean components of Plant.
15. Design of the Works, Contractor's Documents (including "as built" drawings and Manual), and design for the manufacture of materials and equipment, will be paid for as follows:
 - a) An item is provided in the Schedules of Quantities (Schedule No. A, General Requirements and Conditions) for Design of the Works and submission of Contractor's Documents – this item includes *inter alia* the Contractor's obligations under Clause 2 in Part C3.2 Engineering, up to Sub-Clause 2.3.
 - b) Items are provided in the Schedules of Quantities (Schedule No. 13, Sundries) for Providing "as built" drawings, and draft and final copies of the Installation, Operation and Maintenance Manuals – these items cover the Contractor's obligations under Clause 2 in Part C3.2 Engineering, Sub-Clauses 2.4 and 2.5.
 - c) Items of materials and equipment are provided in the Schedules of Quantities under headings containing the words "design, manufacture, painting, testing, supply, delivery, offloading and storage" – "design" in these items will usually only be paid upon supply of the materials and equipment, but may be paid for separately at the discretion of the Engineer.
16. Where Provisional Sums have been included in the Schedules of Quantities in terms of Sub-Clause 13.5(b) of the Conditions of Contract, the Tenderer shall insert the required (if any) percentage(s) for the "Add for overhead charges and profit" item(s) in the "Price" column and insert the resultant amount(s) in the "Amount" column, and shall include this/these amount(s) as well as the Provisional Sum amounts in the Total Amount of the relevant Schedule.
17. Where fractions of a cent occur in calculations of prices and amounts, they shall be rounded up/down to the nearest whole cent.
18. Clause F.4.11 c) in Part T1.2 Tender Data shall be applicable to the submission of Schedules of Quantities which have been priced electronically, should the Tenderer wish to submit a printed version with his/her tender in place of handwritten priced Schedules 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 Schedules of Quantities, then the printed Schedules of Quantities shall take these into account.

The pages of the issued Schedules of Quantities should not be removed from the tender document.

19. Tenderers are referred to Clause 8 Measurement and Payment in the Environmental Management (EM) Specification in Volume 2A for the basic principles of measurement and pricing of the EM Specification.

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

* Part of Contractor's Proposal.

[illegible]

* State Customs Duty Tariff Reference for each item

Note: Amounts in column (A) will be subject to Sub-Clause 13.8.2.2(e).

Amounts in columns (B and (C) will be subject to Sub-Clause 13.8.2.2(a)iii.

Amounts in columns (B and (C) will be subject to Sub-Clause 13.8.2.2(a) in. Amounts in column (F) will be subject to Sub-Clause 13.8.2.1(2)(c). Note that any Plant and Materials not inserted in Returnable Schedule 20

shall be deemed to be manufactured in South Africa for the purposes of Contract Price Adjustment.

The BASE DATE referred to in column (B) will be subject to Sub-Clause 13.8.1(a) and as defined in Sub-Clause 1.1.3.1.

SIGNED ON BEHALF OF TENDERER:

●
●
●
●
●
●
●
●
●

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

SCHEDULE 20 : PRICE BASIS FOR IMPORTED PLANT AND MATERIALS

* Part of Contractor's Proposal.

PAGE 1

VALUE OF IMPORTED PLANT AND MATERIALS TO BE ADJUSTED IN TERMS OF SUB-CLAUSE 13.8.2.2 OF THE PARTICULAR CONDITIONS									
Schedules of Quantities Item No.	Description of Plant and/or Materials	Value in Foreign Currency (A)	Rate of Exchange as at BASE DATE (B)	Value in Rand (A) x (B) (C)	Customs Surcharge % (D)	Customs Duty % (E)	Total In Rand of (C) + (D) + (E) Included in Schedules of Quantities Item (F)		
M1-10	TRASH RACK	391800 EUR	14.81	5802558	0%	0%	R 5802558		
M2-5	FRONT LAKE	127400 EUR	14.81	1886794	0%	0%	R 1886794		
M2-6	PERFORATED	399400 EUR	14.81	5915114	0%	0%	R 5915114		
M2-9	GRIT WASHER	132678 EUR	14.81	1964220	0%	0%	R 1964220		
M2-13	WASHER COMPACT	116464 EUR	14.81	1724831	0%	0%	R 1724831		
M2-17	GRIT CLASSIFIER	27937 EUR	14.81	413746	0%	0%	R 413746		
M3-1	SPARES	70885 EUR	14.81	1049806	0%	0%	R 1049806		
M8-12a	PRIMARY PRESS	870439 EUR	14.81	12891209	0%	0%	R 12891209		
M8-24a	WAS PRESS	1670566 EUR	14.81	24741003	0%	0%	R 24741003		

* State Customs Duty Tariff Reference for each item

Note: Amounts in column (A) will be subject to Sub-Clause 13.8.2.2(e).

Amounts in columns (B) and (C) will be subject to Sub-Clause 13.8.2.2(a)iii.

Amounts in column (F) will be subject to Sub-Clause 13.8.2.1.2(c). Note that any Plant and Materials not inserted in Returnable Schedule 20 shall be deemed to be manufactured in South Africa for the purposes of Contract Price Adjustment.

The BASE DATE referred to in column (B) will be subject to Sub-Clause 13.8.1(a) and as defined in Sub-Clause 1.1.3.1.

SIGNED ON BEHALF OF TENDERER:

.....

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

SCHEDULE 20 : PRICE BASIS FOR IMPORTED PLANT AND MATERIALS

* Part of Contractor's Proposal.

VALUE OF IMPORTED PLANT AND MATERIALS TO BE ADJUSTED IN TERMS OF SUB-CLAUSE 13.8.2.2 OF THE PARTICULAR CONDITIONS						Customs Surcharge		Customs Duty*		Total in Rand of (C) + (D) + (E) included in Schedules of Quantities of Item
Schedules of Quantities Item No.	Description of Plant and/or Materials	Value in Foreign Currency	Rate of Exchange as at BASE DATE	Value in Rand (A) x (B)	%	Rand	%	Rand	(E)	(F)
M10-11	CONDENSER SYSTEM	423639 USD	13.96	5914007	07.		07.			R 5914007
M13-4	SLURRIES PUMP	59200 USD	13.96	826432	07.		07.			R 826432
E11A	INSTRUMENT	172569 EUR	14.81	2555759	07.		07.			R 2555759
VARIOUS										
INSTRUMENTS	SUPPLY EUROPE	CHF								
M12-20	GENERATOR	21094 EUR	14.81	312411	07		07.		R	312411
M13-57	MAGNETIC	82208 USD	13.96	1147635	07		07.		R	1147635
M17-6			15.00							
M18	PROGRESSIVE	408470 EUR	15.00	6127053	07.		07.		R	6127053
VARIOUS	SCAVENGE PUMPS									

* State Customs Duty Tariff Reference for each item

Note: Amounts in column (A) will be subject to Sub-Clause 13.8.2.2.2(e).

Amounts in columns (B) and (C) will be subject to Sub-Clause 13.8.2.2.2(a)iii.

Amounts in column (F) will be subject to Sub-Clause 13.8.2.1.2(c). Note that any Plant and Materials not inserted in Returnable Schedule 20 shall be deemed to be manufactured in South Africa for the purposes of Contract Price Adjustment.

The BASE DATE referred to in column (B) will be subject to Sub-Clause 13.8.1(a) and as defined in Sub-Clause 1.1.3.1.

SIGNED ON BEHALF OF TENDERER:

PAGE 2

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

SCHEDULE 20 : PRICE BASIS FOR IMPORTED PLANT AND MATERIALS

* Part of Contractor's Proposal.

VALUE OF IMPORTED PLANT AND MATERIALS TO BE ADJUSTED IN TERMS OF SUB-CLAUSE 13.8.2.2 OF THE PARTICULAR CONDITIONS							Customs Surcharges		Customs Duty*		Total in Rand of (C) + (D) + (E) Included in Schedules of Quantities Item (F)
Schedules of Quantities Item No.	Description of Plant and/or Materials	Value in Foreign Currency	Rate of Exchange as at BASE DATE	Value in Rand (A) x (B)	%	Rand	%	Rand	%	Rand	
M11A	ACTUATORS		~~14.81~~ 14.81	1911753	0%		0%				1911753
	VARIOUS ON PENSTOCKS AND VALVES	129,085 Euro									
VARIOUS	GOLMAN ROP SELF PRIMING PUMPS AS DETAIL	226853 USD	13.96	3166875	0%		0%			R 3166875	

* State Customs Duty Tariff Reference for each item

Note: Amounts in column (A) will be subject to Sub-Clause 13.8.2.2.2(e).

Amounts in columns (B) and (C) will be subject to Sub-Clause 13.8.2.2.2(a)iii.

Amounts in column (F) will be subject to Sub-Clause 13.8.2.1.2(c). Note that any Plant and Materials not inserted in Returnable Schedule 20 shall be deemed to be manufactured in South Africa for the purposes of Contract Price Adjustment.

The BASE DATE referred to in column (B) will be subject to Sub-Clause 13.8.1(a) and as defined in Sub-Clause 1.1.3.1.

SIGNED ON BEHALF OF TENDERER:

PAGE 3

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE WASTEWATER TREATMENT WORKS

SCHEDULE 20 : PRICE BASIS FOR IMPORTED PLANT AND MATERIALS

* Part of Contractor's Proposal.

VALUE OF IMPORTED PLANT AND MATERIALS TO BE ADJUSTED IN TERMS OF SUB-CLAUSE 13.8.2.2 OF THE PARTICULAR CONDITIONS							Customs Surcharge		Customs Duty*		Total in Rand of (C) + (D) + (E) Included in Schedules of Quantities Item
Schedules of Quantities Item No.	Description of Plant and/or Materials	Value in Foreign Currency	Rate of Exchange as at BASE DATE	Value in Rand (A) x (B)	%	Rand	%	Rand	(E)	(F)	
		(A)	(B)	(C)		(D)					
M8-12b	PRIMARY PRESS	668336 Euro	14.81	9898067	0%		0%	R	9898067		
M8-24b	WAS PRESS	1312505 Euro	14.81	19438201	0%		0%	R	19438201		
M1-11f	SCREW PUMP	500610 €		7414040	0%		0%	R	7414040		
M1-5f											
M4-4f	SCREW PUMP	500610 €	14.81	7414040	0%		0%	R	7414040		
M4-8f											
M8-45	MIXING UNIT	8111 Euro	14.81	120138				R	120138		
M8-49	MIXING UNIT	12167 Euro	14.81	180208	0%		0%	R	180208		
M2-27	REGULATING	413687 USD	13.96	5775084	0%		0%	R	5775084		
M2-14	GOOSE	494902 USD	13.96	6909392	0%		0%	R	6909392		

* State Customs Duty Tariff Reference for each item

Note: Amounts in column (A) will be subject to Sub-Clause 13.8.2.2(e).

Amounts in columns (B) and (C) will be subject to Sub-Clause 13.8.2.2(a)iii.

Amounts in column (F) will be subject to Sub-Clause 13.8.2.1(c). Note that any Plant and Materials not inserted in Returnable Schedule 20

shall be deemed to be manufactured in South Africa for the purposes of Contract Price Adjustment.

The BASE DATE referred to in column (B) will be subject to Sub-Clause 13.8.1(a) and as defined in Sub-Clause 1.1.3.1.

SIGNED ON BEHALF OF TENDERER:

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

C2.2 Schedules of Quantities

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DECLARATION (In respect of completeness of Tender)

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

I/ we, the undersigned, do hereby declare that these are the properly priced Schedules of Quantities forming Part C2.2 of this Contract Document which contains 255 pages numbered i to vi and 1 to 249 in consecutive order in Volume 2 and the number of pages in consecutive order in Volume 2A as stated on page i thereof, upon which my/our tender for **TENDER NO. 85Q/2016/17: DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS** has been based. If I/we have submitted a printed version of the Schedules 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.

SIGNED ON BEHALF OF TENDERER:

DATE: 16/11/2016

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE A						
	GENERAL REQUIREMENTS AND CONDITIONS						
	Allow for all costs and expenses in connection with the following items:						
1	Providing Performance Security	Sum	-	-	-	-	-
2	Providing Insurances	Sum	-	-	-	-	-
3	Detailed design of the Works and Submission of Contractor's Documents (refer C3.2)	Sum	-	-	-	-	-
4	Hosting of 1 st design workshops as detailed in C3.2	Sum	-	-	-	-	-
5	Hosting of design workshops as detailed in C3.2	No	24	-	-	-	-
6	Establishment of Contractor's camp, including security and ablution facilities	Sum	-	-	-	-	-
7	De-establishment of Contractor's camp, including security and ablution facilities	Sum	-	-	-	-	-
8	Provision of water, electricity and other services	Sum	-	-	-	-	-
9	Provision of facilities for the Engineer, as described in the Scope of Work	Sum	-	-	-	-	-
10	General expenses incurred in complying with the requirements of C1.2 Contract Data, not included above	Sum	-	-	-	-	-
9	General expenses incurred in complying with the requirements of T1.2 Contract Data, not included above	Sum	-	-	-	-	-
	Health and Safety and Environmental						
11	Compliance with the requirements of the Occupational Health and Safety Act 1993 and Construction Regulations 2014, including appointment of Construction Supervisor and Competent Person (in terms of F4.1 in T1.2 Tender Data - for Health and Safety Plan see separate Item)	Sum	-	-	-	-	-
12	Provision of and adherence to a Health and Safety Plan (in terms of F4.1 in T1.2 Tender Data).	Sum	-	-	-	-	-
13	Compliance with the Health and Safety Specification in the Scope of Work	Sum	-	-	-	-	-
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
14	Liaison, co-ordination and chairing of meetings in respect of Health and Safety requirements	Sum	-	-	-		
15	Quality management plan and quality assurance system	Sum	-	-	-		
16	Compliance with the Environmental Management Specification in the Scope of Work	Sum	-	-	-		
17	Liaison with Civil Contractor	Sum	-	-	-		
	Other:-						
18	Other general expenses incurred in complying with the requirements of the Scope of Work not included above (<i>Specify</i>):	Item					
							
							
							
							
							
TOTAL OF SCHEDULE A CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE B</u>						
	SUNDRIES						
	Allow for all costs and expenses in connection with the following items:						
1	Hazop Study and appointment of independent Consultant	Sum	-	-	-	-	-
2	Providing "as built" drawings	Sum	-	-	-	-	-
3	Design and integration of operation and control system and submission of documentation for approval	Sum	-	-	-	-	-
4	Providing 2 draft copies of the Installation, Operation and Maintenance Manual prior to commissioning of the Works	Sum	-	-	-	-	-
5	Providing 6 final copies of the Installation, Operation and Maintenance Manual prior to the Issue of the Taking-Over Certificate	Sum	-	-	-	-	-
6	Signage as specified	Sum	-	-	-	-	-
7	Checking, starting up, testing and commissioning of:						
7.1	Lower Screw Pump Station complete	Sum	-	-	-	-	-
7.2	Inlet Works Complete (incl. odour control)	Sum	-	-	-	-	-
7.3	Upper Screw Pump Station Complete	Sum	-	-	-	-	-
7.4	Primary Settling Tanks (including flow meter chambers and sludge pump station complete)	Sum	-	-	-	-	-
7.5	MBR Pump Station Complete	Sum	-	-	-	-	-
7.6	Dewatering Building Complete (incl. odour control)	Sum	-	-	-	-	-
8	Performance Acceptance Testing	Sum	-	-	-	-	-
9	Providing a commissioning test report for all equipment and installations	Sum	-	-	-	-	-
10	Trial Operation Period	Sum	-	-	-	-	-
11	Operational and Maintenance Training, including certification	Sum	-	-	-	-	-
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
12	Performing the specified duties during the Defects Notification Period	Sum	-	-	-		
	Storage of equipment where storage space is provided by:						
13	a. The Contractor	month					Rate only
14	b. The City of Cape Town	month					Rate only
15	Quality control inspection of corrosion protection	Sum	-	-	-		
16	Inspection, Tests, etc. of electrical panels and other electrical equipment outside the municipal area other than the contract Site	Sum	-	-	-		
17	Provision of all Test Certificates and Certificate of Compliance in terms of the Code of Practice for Wiring of Premises	Sum	-	-	-		
18	Allowance for inspections by specialist inspector	Provisional Sum				R	150,000.00
19	Charge required by Contractor on above item 18	%	R 150,000				
20	Provisional allowance for any additional work as directed by the Engineer	Provisional Sum				R	150,000.00
21	Charge required by Contractor on above item 20 (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 150,000				
22	Security on-site during installation, testing and commissioning activities	Month	24				
TOTAL OF SCHEDULE B CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE M1</u>						
	LOWER SCREW PUMP STATION						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Design of submersible pump facility as specified	Sum	-	-	-		
4	Weld and lifting point testing as specified by an independent inspectorate	Sum	-	-	-		
5	Archimedes pump bearing condition monitoring system complete	Sum	-	-	-		
6	Witness testing of submersible pumps at factory	Sum	-	-	-		
7	Witness testing of Archimedes Screw Pumps at factory	Sum	-	-	-		
8	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	120,000.00
9	Charge required by Contractor on above item (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 120,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following						
10	150mm Trash Rack Screen complete	No	3				
11	Archimedes Screw Pumps (incl. motor and gearbox, grease pump and all mounting pedestals, bearings etc.)	No	4				
12	Belt conveyor complete (incl. supports)	Sum	-	-	-		
13	Lifting equipment complete (incl. support structure) for trash racks	Sum	-	-	-		
14	Lifting equipment complete for screw pumps	Sum	-	-	-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
15	Submersible pump complete with rails, duckfoot, chains etc.	Sum	-	-	-		
16	All pipework and valves for submersible pumps complete (including any pipe supports)	Sum	-	-	-		
17	Additional supports or any lifting structures required for the submersible pump installation	Sum	-	-	-		
	Allow for all costs and expenses in connection with the Site installation of the following:-						
18	150mm Trash Rack Screen complete	No	3				
19	Archimedean Screw Pumps (incl. motor and gearbox, grease pump and all mounting pedestals, bearings etc.)	No	4				
20	Belt conveyor complete (incl. supports)	Sum	-	-	-		
21	Lifting equipment complete (incl. support structure) for trash racks	Sum	-	-	-		
22	Lifting equipment complete for screw pumps	Sum	-	-	-		
23	Submersible pump installations complete	Sum	-	-	-		
	Allow for all costs and expenses in connection with the pre-commsissioning and performance acceptance tests of the following:						
24	All items as listed above	Sum	-	-	-		
	Other:-						
25	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>)	Item					
							
							
							
							
							
TOTAL OF SCHEDULE M1 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE M2						
	INLET WORKS						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
4	Charge required by Contractor on above item 3 (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
5	25mm Mechanical Front Rake screen complete with launder feed chute and closure plates	No	4				
6	6mm perforated plate screen complete with launder feed chute, water piping, valves and supports	No	4				
7	Paddle system / vortex inducer complete with gearbox, motor and shaft	No	4				Rate only
8	Degritter inlet baffle plates	No	4				Rate only
9	Grit washer / classifier	No	4				Rate only
10	Service water pumps (incl. motors and baseplate)	Sum	-	-	-		
11	Pipework, valves and supports for service water pumps	Sum	-	-	-		
12	Flapper gate for screenings upstream of washer compactors	No	2				
13	Washer compactor system complete	No	4				
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

TREATMENT AND SOLIDS HANDLING FACILITIES AT ...							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
14	Skip dolly system complete	No	4				
15	Lifting equipment system complete for coarse screens and fine screens	Sum	-		-		
16	Water launder complete including supports for 25mm front raked screenings	Sum	-		-		
17	Water launder complete including supports for 6mm perforated plate screenings	Sum	-		-		
18	Washwater pipework (including supports) for water launders	Sum	-		-		
19	Washwater pipework (including supports) for washer compactor	Sum	-		-		
20	Jet pump (Venturi)	No	4				Rate only
21	Water pipework for sparging of degritters (including supports)	Sum	-				Rate only
22	Feed water pipework to jet pumps (including supports)	Sum	-				Rate only
23	Delivery pipework from jet pumps to grit classifiers (including supports)	Sum	-				Rate only
24	Suction pipework from degritter to jet pumps	Sum	-				Rate only
25	Return flow pipework from grit classifier to inlet works (including supports)	Sum	-		-		
26	Drainage pipework from grit classifier (including supports)	Sum	-		-		
27	Entire grit extraction and dewatering system as specified (Option 2), including all electrical and control equipment as specified	Sum	-		-		
28	Parshall Flumes Complete for Inlet Works (all flumes)	Sum	-		-		
	Allow for all costs and expenses in connection with the Site installation of the following:-						
29	All items (up to and including 26, except rate only items) as listed above	Sum	-		-		
30	Item 27 above	Sum	-		-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE	AMOUNT
R	c	R	c	R	c
Brought forward / ...					
31	Item 28 above Allow for all costs and expenses in connection with the pre-commissioning and performance acceptance tests of the following:	Sum	-	-	
32	All items (up to and including 26, except rate only items) as listed above	Sum	-	-	
33	Item 27 above	Sum	-	-	
34	Item 28 above	Sum	-	-	
	Other:-				
35	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>)	Item			
TOTAL OF SCHEDULE M2 CARRIED TO SUMMARY					

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE M3</u>						
	INLET WORKS ODOUR CONTROL						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Odour Control Study	Sum	-	-	-		
4	Inspection reports	Sum	-	-	-		
5	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
6	Charge required by Contractor on above item 5 (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
7	Channel and equipment covers	m ²	300				
8	All odour extraction piping and supports	Sum	-	-	-		
9	Concrete slab with reinforcement for odour control equipment	m ³	20				
10	Brickwork and concrete slab for extraction pipe manifold and drain points chamber	Sum	-	-	-		
11	Biological trickling filter odour control system including media (complete)	Sum	-	-	-		
12	Media / chemicals as required	Sum	-	-	-		
13	Extraction fans (incl. motor and supports)	Sum	-	-	-		
14	Nutrient supply for one year continuous operation (if required)	Sum	-	-	-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Allow for all costs and expenses in connection with the Site installation of the following:-						
15	All items as listed above	Sum	-	-	-	-	-
16	Excavating, laying, bedding, backfilling of all odour pipes	Sum	-	-	-	-	-
	Allow for all costs and expenses in connection with the pre-commissioning and performance acceptance tests of the following:						
17	All items as listed above	Sum	-	-	-	-	-
18	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>)	Item	-	-	-	-	-
							
							
							
							
TOTAL OF SCHEDULE M3 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE M4</u>						
	UPPER SCREW PUMP STATION						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Weld and lifting point testing as specified by an independent inspectorate	Sum	-	-	-		
4	Archimedes pump bearing condition monitoring system complete	Sum	-	-	-		
5	Witness testing of Archimedes Screw Pumps	Sum	-	-	-		
6	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
7	Charge required by Contractor on above item (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
8	Archimedes Screw Pumps (incl. motor and gearbox, grease pump and all mounting pedestals, bearings etc.)	No	4				
9	Lifting Equipment Complete	Sum	-	-	-		
	Allow for all costs and expenses in connection with the Site installation of the following:-						
10	All items as listed above	Sum	-	-	-		
	Allow for all costs and expenses in connection with the pre-commissioning and performance acceptance tests of the following:						
11	All items as listed above	Sum	-	-	-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
12	Other:- All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>) 	Item					
TOTAL OF SCHEDULE M4 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE M5</u>						
	PRIMARY SETTLING TANKS						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-			-	
2	Setting out of works and checking the civil structure	Sum	-			-	
3	Screeding of settling tank floor (all tanks)	Sum	-			-	
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
4	Full-bridge, for sloped bottom clarifier complete with bearing, bridge, scrapers, geared motor, wheels, etc.	No	4				
5	Materials and equipment for screeding	Sum	-			-	
	Allow for all costs and expenses in connection with the Site installation of the following:-						
6	Item 4 as listed above	No	4				
	Allow for all costs and expenses in connection with the pre-commissioning and performance acceptance tests of the following:						
7	All items as listed above	Sum	-			-	
	Other:-						
8	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>)	Item					
							
							
							
							
							
							
TOTAL OF SCHEDULE M5 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE M6						
	MBR PUMP STATION						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
4	Charge required by Contractor on above item (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
5	Centrifugal pumpset (incl. motor and baseplate)	No	4				
6	DN 700 1.5D bend with DN800 bellmouth; flanged one end; ±1112mm c/f & ±1267mm c/f.	No	4				
7	DN700 puddle pipe; flanged; ±1415mm f/f	No	4				
8	DN700 x DN400 eccentric reducer; plain ended with restraining flanges on both sides; ±2202mm f/f	No	4				
9	DN700 restrained flange adaptor; PN10	No	4				
10	DN400 restrained flange adaptor; PN10	No	4				
11	DN500 1.5D bend; flanged one end with restraining flange at other end; ±1000mm c/f & ±1285mm c/f.	No	4				
12	DN500 restrained flange adaptor; PN10	No	4				
13	DN600 restrained flange adaptor; PN10	No	8				
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
14	DN500 x DN600 concentric reducer;flanged; ±1467mm f/f	No	4				
15	DN600 straight pipe; flanged one end, restraining flange other end; ±500mm f/f	No	4				
16	DN600 puddle pipe; flanged; ±1800mm f/f	No	4				
17	DN600x90 degree medium radius bend; flanged one end with restraining flange at other end; ±1830mm c/f & ±1220mm c/f	No	2				
18	DN900 x DN600 concentric reducer;flanged; ±795mm f/f	No	2				
19	DN900 x DN600 reducing tee; barrel flanged; branch plain ended with restraining flange; barrel ±1515mm f/f; branch ±1830mm c/f & ±600mm c/f	No	2				
20	DN900 equal tee with DN450 branch welded onto barrel and DN900x45 degree bend welded onto end of DN900 tee; flanged; barrel ±1730mm f/f; branch ±2990mm c/f & ±865mm c/f; DN450 branch ±800mm c/f & ±865mm c/f; DN900x45 degree bend ±915mm c/f.	No	1				
21	DN900 straight pipe; flanged one end with restraining flange at other end; ±4500mm f/f	No	1				
22	DN900 restrained flange adaptor; PN10	No	2				
23	DN900 puddle pipe; flanged; ±900mm f/f	No	1				
24	DN900 straight pipe; flanged one end, restraining flange other end; ±1800mm f/f	No	1				
25	DN900 puddle pipe; flanged; ±1199mm f/f	No	1				
26	DN450 blank flange with flanged DN150 x ±300mm stub	No	1				
27	Pressure gauges	Sum	-			-	
28	Lifting equipment complete	Sum	-			-	
29	Pipe/Valve supports	Sum	-			-	
30	Steel stairs & walkway	Sum	-			-	
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
31	Guard rails	Sum	-	-	-		
32	Steel platform for flow meter chamber (rising main of MBR pump station)	Sum	-	-	-		
33	Inlet and outlet louvres	Sum	-	-	-		
	Allow for all costs and expenses in connection with the Site installation of the following:-						
34	All items as listed above	Sum	-	-	-		
	Allow for all costs and expenses in connection with the pre-commsissioning and performance acceptance tests of the following:						
35	All items as listed above	Sum	-	-	-		
36	Witness testing of pumps	Sum	-	-	-		
37	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify)	Item					
							
							
							
							
							
TOTAL OF SCHEDULE M6 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE M7</u>						
	PRIMARY SLUDGE PUMP STATIONS						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
4	Charge required by Contractor on above item (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
5	Self-priming centrifugal pumps (incl. motor, belts, baseplate etc.) for primary sludge pump station at PST's	No	2				
6	Macerators (incl. motor and all fixing equipment)	No	2				
7	Suction pipework	Sum	-	-	-		
8	Delivery Pipework	Sum	-	-	-		
9	Pipe supports	Sum	-	-	-		
10	Lifting equipment as specified	Sum	-	-	-		
11	Pressure Gauges with diaphragm seal and pipe connections as specified	No	4				
12	Ventilation equipment as specified (incl. fans, motors, attenuators, ducting, louvres and all supports)	Sum	-	-	-		
13	Feed pipework to hydro-cyclone	Sum	-	-	-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
14	Hydro-cyclone as specified	Sum	-	-	-		
15	Support structure for hydro-cyclone	Sum	-	-	-		
16	Delivery pipework from hydro-cyclone to degritted sludge pump station	Sum	-	-	-		
17	Grit classifier as specified	Sum	-	-	-		
18	Self-priming centrifugal pumps (incl. motor, belts, baseplate etc.) for de-gritted self-priming pumps	No	2	-	-		
19	Suction pipework for degritted self-priming pumps	Sum	-	-	-		
20	Delivery Pipework for degritted self-priming pumps	Sum	-	-	-		
21	Pipe supports	Sum	-	-	-		
22	Lifting equipment as specified	Sum	-	-	-		
23	Pressure Gauges with diaphragm seal and pipe connections as specified	No	4	-	-		
	Allow for all costs and expenses in connection with the Site installation of the following:-						
24	Items 5-10 as listed above	Sum	-	-	-		
25	Items 11-15 as listed above	Sum	-	-	-		
26	Items 16-21 as listed above	Sum	-	-	-		
	Allow for all costs and expenses in connection with the pre-commsissioning and performance acceptance tests of the following:						
27	Items 5-10 as listed above	Sum	-	-	-		
28	Items 11-15 as listed above	Sum	-	-	-		
29	Items 16-21 as listed above	Sum	-	-	-		
30	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify)	Item					
							
							
							
							
TOTAL OF SCHEDULE M7 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE M8						
	DEWATERING BUILDING EQUIPMENT						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Steady-State Test for WAS Holding Tank Aerator	Sum	-	-	-		
4	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
5	Charge required by Contractor on above item (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
6	Primary sludge holding tank recirculation pumps (incl. motor, baseplate etc.)	No	2				
7	Suction and delivery pipework for primary sludge recirculation pumps (incl. all valves, supports and nozzles)	Sum	-	-	-		
8	Primary sludge feed pumps	No	5				
9	Primary sludge feed pumps suction pipework (including pipe supports)	Sum	-	-	-		
10	Primary sludge feed pumps suction isolation valves	Sum	-	-	-		
11	Primary sludge feed pumps delivery pipework (including pipe supports)	Sum	-	-	-		
12	All Primary Sludge Belt Presses complete (Employer's Preference: Bellmer WinklePress WP Green 4 K X)	No	4				
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
13	All Primary Sludge Belt Presses complete (Contractor's Preference or Alternative)	Sum	-				Rate only
14	Access platforms and stairs for all primary sludge belt presses	Sum	-		-		
15	Horizontal centreless screw conveyor for receiving dewatered primary sludge from belt presses (incl. supports, covers, liners, drives, trip wires etc.)	No	2				
16	Dewatered primary sludge pumps complete	No	3				
17	Receiving hopper and flapper gate for dewatered primary sludge pumps	Sum	-		-		
18	Delivery pipework (incl. supports) for pumping dewatered primary sludge to primary sludge cake silo	Sum	-		-		
19	Dewatered primary sludge pumps complete	No	3				
20	Additional supports and equipment to complete the primary sludge conveyor/pumping system	Sum	-		-		
21	Live bottom for primary sludge cake silo including support structure	Sum	-		-		
22	WAS holding tank floating aerator (incl. all supports, mooring ropes, access platforms etc.)	No	3				
23	Waste activated sludge feed pumps	No	7				
24	Waste activated sludge feed pumps suction pipework (including pipe supports)	Sum	-		-		
25	Waste activated sludge feed pumps delivery pipework (including pipe supports)	Sum	-		-		
26	All Waste Activated Sludge Gravity Belt Thickener / Belt Press Combination Units complete (Employer's Preference: Bellmer Cascade S, consisting of TurboDrain TD Green 4C and WinklePress WP Green 4 K S)	No	6				
27	All Waste Activated Sludge Gravity Belt Thickener / Belt Press Combination Units complete (Contractor's Preference or Alternative)	Sum	-				Rate only
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
28	Access platforms and stairs for all waste activated sludge gravity belt thickener / belt press combination units	Sum	-		-		
29	Dewatered waste activated sludge pumps complete	No	3				
30	Receiving hopper and flapper gate for dewatered waste actiavted sludge pumps	Sum	-		-		
31	Delivery pipework (incl. supports) for pumping dewatered WAS to WAS cake silo	Sum	-		-		
32	Live bottom for waste activated sludge cake silo including support structure	Sum	-		-		
33	Dry Poly Storage Silos	No	4				
34	Dry poly "maxi-bag" lifting equipment	Sum	-		-		
35	Poly screw feeder complete as specified	No	4				
36	Poly feed blower	No	4				
37	Poly blower pipework to make-up tanks (incl. all suppports)	Sum	-		-		
38	Poly storage area dehumidifier system complete	Sum	-		-		
39	Poly make-up tank mixer (complete with support structure)	No	4				
40	Poly storage area bag filter system complete	Sum	-		-		
41	All overflow and drainage pipework for make-up tanks as specified (incl. all supports)	Sum	-		-		
42	Gravity pipework to poly stock tank (incl. all supports)	Sum	-		-		
43	Poly stock tank mixer (complete with support structure)	No	2				
44	WAS poly dosing pumps	No	7				
45	WAS poly dosing pumps suction pipework (inlcuding supports)	Sum	-		-		
46	WAS poly dosing pumps delivery pipework (inlcuding supports)	Sum	-		-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
47	WAS poly dosing injection units and static mixers	Sum	-		-		
48	Primary Sludge poly dosing pumps	No	5				
49	Primary Sludge poly dosing pumps suction pipework (including supports)	Sum	-		-		
50	Primary Sludge poly dosing pumps delivery pipework (including supports)	Sum	-		-		
51	Primary sludge poly dosing injection units and static mixers	Sum	-		-		
52	Compressed air system / hydraulic system for dewatering units complete	Sum	-		-		
53	WAS Filtrate Self-priming centrifugal pumps (incl. motor, belts, baseplate etc.)	No	2				
54	WAS Filtrate Pumps Suction pipework (incl. valves and supports)	Sum	-		-		
55	WAS Filtrate Pumps Delivery Pipework (incl. valves and supports)	Sum	-		-		
56	Pressure Gauges with diaphragm seal and pipe connections for WAS filtrate pumps	No	2				
57	Ventilation equipment as specified (incl. fans, motors, attenuators, ducting and all supports)	Sum	-		-		
58	Lifting equipment for dewatering units complete as specified	Sum	-		-		
59	Compressed air system for primary sludge storage tanks scour complete	Sum	-		-		
60	Temporary service water pumps as specified complete (incl. motor and baseplate)	Sum	-		-		
61	All pipework (suction and delivery) for temporary service water pumps (incl. supports as required)	Sum	-		-		
	Allow for all costs and expenses in connection with the Site installation of the following:-						
62	All items as listed above	Sum	-		-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Allow for all costs and expenses in connection with the pre-commissioning and performance acceptance tests of the following:						
63	All items as listed above	Sum		-		-	
	Other:-						
64	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify)	Item					
							
							
							
							
							
TOTAL OF SCHEDULE M8 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE M9						
	WAS FILTRATE PUMP STATION						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
4	Charge required by Contractor on above item (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
5	Self-priming centrifugal pumps (incl. motor, belts, baseplate etc.) for primary sludge pump station at PST's	No	2				
6	Suction pipework	Sum	-	-	-		
7	Delivery Pipework	Sum	-	-	-		
8	Pipe supports	Sum	-	-	-		
9	Lifting equipment as specified	Sum	-	-	-		
10	Pressure Gauges with diaphragm seal and pipe connections as specified	No	4				
11	Ventilation equipment as specified (incl. fans, motors, attenuators, ducting, louvres and all supports)	Sum	-	-	-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SEEDLING NURSERY							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Allow for all costs and expenses in connection with the Site installation of the following:-						
12	All items as listed above	Sum	-	-	-		
	Allow for all costs and expenses in connection with the pre-commissioning and performance acceptance tests of the following:						
13	All items as listed above	Sum	-	-	-		
14	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>)	Item					
							
							
							
							
TOTAL OF SCHEDULE M9 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE M10						
	DEWATERING BUILDING ODOUR CONTROL						
	Allow for all costs in connection with the following general items:						
1	Design and submission of drawings	Sum	-	-	-		
2	Setting out of works and checking the civil structure	Sum	-	-	-		
3	Odour Control Study as specified	Sum	-	-	-		
4	Inspection reports as specified	Sum	-	-	-		
5	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
6	Charge required by Contractor on above item (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, testing, supplying, delivery, offloading and storage of the following materials and equipment:						
7	Equipment covers as specified	m ²	300				
8	Extraction piping and supports	Sum	-	-	-		
9	Concrete slab with reinforcement for odour control equipment	m ³	20				
10	Brickwork and concrete slab for extraction pipe manifold and drain points chamber	Sum	-	-	-		
11	Biological or chemical odour control system including media (if applicable)	Sum	-	-	-		
12	Media / chemicals as required	Sum	-	-	-		
13	Extraction fans (incl. motor and supports)	Sum	-	-	-		
14	Nutrient supply for one year continuous operation (if required)	Sum	-	-	-		
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Allow for all costs and expenses in connection with the Site installation of the following:-						
15	All items as listed above	Sum	-	-			
	Allow for all costs and expenses in connection with the pre-commsissioning and performance acceptance tests of the following:						
16	All items as listed above	Sum	-	-			
17	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>)	Item	-				
							
							
							
							
							
							
TOTAL OF SCHEDULE M10 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE M11</u>						
	VALVES AND SLUICE GATES						
	Allow for all costs in connection with the following general items:						
1	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
2	Charge required by Contractor on above item (shall only cover "General Requirements and Conditions" and "Contractor's overhead charges")	%	R 75,000				
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
3	Actuated sluice gate upstream of trash racks	No	3				
4	Actuated sluice gate downstream of trash racks	No	3				
5	Actuated sluice gate upstream of lower Archimedes pumps	No	5				
6	All valves for inlet works service water pumps	Sum	-			-	
7	Actuated sluice gates upstream of mechanical front raked screens	No	5				
8	All valves for water supply for perforated plate screens	Sum	-			-	
9	Actuated sluice gate downstream of perforated plate screens	No	5				
10	Actuated (modulating) sluice gate for Inlet Works overflow (inlet to chamber)	Sum	-			-	
11	Actuated (modulating) sluice gate for Inlet Works overflow chamber (recirculation)	Sum	-			-	
12	Actuated (modulating) sluice gate for Inlet Works overflow chamber to overflow	Sum	-			-	
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
13	Actuated sluice gate upstream of degritters	No	4				
14	All valves for degritter water sparging pipework	Sum	-			-	
15	All valves for grit extraction pipework upstream and downstream of jet pumps	Sum	-			-	
16	Actuated sluice gate downstream of degritters	No	4				
17	All valves for water supply to water launders	Sum	-			-	
18	All valves for water supply to washer compactors	Sum	-			-	
19	Actuated sluice gate downstream of common channel	No	5				
20	Butterfly valves for odour control extraction pipework	Sum	-			-	
21	All additional valves required for odour control system	Sum	-			-	
22	Actuated sluice gate upstream of secondary Archimedes screws	No	5				
23	Manual sluice Gates at PST Flow Splitter	No	6				
24	All valves in primary sludge pump station	Sum	-			-	
25	All valves in WAS filtrate pump station	Sum	-			-	
26	DN700 knife gate valve with actuator of MBR pump station suction pipework	No	4				
27	DN600 flanged swing check valve with counterweight of MBR pump station delivery pipework	No	4				
28	DN600 knife gate valve with actuator of MBR pump station delivery pipework	No	4				
29	DN900 flanged wedge gate valve with actuator, located downstream of flowmeter (discharge of MBR pump station), with non-rising spindle	No	1				
30	DN150 flanged rsv gate valve of MBR pump station delivery	No	1				
31	DN150 flanged air valve with bias mechanism of MBR pump station delivery	No	1				
Carried forward / ...							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
32	All valves at PST Holding Tank Recirculation Pumps	Sum	-	-	-		
33	All valves for primary sludge feed pumps (suction and delivery and safety valves)	Sum	-	-	-		
34	All valves for WAS feed pumps (suction and delivery and safety valves)	Sum	-	-	-		
35	All valves for primary sludge poly pumps (suction and delivery)	Sum	-	-	-		
36	All valves for WAS poly pumps (suction and delivery)	Sum	-	-	-		
37	All valves for poly make-up and stock tank system (including blower and feeder valves)	Sum	-	-	-		
38	All valves for dewatering service water pumps	Sum	-	-	-		
39	All valves for dewatered WAS pumps (including safety valves)	Sum	-	-	-		
40	Butterfly valves for odour control extraction pipework	Sum	-	-	-		
41	All additional valves required for odour control system	Sum	-	-	-		
42	All valves for temporary service water pumps	Sum	-	-	-		
43	Actuated sluice gates at filtrate splitter chamber	No	2				
	Other						
44	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-	Item					
TOTAL OF SCHEDULE M11 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE M12</u>						
	WEIR PLATES						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
1	Weir plate for site service water supply chamber	Sum	-			-	
2	Weir plates for filtrate return splitter chamber	Sum	-			-	
3	Weir plates for CAS inlet chambers	Sum	-			-	
	Allow for all costs and expenses in connection with the Site installation of the following:-						
4	All items as listed above	Sum	-			-	
	Allow for all costs and expenses in connection with the pre-commissioning and performance acceptance tests of the following:						
5	All items as listed above	Sum	-			-	
	Other:						
6	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-	Item					
TOTAL OF SCHEDULE M12 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE M13</u>						
	SPARES						
	Allow for all costs and expenses in connection with the following items:						
1	All screens spares	Sum	-			-	
2	All conveyor spares	Sum	-			-	
3	All washer compactor screws	Sum	-			-	
4	Odour Control Spares	Sum	-			-	
5	Primary Sludge Pump Station Spares	Sum	-			-	
6	Dewatering Spares	Sum	-			-	
7	Spares for belt conveyor	Sum	-			-	
	Other:						
8	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-	Item					
TOTAL OF SCHEDULE M13 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE NO. E1						
	MINIATURE SUBSTATIONS						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	Mini-Subs						
	Supply Mini-Subs complete						
1	1000 kVA	No	4				
2	1250kVA	No	1				Rate Only
3	1600kVA	No	2				
	Install Mini-Subs complete						
4	1000 kVA	No	4				
5	1250kVA	No	1				Rate Only
6	1600kVA	No	2				
	Transformers						
	Supply Oil-filled distribution transformer complete						
7	1600 kVA (11kV/420V)	No	1				Rate Only
8	2000 kVA (11kV/420V)	No	1				Rate Only
	Install Oil-filled distribution transformer complete						
9	1600 kVA (11kV/420V)	No	1				Rate Only
10	2000 kVA (11kV/420V)	No	1				Rate Only
11	Transformers for the Dewatering Building supply as directed by the Engineer	Prov Sum	1			R	150,000.00
12	Charge required by Contractor on above item 11	%	150,000				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE	AMOUNT
				R	c
Brought forward / ...					
	Factory Acceptance Testing				
13	1000 kVA Mini-sub	No	4		
14	1250kVA Mini-sub	No	1		Rate Only
15	1600kVA Mini-sub	No	2		
16	1600kVA Transformer	No	1		Rate Only
17	2000kVA Transformer	No	1		Rate Only
	Pre-commissioning and performance acceptance testing				
18	1000 kVA Mini-sub	No	4		
19	1250kVA Mini-sub	No	1		Rate Only
20	1600kVA Mini-sub	No	2		
21	1600kVA Transformer	No	1		Rate Only
22	2000kVA Transformer	No	1		Rate Only
	MV switchgear				
23	MV Switchgear for the Dewatering Building transformer supply as directed by the Engineer	Prov Sum	1		R 150,000.00
24	Charge required by Contractor on above item 23	%	150,000		
25	For Eskom connection to Khayelitsha substation: supply and install 4RF1100 and Solkor N protection schemes at Zamdvliet Main intake substation	Sum	1		
26	Decommissioning of existing transformer and RMU	No	3		
27	Earthing of all MV cable terminations	Sum	1		
28	Earth resistivity tests (per mini-sub area)	No	3		
29	Earthing (per mini-sub)	No	6		
Carried forward / ...					

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE	AMOUNT
				Rc	Rc
Brought forward / ...					
30	Plinth (per mini-sub)	No	6		
31	Delivery of all equipment to site	Sum	1		
32	Protection coordination specialist at Zandvliet WWTW, including site test report and protection settings	Sum	1		
33	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections or routine test witnessing, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum			R 75,000.00
34	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-	Item			
TOTAL OF SCHEDULE NO. E1 CARRIED TO SUMMARY					

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE NO. E2						
	MV RETICULATION						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	Medium Voltage Cables						
	Supply 6.35/11kV, cable with stranded conductors;						
1	95mm ² x 3 core; Cu/XLPE, SWA	m	1500				
2	185mm ² x 3 core; Cu/XLPE, SWA	m	450				
3	185mm ² x 3 core; Cu/PILC, DSTA	m	2500				
	Supply cable terminations for 6.35/11kV, cable with stranded conductors complete, including shroud, lugs, number tags, etc. and connection.						
4	95mm ² x 3 core; Cu/XLPE, SWA	No	6				
5	185mm ² x 3 core; Cu/XLPE, SWA	No	2				
6	185mm ² x 3 core; Cu/PILC, DSTA	No	20				
	Cable Joints						
	Supply Cable joints for 6.35/11kV; complete with all necessary items for installation						
7	95mm ² x 3 core; Cu/XLPE, SWA	No	11				
8	185mm ² x 3 core; Cu/XLPE, SWA	No	1				
9	185mm ² x 3 core; Cu/PILC, DSTA	No	14				
	Earth Conductors						
	Supply Bare Copper Earth conductor with stranded conductors.						
10	70mm ²	m	4450				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE	AMOUNT
				Rc	Rc
Brought forward / ...					
11	Supply Cable terminations for bare copper earth conductor, complete, including gland shroud, lugs, number tags, etc. and connection. 70mm²	No	26		
12	All other Items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-	Item			
TOTAL OF SCHEDULE NO. E2 CARRIED TO SUMMARY					

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE NO. E3						
	MV RETICULATION INSTALLATION						
	Allow for all the costs and expenses in connection with the installation and commissioning of the following materials and						
	General						
1	Liaison with local authorities for new supply cable from Kayalitsha Substation, including Eskom, wayleaves and road crossing	Sum	1				
2	Liaison with Civil Contractor for cable route coordination	Sum	1				
	Medium Voltage Cables						
	Install 6.35/11kV; cable with stranded conductors fixed to cable tray, drawn into sleeves or laid into trenches.						
3	95mm ² x 3 core; Cu/XLPE, SWA	m	1,500				
4	185mm ² x 3 core; Cu/XLPE, SWA	m	450				
5	185mm ² x 3 core; Cu/PILC, DSTA	m	2500				
	Install cable terminations for 6.35/11kV, cable with stranded conductors complete, including shroud, lugs, number tags, etc. and connection.						
6	95mm ² x 3 core; Cu/XLPE, SWA	No	6				
7	185mm ² x 3 core; Cu/XLPE, SWA	No	2				
8	185mm ² x 3 core; Cu/PILC, DSTA	No	20				
	Cable Joints						
	Install Cable joints for 6.35/11kV; complete with all necessary items for installation						
9	95mm ² x 3 core; Cu/XLPE, SWA	No	11				
10	185mm ² x 3 core; Cu/XLPE, SWA	No	1				
11	185mm ² x 3 core; Cu/PILC, DSTA	No	14				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIT WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT ERMISTEET WARD							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Earth Conductors						
	Install Bare Copper Earth conductor with stranded conductors.						
12	70mm ²	m	4450				
	Install Cable terminations for bare copper earth conductor, complete, including gland shroud, lugs, number tags, etc. and connection.						
13	70mm ²	No	26				
	Excavations, etc.						
	Excavate and set excavated material aside for re-use as filling for cable or sleeve trench not exceeding 1m deep						
14	In earth	m	4450				
15	In soft rock	m ³	100				
16	In rock	m ³	25				
17	Selected and approved material for backfilling, bedding and cover	m ³	1780				
18	Surplus excavated material spread and leveled on site as directed	m ³	50				
19	Danger tape - 400mm wide overlapping	m	4895				
20	Cable marker, with engraved aluminium plate	No	30				
21	900mm x 900mm Manhole with cast iron cover	No	5				
22	Pre-commsissioning and performance acceptance tests of all items in this schedule	Sum	1				
23	Delivery of all equipmnet to site	Sum	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

TREATMENT AND OBSERVATION							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
24	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>):- 	Item					
TOTAL OF SCHEDULE NO. E3 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE NO. E4</u>						
	LV ELECTRICAL AND CONTROL CABLES						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	LV Cables - Supply						
	Supply, deliver and storage of Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore cable with stranded conductors.						
1	2.5mm ² x 4 core	m	11000				
2	4.0mm ² x 4 core	m	1000				
3	6mm ² x 4 core	m	750				
4	10mm ² x 4 core	m	4000				
5	16mm ² x 4 core	m	2600				
6	16mm ² x 3 core	m	400				
7	25mm ² x 4 core	m	200				
8	35mm ² x 4 core	m	150				
9	50mm ² x 4 core	m	100				
10	75mm ² x 4 core	m	800				
11	95mm ² x 4 core	m	150				
12	120mm ² x 4 core	m	220				
13	150mm ² x 4 core	m	1				
14	185mm ² x 4 core	m	40				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Supply, deliver and storage of Cable terminations for Cu/PVC Insuiated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore cables, complete, including gland shroud, lugs, number tags, etc. and connection.						
15	2.5mm ² x 4 core	No	270				
16	4.0mm ² x 4 core	No	36				
17	6mm ² x 4 core	No	28				
18	10mm ² x 4 core	No	190				
19	16mm ² x 4 core	No	200				
20	16mm ² x 3 core	No	10				
21	25mm ² x 4 core	No	16				
22	35mm ² x 4 core	No	6				
23	50mm ² x 4 core	No	2				
24	75mm ² x 4 core	No	24				
25	95mm ² x 4 core	No	4				
26	120mm ² x 4 core	No	4				
27	150mm ² x 4 core	No	1			Rate Only	
28	185mm ² x 4 core	No	4				
	Supply, deliver and storage ofCu/PVC Insulated/PVC Bedded/AWA/PVC Sheathed 600/1000V single core cable with stranded conductors.						
29	150mm ² x 1 core	m	1			Rate Only	
30	185mm ² x 1 core	m	1			Rate Only	
31	240mm ² x 1 core	m	1			Rate Only	
32	300mm ² x 1 core	m	1			Rate Only	
33	400mm ² x 1 core	m	1			Rate Only	
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
34	500mm ² x 1 core	m	350				
35	630mm ² x 1 core	m	17500				
	Supply, deliver and storage of Cable terminations for Cu/PVC Insulated/PVC Bedded/AWA/PVC Sheathed 600/1000V single core cables, complete, including gland shroud, lugs, number tags, etc. and connection.						
36	150mm ² x 1 core	No	1				Rate Only
37	185mm ² x 1 core	No	1				Rate Only
38	240mm ² x 1 core	No	1				Rate Only
39	300mm ² x 1 core	No	1				Rate Only
40	400mm ² x 1 core	No	1				Rate Only
41	500mm ² x 1 core	No	32				
42	630mm ² x 1 core	No	288				
	Supply, deliver and storage of Bare Copper Earth cable with stranded conductors.						
43	4mm ²	m	100				
44	6mm ²	m	200				
45	10mm ²	m	100				
46	16mm ²	m	400				
47	25mm ²	m	1				Rate Only
48	35mm ²	m	1				Rate Only
49	50mm ²	m	1				Rate Only
50	70mm ²	m	100				
51	95mm ²	m	100				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND CABLE TERMINATIONS							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
52	120mm ²	m	220			Rate Only	
53	150mm ²	m	180				
54	185mm ²	m	1				
55	240mm ²	m	320				
	Supply, deliver and storage of Cable terminations for bare copper earth cables, complete, including gland shroud, lugs, number tags, etc. and connection.						
56	4mm ²	No	6				
57	6mm ²	No	6				
58	10mm ²	No	6				
59	16mm ²	No	16				
60	25mm ²	No	1			Rate Only	
61	35mm ²	No	1			Rate Only	
62	50mm ²	No	1			Rate Only	
63	70mm ²	No	2				
64	95mm ²	No	2				
65	120mm ²	No	16				
66	150mm ²	No	6				
67	185mm ²	No	1			Rate Only	
68	240mm ²	No	20				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Control Cables - Supply						
	Supply, deliver and storage of Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore control cables with stranded conductors.						
69	1.5mm ² x 2 core	m	900				
70	1.5mm ² x 3 core	m	100				
71	1.5mm ² x 4 core	m	6000				
72	1.5mm ² x 7 core	m	2800				
73	1.5mm ² x 10core	m	100				
74	1.5mm ² x 19 core	m	100				
75	1.5mm ² x 24 core	m	200				
76	1.5mm ² x 30 core	m	200				
	Supply, deliver and storage of Cable terminations for multicore control cable complete, including gland shroud, lugs, number tags, etc. and connection.						
77	1.5mm ² x 2 core	No	24				
78	1.5mm ² x 3 core	No	10				
79	1.5mm ² x 4 core	No	266				
80	1.5mm ² x 7 core	No	78				
81	1.5mm ² x 10core	No	10				
82	1.5mm ² x 19 core	No	10				
83	1.5mm ² x 24 core	No	20				
84	1.5mm ² x 30 core	No	20				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Supply, deliver and storage of Extra low voltage instrumentation cable.						
85	1 mm² 1-pair	m	1			Rate Only	
86	1 mm² 2-pair	m	1			Rate Only	
87	1.5mm² 2-pair	m	9000				
88	1.5mm² 2-pair	m	500				
89	1.5mm² 12-pair	m	200				
90	1.5mm² 19-pair	m	200				
91	1 x Triad	m	200				
	Supply, deliver and storage of Terminations for Extra low voltage instrumentation cable						
92	1 mm² 1-pair	No	1			Rate Only	
93	1 mm² 2-pair	No	1			Rate Only	
94	1.5mm² 1-pair	No	328				
95	1.5mm² 2-pair	No	20				
96	1.5mm² 12-pair	No	10				
97	1.5mm² 19-pair	No	10				
98	1 x Triad	No	10				
	Supply, deliver and storage of Instrumentation Power cable Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore with stranded conductors.						
99	2.5mm² x 3 core	m	2000				
100	4mm² x 3 core	m	100				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY
TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Supply, deliver and storage of Terminations for Instrumentation Power cable Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore with stranded conductors.						
101	2.5mm² x 3 core	No	56				
102	4mm² x 3 core	No	10				
103	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>):-	Item					
TOTAL OF SCHEDULE NO. E4 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE NO. E5</u>						
	LV ELECTRICAL INSTALLATION						
	Allow for all the costs and expenses in connection with the installation and commissioning of the following materials and equipment: General						
1	Liaison with Civil Contractor for cable routes coordination	Sum	1				
	Cable Trays / Cable Ladders - Supply						
	Supply, deliver and storage of Heavy Duty Stainless Steel 316L Welded Cable Ladder, 3mm thick side rails, channel cross rungs at 300mm centres, complete with couplers, clamps, threaded rods, hangers, cantilevers, brackets etc. to fix to trusses, walls, etc. as per drawings and specifications						
	100 x 100mm (W x H)						
2	Straight length	m	300				
3	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	8				
4	4 Way cross over	No	2				
	200 x 100mm (W x H)						
5	Straight length	m	300				
6	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	8				
7	4 Way cross over	No	2				
	300 x 100mm (W x H)						
8	Straight length	m	100				
9	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	2				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT LANDFILL WASTEWATER							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
10	4 Way cross over 600 x 100mm (W x H)	No	1				
11	Straight length	m	200				
12	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	6				
13	4 Way cross over 800 x 100mm (W x H)	No	1				
14	Straight length	m	100				
15	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	4				
16	4 Way cross over 1000 x 100mm (W x H)	No	1				
17	Straight length	m	75				
18	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	3				
19	4 Way cross over Supply, deliver and storage of Stainless Steel 316L Welded Wire Mesh Cable Tray, 50 x 50mm Base Aperture, 25 x 50mm Side Aperture, complete with splices, couplers, clamps, threaded rods, hangers, brackets etc. to fix to trusses, walls, etc. as per drawings and specifications 100 x 50mm (W x H), Ø 4mm Wire	No	1				
20	Straight length 200 x 50mm (W x H), Ø 4mm Wire	m	300				
21	Straight length 300 x 50mm (W x H), Ø 4mm Wire	m	400				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SUDOL HANDLING FACILITIES AT LEM...							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
22	Straight length 400 x 50mm (W x H), Ø 4mm Wire	m	200				
23	Straight length Supply, deliver and storage of Heavy Duty Galvanised Steel, Welded Cable Ladder, 3mm thick side rails, channel cross rungs at 300mm centres, complete with couplers, clamps, threaded rods, hangers, cantilevers, brackets etc. to fix to trusses, walls, etc. as per drawings and specifications 100 x 100mm (W x H)	m	200				
24	Straight length	m	100				
25	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	2				
26	4 Way cross over 200 x 100mm (W x H)	No	1				
27	Straight length	m	100				
28	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	2				
29	4 Way cross over 300 x 100mm (W x H)	No	1				
30	Straight length	m	50				
31	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	1				
32	4 Way cross over 600 x 100mm (W x H)	No	1				
33	Straight length	m	100				
34	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT LINDVALL							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
35	4 Way cross over 800 x 100mm (W x H)	No	1				
36	Straight length	m	50				
37	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	1				
38	4 Way cross over 1000 x 100mm (W x H)	No	1				
39	Straight length	m	20				
40	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	1				
41	4 Way cross over Supply, deliver and storage of Galvanised Steel, Welded Wire Mesh Cable Tray, 50 x 50mm Base Aperture, 25 x 50mm Side Aperture, complete with splices, couplers, clamps, threaded rods, hangers, brackets etc. to fix to trusses, walls, etc. as per drawings and specifications 100 x 50mm (W x H), Ø 4mm Wire	No	1				
42	Straight length 200 x 50mm (W x H), Ø 4mm Wire	m	100				
43	Straight length 300 x 50mm (W x H), Ø 4mm Wire	m	100				
44	Straight length 400 x 50mm (W x H), Ø 4mm Wire	m	50				
45	Straight length	m	50				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Conduit - Supply						
	Supply the following conduit, including all mounting brackets, fastening materials, elbows, etc.						
46	PVC , 20mm	m	100				
47	PVC, 25mm	m	50				
48	PVC, 32mm	m	50				
49	Galvanised Steel, 20mm	m	300				
50	Galvanised Steel, 20mm	m	1			Rate Only	
51	Galvanised Steel, 25mm	m	100				
52	Stainless Steel 316, 25mm	m	1			Rate Only	
	LV Cables - Install						
	Install Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore cable with stranded conductors. Cable fixed to cable tray, drawn into sleeves or laid into trenches.						
53	2.5mm² x 4 core	m	11000				
54	4.0mm² x 4 core	m	1000				
55	6mm² x 4 core	m	750				
56	10mm² x 4 core	m	4000				
57	16mm² x 4 core	m	2600				
58	16mm² x 3 core	m	400				
59	25mm² x 4 core	m	200				
60	35mm² x 4 core	m	150				
61	50mm² x 4 core	m	100				
62	75mm² x 4 core	m	800				
63	95mm² x 4 core	m	150				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
64	120mm ² x 4 core	m	220				
65	150mm ² x 4 core	m	1			Rate Only	
66	185mm ² x 4 core	m	1			Rate Only	
	Install Cable terminations for Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore cables, complete, including gland shroud, lugs, number tags, etc. and connection.						
67	2.5mm ² x 4 core	No	270				
68	4.0mm ² x 4 core	No	36				
69	6mm ² x 4 core	No	28				
70	10mm ² x 4 core	No	190				
71	16mm ² x 4 core	No	200				
72	16mm ² x 3 core	No	10				
73	25mm ² x 4 core	No	16				
74	35mm ² x 4 core	No	6				
75	50mm ² x 4 core	No	2				
76	75mm ² x 4 core	No	24				
77	95mm ² x 4 core	No	4				
78	120mm ² x 4 core	No	4				
79	150mm ² x 4 core	No	1			Rate Only	
80	185mm ² x 4 core	No	1			Rate Only	
	Install Cu/PVC Insulated/PVC Bedded/AWA/PVC Sheathed 600/1000V single core cable with stranded conductors. Cable fixed to cable tray, drawn into sleeves or laid into trenches.						
81	150mm ² x 1 core	m	1			Rate Only	
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
82	185mm² x 1 core	m	1			Rate Only	
83	240mm² x 1 core	m	1			Rate Only	
84	300mm² x 1 core	m	1			Rate Only	
85	400mm² x 1 core	m	1			Rate Only	
86	500mm² x 1 core	m	350				
87	630mm² x 1 core	m	17500				
	Install Cable terminations for Cu/PVC Insulated/PVC Bedded/AWA/PVC Sheathed 600/1000V single core cables, complete, including gland shroud, lugs, number tags, etc. and connection.						
88	150mm² x 1 core	No	1			Rate Only	
89	185mm² x 1 core	No	1			Rate Only	
90	240mm² x 1 core	No	1			Rate Only	
91	300mm² x 1 core	No	1			Rate Only	
92	400mm² x 1 core	No	1			Rate Only	
93	500mm² x 1 core	No	32				
94	630mm² x 1 core	No	288				
	Install Bare Copper Earth cable with stranded conductors.						
95	4mm²	m	100				
96	6mm²	m	200				
97	10mm²	m	100				
98	16mm²	m	400				
99	25mm²	m	1				
100	35mm²	m	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SADDLE HANDLING MATERIALS							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
101	50mm ²	m	1				
102	70mm ²	m	100				
103	95mm ²	m	100				
104	120mm ²	m	220				
105	150mm ²	m	180				
106	185mm ²	m	1				
107	240mm ²	m	320				
	Install Cable terminations for bare copper earth cables, complete, including gland shroud, lugs, number tags, etc. and connection.						
108	4mm ²	No	6				
109	6mm ²	No	6				
110	10mm ²	No	6				
111	16mm ²	No	16				
112	25mm ²	No	1				
113	35mm ²	No	1				
114	50mm ²	No	1				
115	70mm ²	No	2				
116	95mm ²	No	2				
117	120mm ²	No	16				
118	150mm ²	No	6				
119	185mm ²	No	1				
120	240mm ²	No	20				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVEIJ WASTEWATER TREATMENT PLANT							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Install Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore control cables with stranded conductors. Cable fixed to cable tray, drawn into sleeves or laid into trenches.						
121	1.5mm ² x 2 core	m	900				
122	1.5mm ² x 3 core	m	100				
123	1.5mm ² x 4 core	m	6000				
124	1.5mm ² x 7 core	m	2800				
125	1.5mm ² x 10core	m	100				
126	1.5mm ² x 19 core	m	100				
127	1.5mm ² x 24 core	m	200				
128	1.5mm ² x 30 core	m	200				
	Install Cable terminations for multicore control cable complete, including gland shroud, lugs, number tags, etc. and connection.						
129	1.5mm ² x 2 core	No	24				
130	1.5mm ² x 3 core	No	10				
131	1.5mm ² x 4 core	No	266				
132	1.5mm ² x 7 core	No	78				
133	1.5mm ² x 10core	No	10				
134	1.5mm ² x 19 core	No	10				
135	1.5mm ² x 24 core	No	20				
136	1.5mm ² x 30 core	No	20				
	Install Extra low voltage instrumentation cable fixed to cable tray, drawn into sleeves or power skirting.						
137	1 mm ² 1-pair	m	1				Rate Only
138	1 mm ² 2-pair	m	1				Rate Only
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT LINDVALL							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
139	1.5mm ² 2-pair	m	9000				
140	1.5mm ² 2-pair	m	500				
141	1.5mm ² 12-pair	m	200				
142	1.5mm ² 19-pair	m	200				
143	1 x Triad	m	200				
	Install Terminations for Extra low voltage instrumentation cable						
144	1 mm ² 1-pair	No	1				Rate Only
145	1 mm ² 2-pair	No	1				Rate Only
146	1.5mm ² 1-pair	No	328				
147	1.5mm ² 2-pair	No	20				
148	1.5mm ² 12-pair	No	10				
149	1.5mm ² 19-pair	No	10				
150	1 x Triad	No	10				
	Install Instrumentation Power cable Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore with stranded conductors. Cable fixed to cable tray, drawn into sleeves or laid into trenches.						
151	2.5mm ² x 3 core	m	2000				
152	4mm ² x 3 core	m	100				
	Install Terminations for Instrumentation Power cable Cu/PVC Insulated/PVC Bedded/SWA/PVC Sheathed 600/1000V multicore with stranded conductors.						
153	2.5mm ² x 3 core	No	56				
154	4mm ² x 3 core	No	10				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SERVICE HANDLING INFORMATION							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Cable Trays / Cable Ladders - Install						
	Install Heavy Duty Stainless Steel 316L Welded Cable Ladder, 3mm thick side rails, channel cross rungs at 300mm centres, complete with couplers, clamps, threaded rods, hangers, cantilevers, brackets etc. to fix to trusses, walls, etc. as per drawings and specifications						
	100 x 100mm (W x H)						
155	Straight length	m	300				
156	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	8				
157	4 Way cross over	No	2				
	200 x 100mm (W x H)						
158	Straight length	m	300				
159	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	8				
160	4 Way cross over	No	2				
	300 x 100mm (W x H)						
161	Straight length	m	100				
162	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	2				
163	4 Way cross over	No	1				
	600 x 100mm (W x H)						
164	Straight length	m	200				
165	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	6				
166	4 Way cross over	No	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	800 x 100mm (W x H)						
167	Straight length	m	100				
168	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	4				
169	4 Way cross over	No	1				
	1000 x 100mm (W x H)						
170	Straight length	m	75				
171	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	3				
172	4 Way cross over	No	1				
	Install of Stainless Steel 316L Welded Wire Mesh Cable Tray, 50 x 50mm Base Aperture, 25 x 50mm Side Aperture, complete with splices, couplers, clamps, threaded rods, hangers, brackets etc. to fix to trusses, walls, etc. as per drawings and specifications						
	100 x 50mm (W x H), Ø 4mm Wire						
173	Straight length	m	300				
	200 x 50mm (W x H), Ø 4mm Wire						
174	Straight length	m	400				
	300 x 50mm (W x H), Ø 4mm Wire						
175	Straight length	m	200				
	400 x 50mm (W x H), Ø 4mm Wire						
176	Straight length	m	200				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Install Heavy Duty, Hot Dipped Galvanised Steel, Welded Cable Ladder, 3mm thick side rails, channel cross rungs at 300mm centres, complete with couplers, clamps, threaded rods, hangers, cantilevers, brackets etc. to fix to trusses, walls, etc. as per drawings and specifications						
	100 x 100mm (W x H)						
177	Straight length	m	100				
178	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	2				
179	4 Way cross over	No	1				
	200 x 100mm (W x H)						
180	Straight length	m	100				
181	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	2				
182	4 Way cross over	No	1				
	300 x 100mm (W x H)						
183	Straight length	m	50				
184	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	1				
185	4 Way cross over	No	1				
	600 x 100mm (W x H)						
186	Straight length	m	100				
187	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	1				
188	4 Way cross over	No	1				
	800 x 100mm (W x H)						
189	Straight length	m	50				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIEP WASTEWATER TREATMENT WORKS

TREATMENT AND SCHEDULES							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
190	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	1				
191	4 Way cross over	No	1				
	1000 x 100mm (W x H)						
192	Straight length	m	20				
193	Extras: Tee piece or 90° deg Horizontal elbow or Internal Riser or Dropper	No	1				
194	4 Way cross over	No	1				
	Install of Hot Dipped Galvanised Steel , Welded Wire Mesh Cable Tray, 50 x 50mm Base Aperture, 25 x 50mm Side Aperture, complete with splices, couplers, clamps, threaded rods, hangers, brackets etc. to fix to trusses, walls, etc. as per drawings and specifications						
	100 x 50mm (W x H), Ø 4mm Wire						
195	Straight length	m	100				
	200 x 50mm (W x H), Ø 4mm Wire						
196	Straight length	m	100				
	300 x 50mm (W x H), Ø 4mm Wire						
197	Straight length	m	50				
	400 x 50mm (W x H), Ø 4mm Wire						
198	Straight length	m	50				
	Conduit - Install						
	Install the following conduit, including all mounting brackets, fastening materials, elbows, etc.						
199	PVC , 20mm	m	100				
200	PVC, 25mm	m	50				
201	PVC, 32mm	m	50				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SUDOLHANDLING FACILITIES AT EMBASSY							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
202	Galvanised Steel, 20mm	m	300				
203	Stainless Steel 316, 20mm	m	1				Rate Only
204	Galvanised Steel, 25mm	m	100				
205	Stainless Steel 316, 25mm	m	1				Rate Only
	Excavation						
	Excavate and set excavated material aside for re-use as filling for cable or sleeve trench not exceeding 1m deep						
206	In earth/sand	m	1500				
207	In soft rock	m³	60				
208	In rock	m³	10				
209	Selected and approved material for backfilling	m³	150				
210	Danger tape - 400mm wide overlapping	m	3000				
211	Cable marker with engraved steel plate	No	60				
212	1000mm x 1000mm manhole with cast iron cover	No	5				
	General						
213	Bonding of all extraneous conductive parts.	Sum	1				
214	Labelling of Cables and Equipment	Sum	1				
215	Pre-commsissioning and performance acceptance tests of all items in this schedule	Sum	1				
216	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>):-	Item					
							
							
							
							
							
TOTAL OF SCHEDULE NO. E5 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE NO. E6						
	STANDBY POWER GENERATOR						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	New Diesel Generator Sets						
1	Diesel generator for Inlet Works and Lower Screw Pump Station	No	1				
2	Diesel generator for Primary Sludge Treatment	No	1				
3	Diesel generator for Dewatering Plant	No	1				
4	Modified Exhaust System	No	3				
5	Radiator Ducting	No	3				
6	Sound Attenuated Louvres	No	6				
7	Electrical fuel transfer pump (with fuel sensor)	No	3				Rate Only
8	Fire extinguishers	No	6				
9	Service and Maintenance Contract for installation	Months	12				
	Diesel tank						
10	Free standing diesel storage tank complete with instrumentation (Inlet Works and Lower Screw Pump Station Generator)	No	1				
11	Fuel (enough for testing and commissioning and a full tank with handover) (Inlet Works and Lower Screw Pump Station Generator)	Sum	1				
12	Free standing diesel storage tank complete with instrumentation (Primary Sludge treatment & Dewatering Generator)	No	1				
13	Fuel (enough for testing and commissioning and a full tank with handover) (Primary Sludge treatment & Dewatering Generator)	Sum	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Temporary Construction power						
14	Provision of temporary power during electrical changeovers as directed by the Engineer	Prov Sum	1			R	100,000.00
15	Charge required by Contractor on above item 14	%	100,000				
16	Allow for separate return flights, car hire, accommodation and subsistence costs incurred in optional factory inspections or routine test witnessing, outside the Cape Metropolitan Area, by the City of Cape Town Engineer and his representative (two persons) for equipment in this schedule	Prov Sum				R	75,000.00
17	Delivery to site of equipment included under Schedule E6	Sum	1				
18	Installation of equipment included under Schedule E6	Sum	1				
19	Earthing and bonding of the installation	Sum	1				
20	Pre-commsissioning and performance acceptance tests of all items in this schedule	Sum	1				
21	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-	Item					
TOTAL OF SCHEDULE NO. E6 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE NO. E7</u>						
	LV SWITCHGEAR AND CONTROLGEAR						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading, storage, installation, testing and commissioning of the following materials and equipment:						
	New Switchgear Assemblies						
	MCC-LSPS&IW complete						
1	Supply	Sum	1				
2	Install	Sum	1				
3	Testing and Commissioning	Sum	1				
	MCC-USPS complete						
4	Supply	Sum	1				
5	Install	Sum	1				
6	Testing and Commissioning	Sum	1				
	MCC-PS_PS complete						
7	Supply	Sum	1				
8	Install	Sum	1				
9	Testing and Commissioning	Sum	1				
	MCC-MBR_PS complete						
10	Supply	Sum	1				
11	Install	Sum	1				
12	Testing and Commissioning	Sum	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND CLOSURE AND CLOSURE AND CLOSURE AND CLOSURE						
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT
				R	c	R c
Brought forward / ...						
	MCC-DW complete					
13	Supply	Sum	1			
14	Install	Sum	1			
15	Testing and Commissioning	Sum	1			
	MCC-BP (Primary Sludge) complete					
16	Supply	Sum	4			
17	Install	Sum	4			
18	Testing and Commissioning	Sum	4			
	MCC-BP (WAS) complete					
19	Supply	Sum	6			
20	Install	Sum	6			
21	Testing and Commissioning	Sum	6			
	Field Control Station - Belt Presses complete					
22	Supply	Sum	10			
23	Install	Sum	10			
24	Testing and Commissioning	Sum	10			
	Primary Sludge Main DB complete					
25	Supply	Sum	1			
26	Install	Sum	1			
27	Testing and Commissioning	Sum	1			
	Existing WAS pump station MCC (CAS B MCC)					
28	Decommissioning of existing 22kW WAS motor starter cubicles, removal of starter cubicle, disconnecting power, control and instrumentation cables at motor, removal off site of existing cables and equipment	No	3			
Carried forward / ...						

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
29	Supply, install and commission of new 30kW WAS pump starter cubicle with VFC and line side reactor	No	2				
30	Supply, install and commission of new 0.75kW Electrical actuated sluice gate circuit breaker (LV Cabling and cabling support systems are included under Schedules E3 and E4)	No	4				
Existing WAS pump station MCC (CAS B MCC)							
31	Upgrade of existing MCC starters	Prov	1			R	150,000.00
32	Charge required by Contractor on above item 28	%	150,000				
Field Control Stations							
33	Supply and install Local E-Stop/Start Control Station (including pedestal mount)	No	115				
34	Supply and install Local Forward/Reverse Station (including pedestal mount)	No	28				
Busbar trunking							
35	Busbar trunking for the Dewatering Building MCC as directed by the Engineer	Prov Sum	1			R	150,000.00
36	Charge required by Contractor on above item 32	%	150,000				
Screw Pump stations - temporary pump installation							
37	Supply and install 630A MCCB at existing Screw Pump Station MCC.	No	2				
38	Supply and install 250kW IP54 Soft Starter at existing Screw Pump Station MCC.	No	2				
39	MCC control and wiring changes to incorporate temporary pump	Prov Sum	1			R	75,000.00
40	Charge required by Contractor on above item 36	%	75,000				
Harmonic Network Study							
41	Investigation study for harmonic mitigation on a plant wide solution by specialist	Sum	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT LAMPUR							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Cable Trench Covers						
42	Meranti Wood slabs over cable trenches in MCC rooms	m ²	30				
	MCC Room ventilation						
43	Design & Supply of IW&LSPS MCC Room	Sum	1				
44	Design & supply of USPS MCC Room ventilation	Sum	1				
45	Design & supply of MBR_PS MCC Room ventilation	Sum	1				
46	Design & supply of PS_PS MCC Room ventilation	Sum	1				
47	Design & supply of DW MCC Room ventilation	Sum	1				
48	Installation of all MCC rooms ventilation and a/c equipment	Sum					
49	Pre-commsissioning and performance acceptance tests of all items in this schedule not already listed elsewhere	Sum	1				
50	Delivery to site of equipment included under Schedule E7	Sum	1				
51	Certificates of Compliance for all switchgear panels included under Schedule E7	Sum	1				
52	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-	Item					
TOTAL OF SCHEDULE NO. E7 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE NO. E8</u>						
	PROGRAMMABLE LOGIC CONTROLLERS						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	PLC - Inlet Works and Lower Screw Pump						
	PLC Panel						
1	Supply	No	2				
2	Install	No	2				
	PLC hardware complete						
3	Supply	No	2				
4	Install	No	2				
5	Supply and Install PLC Software Complete	Sum	1				
6	Programming of PLC	Sum	1				
7	Simulation Testing of PLC Programming	Sum	1				
8	Site Testing and Commissioning	Sum	1				
	PLC - Upper Screw Pump Station						
	PLC Panel						
9	Supply	No	1				
10	Install	No	1				
	PLC hardware complete						
11	Supply	No	1				
12	Install	No	1				
13	Supply and Install PLC Software Complete	Sum	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT LEWISVILLE							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
14	Programming of PLC	Sum	1				
15	Simulation Testing of PLC Programming	Sum	1				
16	Site Testing and Commissioning	Sum	1				
	PLC - Sludge Pump Station & PSTs						
	PLC Panel						
17	Supply	No	1				
18	Install	No	1				
	PLC hardware complete						
19	Supply	No	1				
20	Install	No	1				
21	Supply and Install PLC Software Complete	Sum	1				
22	Programming of PLC	Sum	1				
23	Simulation Testing of PLC Programming	Sum	1				
24	Site Testing and Commissioning	Sum	1				
	PLC - MBR Pump Station						
	PLC Panel						
25	Supply	No	1				
26	Install	No	1				
	PLC hardware complete						
27	Supply	No	1				
28	Install	No	1				
29	Supply and Install PLC Software Complete	Sum	1				
30	Programming of PLC	Sum	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
31	Simulation Testing of PLC Programming	Sum	1				
32	Site Testing and Commissioning	Sum	1				
	PLC - MDB						
	PLC Panel						
33	Supply	No	1				
34	Install	No	1				
	PLC hardware complete						
35	Supply	No	1				
36	Install	No	1				
37	Supply and Install PLC Software Complete	Sum	1				
38	Programming of PLC	Sum	1				
	PLC - Dewatering Plant						
	PLC Panel						
39	Supply	No	2				
40	Install	No	2				
	PLC hardware complete						
41	Supply	No	2				
42	Install	No	2				
43	Supply and Install PLC Software Complete	Sum	1				
44	Programming of PLC	Sum	1				
45	Simulation Testing of PLC Programming	Sum	1				
46	Site Testing and Commissioning	Sum	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	PLC - Belt Press						
	PLC Panel (integrated into Belt Press MCC)						
47	Supply	No	10				
48	Install	No	10				
	PLC hardware complete						
49	Supply	No	10				
50	Install	No	10				
51	Supply and Install PLC Software Complete	Sum	10				
52	Programming of PLC	Sum	10				
53	Simulation Testing of PLC Programming	Sum	10				
54	Site Testing and Commissioning	Sum	10				
	General PLC Components as in the PLCs above						
55	CPU	No	1			Rate Only	
56	Backplane	No	1			Rate Only	
57	8 Analogue Inputs Card	No	1			Rate Only	
58	8 Analogue Outputs Card	No	1			Rate Only	
59	16 Digital Inputs Card	No	1			Rate Only	
60	16 Digital Outputs Card	No	1			Rate Only	
61	Modbus RTU Card	No	1			Rate Only	
62	2 port Ethernet Card	No	1			Rate Only	
	UPS for PLC, HMI and other control accessories						
63	Supply	No	17				
64	Install	No	17				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT LANDFILL WASTEWATER							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	HMI (per Inlet Works PLC panel)						
65	Supply	No	2				
66	Install	No	2				
67	Configuring Mimics	No	2				
68	Simulation Testing of HMI	Sum	1				
69	Site Test and Commissioning	Sum	1				
	Industrial Network Installation						
	Armoured 12 Core Multimode fibre optic cable						
70	Supply	m	2300				
71	Install	m	2300				
72	Fibre Optic Splicing per core	No	24				
	CAT5 Cables						
73	Supply	m	400				
74	Install	m	400				
	Switches (including fibre optic media converters, fibre terminations, panel) complete						
75	Supply	No	18				
76	Install	No	18				
	Sludge Treatment main switch (installed at the MDB) (including fibre optic media converters, fibre terminations, panel) complete						
77	Supply	No	1				
78	Install	No	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT LANDFILL WASTEWATER							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Dewatering main switch (including fibre optic media converters, fibre terminations, panel) complete						
79	Supply	No	1				
80	Install	No	1				
	Supply miscellaneous hardware items (lugs, plugs, terminals and installation consumables)						
81	Supply	Sum	1				
82	Install	Sum	1				
	Existing WAS pump station PLC (CAS B PLC)						
83	Decommissioning of existing 22kW WAS motor starter IO	No	3				
84	Incorporation of new 30kW WAS motor starter (incl VFC) IO to existing PLC	No	2				
85	Incorporation of new electrical actuator IO to existing PLC	No	4				
	(LV Cabling and cabling support systems are included under Schedules E3 and E4)						
86	Pre-commsissioning and performance acceptance tests of the entire control network including all items in this schedule	Sum	1				
87	Control System training	Hrs	40				
88	Delivery to site of equipment included under Schedule E8	Sum	1				
89	Conversion of existing plant wide Modbus Plus network to Ethernet network	Prov	1			R	150,000.00
90	Charge required by Contractor on above item 89	%	150,000				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES AT LANEVILLE WWTW							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
91	Integration of control systems in this schedule with the remainder of the WWTW across the plant wide fibre optic ring network	Sum	1				
92	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>):-	Item					
TOTAL OF SCHEDDULE NO. E8 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE T WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE NO. E9</u>						
	SCADA						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	SCADA Software						
1	Mimics Configuration at Zandvliet WWTW Main Control Station (Main SCADA) upgrade	Sum	1				
2	Mimics Configuration at Hardekraaltjie Control Centre	Sum	1				
3	Alarms and Events Configuration	Sum	1				
4	Report Configuration	Sum	1				
5	Data logging and trends display configuration	Sum	1				
6	SCADA security (firewall, intruder detection and anti-virus)	Sum	1				
7	Simulation Testing of SCADA Programming	Sum	1				
8	SCADA software: remote view note at New Dewatering SCADA station	Sum	1				
9	Mimics Configuration for remote view nodes	Sum	1				
10	All other software programming and configuration required for complete and secure SCADA system with hot standby	Sum	1				
	SCADA Hardware (Dewatering Control Room)						
	SCADA Operator computer (workstation) complete with all accessories						
11	Supply	No	3				
12	Install	No	3				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND CLOSURE / ENDING / ...							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Main Network Switch						
13	Supply	No	1				
14	Install	No	1				
	Computer Network Switch						
15	Supply	No	1				
16	Install	No	1				
	19" rack cabinet for switches and industrial computer						
17	Supply	No	1				
18	Install	No	1				
	23" LED Backlit LCD Displays						
19	Supply	No	2				
20	Install	No	2				
	50" LED Backlit LCD Display						
21	Supply	No	1				
22	Install	No	1				
	SCADA Computer UPS						
23	Supply	No	1				
24	Install	No	1				
	SCADA printer						
25	Supply	No	1				
26	Install	No	1				
27	Workstation furniture	Sum	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
28	Other network accessories, switches, routers etc. necessary for a complete SCADA system	Sum	1				
29	Pre-commsissioning and performance acceptance tests of the Complete SCADA	Sum	1				
30	SCADA training	hours	40				
31	Delivery to site of equipment included under Schedule E9	Sum	1				
32	Upgrade of existing SCADA system and license	Prov	1			R	150,000.00
33	Charge required by Contractor on above item 33	%	150,000				
34	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (Specify):-	Item					
TOTAL OF SCHEDULE NO. E9 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIE TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE NO. E10</u>						
	TELEMETRY						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	Telemetry						
1	Upgrade of Telemetry and Hardekraaltjie SCADA system as directed by the Engineer	Prov	1			R	150,000.00
2	Charge required by Contractor on above item 1	%	150,000				
3	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>):-	Item					
							
							
							
							
							
TOTAL OF SCHEDULE NO. E10 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	<u>SCHEDULE NO. E11</u>						
	INSTRUMENTATION						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	Ultrasonic Level Meter including sensor, transmitter and mounting materials						
1	Supply	No	36				
2	Install	No	36				
	Proximity Sensor (in conjunction with mechanical torque switch) complete including mounting materials						
3	Supply	No	37				
4	Install	No	37				
	Proximity Sensor complete including mounting materials						
5	Supply	No	10				
6	Install	No	10				
	Level Switch complete including mounting materials						
7	Supply	No	5				
8	Install	No	5				
	Pressure Transmitter complete including mounting materials						
9	Supply	No	47				
10	Install	No	47				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND CLOSURE							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Solids Density Meter including sensor, transmitter and mounting materials						
11	Supply	No	14				
12	Install	No	14				
	Coriolis Mass Flow meters including sensor, transmitter and mounting materials (Primary Sludge Chambers 1 & 2)						
13	Supply	No	2				
14	Install	No	2				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Primary Sludge Pump Station common discharge)						
15	Supply	No	1				
16	Install	No	1				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (MBR Pump Station Common Discharge)						
17	Supply	No	1				
18	Install	No	1				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Primary Sludge Belt Press Feed Pumps)						
19	Supply	No	4				
20	Install	No	4				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Primary Sludge Filtrate Belt press)						
21	Supply	No	1				
22	Install	No	1				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Waste Activated Sludge Belt Press Feed Pumps)						
23	Supply	No	6				
24	Install	No	6				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Waste Activated Sludge Filtrate Pumps)						
25	Supply	No	1				
26	Install	No	1				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Potable Water for Poly Dilution)						
27	Supply	No	1				
28	Install	No	1				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Primary Sludge Poly Dose Pumps)						
29	Supply	No	4				
30	Install	No	4				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Primary Sludge Poly Dose Pumps Dilution Water)						
31	Supply	No	4				
32	Install	No	4				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (WAS Poly Dose Pumps)						
33	Supply	No	4				
34	Install	No	4				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (WAS Poly Dose Pumps Dilution Water)						
35	Supply	No	4				
36	Install	No	4				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Service Water Common Discharge)						
37	Supply	No	1				
38	Install	No	1				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Service Water Common Discharge)						
39	Supply	No	1				
40	Install	No	1				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (WAS Pumps Common Discharge)						
41	Supply	No	1				
42	Install	No	1				
	Electromagnetic Flow meter including sensor, transmitter and mounting materials (Degritted Primary Sludge Pumps)						
43	Supply	No	2				
44	Install	No	2				
	Sludge Blanket Level meter including sensor, transmitter and mounting materials (Primary Settling tanks)						
45	Supply	No	4				
46	Install	No	4				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Existing Nivus Flow meters						
47	Decommissioning and removal of existing Nivus flow meter	No	2				
48	Re-Installation of Nivus flow meter	No	2				
49	Supply and install additional Nivus transmitter	No	1				
	Existing Nivus Ultrasonic level sensors						
50	Supply of Nivus transmitters for connection to level sensors	No	2				
51	Install of Nivus transmitters for connection to level sensors	No	2				
52	Installation of Nivus level sensors (free issued)	No	2				
	Instrumentation and Control junction box complete with terminations and accessories						
53	Supply	No	22				
54	Install	No	22				
	Instrumentation Transmitter outdoor housing complete with terminations and accessories						
55	Supply	No	52				
56	Install	No	52				
57	Additional instrumentation as directed by the Engineer	Prov	1			R	150,000.00
58	Charge required by Contractor on above item 55	%	150,000				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

TREATMENT AND SLUDGE HANDLING FACILITIES							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
59	Delivery to site of equipment included under Schedule E11	Sum	1				
60	Training in operation and maintenance of instrumentation	Hours	16				
61	Pre-commissioning and performance acceptance tests of all items in this schedule	Sum	1				
62	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>):-	Item					
TOTAL OF SCHEDULE NO. E11 CARRIED TO SUMMARY							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
	SCHEDULE NO. E12						
	AREA LIGHTING						
	Allow for all the costs and expenses in connection with the design, manufacture, painting, factory testing, supplying, delivery, offloading and storage of the following materials and equipment:						
	Street and Area Lighting						
	<u>70W HPS streetlight</u>						
1	Supply	No	90				
2	Install	No	90				
	<u>100W HPS streetlight</u>						
3	Supply	No	1				Rate Only
4	Install	No	1				Rate Only
	<u>7m high GRP pole complete</u>						
5	Supply	No	90				
6	Install	No	90				
	<u>Wall mounted Photocell (Day/night switch)</u>						
7	Supply	No	4				
8	Install	No	4				
9	Removal and decommissioning of existing streetlight and concrete pole	No	5				
10	Refurbishment of existing streetlights	No	30				
11	Refurbishment of existing high mast lights	No	6				
12	Upgrading of existing area lighting as directed by the Engineer	Prov	1			R	150,000.00
13	Charge required by Contractor on above item 12	%	150,000				
Carried forward / ...							

DESIGN-BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

STATEMENT AND SCHEDULE NO. E12							
ITEM	DESCRIPTION	UNIT	QTY	PRICE		AMOUNT	
				R	c	R	c
Brought forward / ...							
	Kiosks						
	Area lighting Distribution Kiosk (Kiosk LS-PS)						
14	Supply	No	1				
15	Install	No	1				
	Area lighting Distribution Kiosk (Kiosk DW)						
16	Supply	No	1				
17	Install	No	1				
	Area lighting Distribution Kiosk (Kiosk US-PS)						
18	Supply	No	1				
19	Install	No	1				
	General						
20	Delivery to site of equipment	Sum	1				
21	Labelling of all equipment and cables	Sum	1				
22	Pre-commissioning and performance acceptance tests of all items in this schedule	Sum	1				
23	Certificates of compliance	Sum	1				
24	All other items not included above but which are nevertheless necessary to meet the Scope of Work and/or are required for the proper, safe and effective operation of the plant (<i>Specify</i>):-	Item					
TOTAL OF SCHEDULE NO. E12 CARRIED TO SUMMARY							

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORK FOR THE REFURBISHMENT AND UPGRADING OF THE BLACK-MAC SCREENING AND MACASSAR SEWAGE PUMP STATIONS

ITEM	DESCRIPTION	AMOUNT	
		R	c
SCHEDULE A	GENERAL REQUIREMENTS AND CONDITIONS		
SCHEDULE B	SUNDRIES		
SCHEDULE M1	LOWER SCREW PUMP STATION		
SCHEDULE M2	INLET WORKS		
SCHEDULE M3	INLET WORKS ODOUR CONTROL		
SCHEDULE M4	UPPER SCREW PUMP STATION		
SCHEDULE M5	PRIMARY SETTLING TANKS		
SCHEDULE M6	MBR PUMP STATION		
SCHEDULE M7	PRIMARY SLUDGE PUMP STATION		
SCHEDULE M8	DEWATERING BUILDING EQUIPMENT		
SCHEDULE M9	WAS FILTRATE PUMP STATION		
SCHEDULE M10	DEWATERING BUILDING ODOUR		
SCHEDULE M11	VALVES AND SLUICE GATES		
SCHEDULE M12	WEIR PLATES		
SCHEDULE M13	SPARES		
SCHEDULE NO. E1	MINIATURE SUBSTATIONS		
SCHEDULE NO. E2	MV RETICULATION		
SCHEDULE NO. E3	MV RETICULATION INSTALLATION		
SCHEDULE NO. E4	LV ELECTRICAL AND CONTROL CABLES		
SCHEDULE NO. E5	LV ELECTRICAL INSTALLATION		
SCHEDULE NO. E6	STANDBY POWER GENERATOR		
SCHEDULE NO. E7	LV SWITCHGEAR AND CONTROLGEAR		
SCHEDULE NO. E8	PROGRAMMABLE LOGIC CONTROLLERS		
SCHEDULE NO. E9	SCADA		
SCHEDULE NO. E10	TELEMETRY		
SCHEDULE NO. E11	INSTRUMENTATION		
SCHEDULE NO. E12	AREA LIGHTING		
Carried forward / ...			

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORK FOR THE REFURBISHMENT AND UPGRADING OF THE BLACK-MAC SCREENING AND MACASSAR SEWAGE PUMP STATIONS

ITEM	DESCRIPTION					AMOUNT R c
Brought forward / ...						
	<u>CONTINGENCIES</u> Allow the sum of 10% (ten percent) of the above total for contingencies to be spent as the Engineer may direct Allow for any additional Cost and profit required per day in the event of access to, and possession of, the Site not being available as per Sub-Clause 2.1(b) of the Conditions of Contract. Allow for any additional Cost and profit required per day in the event of a delay in the testing and commissioning at Site and the resultant delay in the commencement of the Defects Notification Period from causes not attributable to the Contractor, as per Sub-Clause 10.3 (b) of the Conditions of Contract. Allow for all costs and expenses in leaving Site and returning at a later date due to causes not attributable to the Contractor.					
	Total excluding VAT Add 14% for Value Added Tax					R R
Carried to Part C1.1 Form of Offer and Acceptance					R 341 743 956 -57	

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C2.3 Schedule of Rates for Electrical Variations

Not used.

Part C3: Scope of Work

	Pages
C3.1 Description of the Works	218 – 221
C3.2 Engineering	222 – 229
C3.3 Procurement.....	230 – 231
C3.4 Construction.....	232– 233
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Status

The Scope of Work constitutes the "Employer's Requirements" as defined in Sub-Clause 1.1.1.5 of the Particular Conditions in Part C1.2 Contract Data.

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:

Scope of Work
Particular Specifications
Standardised Specifications
Drawings

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C3.1 Description of the Works

CONTENTS

1. EMPLOYER'S OBJECTIVES
2. OVERVIEW OF THE WORKS
3. LOCATION OF THE WORKS
4. DESCRIPTION OF THE SITE
5. SITE FACILITIES

1. EMPLOYER'S OBJECTIVES

The Zandvliet Wastewater Treatment Works is a strategic component of the City of Cape Town's wastewater management system and is currently under capacity to accommodate the envisaged future flow from the catchment area. The City of Cape Town is thus upgrading and extending the capacity of the works and as a first phase the inlet works and sludge dewatering facilities will be upgraded. Primary sedimentation tanks will also form part of this initial upgrade. Additional upgrades to the treatment works will take place at a later stage.

2. OVERVIEW OF THE WORKS

The Works are for the design – build, i.e. design, supply, delivery, installation, testing, commissioning and upholding during the Trial Operation Period and the Defects Notification Period, of the following items at the Zandvliet Wastewater Treatment Works:

- a) Mechanical equipment related to lifting pump stations, including trash racks, belt conveyor, Archimedes screw pumps and wall mounted sluice gates
- b) Mechanical equipment related to inlet works, including coarse screens, fine screens, channel- and wall mounted sluice gates, water launders, screenings wash press/grinders/compactors, grit concentrating and removal equipment, skip dolly system, odour control system and lifting equipment.
- c) Mechanical equipment related to primary settling tanks, including full bridges, channel mounted sluice gates, pumps/valves/pipework for pumping sludge and odour control.
- d) Mechanical equipment related to pumping PST effluent, including centrifugal pumps, pipework, valves, pipe supports, lifting equipment and stairs/handrailing.
- e) Mechanical equipment related to sludge handling facility, including gravity belt thickeners, dewatering belt presses, screw conveyors, sludge pumps, pipe work and valves, polyelectrolyte make-up and dosing, ventilation equipment, lifting equipment and odour control.
- f) Electrical actuators.
- g) Standby power diesel generators and fuel tanks.
- h) Miniature substations and MV cabling.
- i) LV motor control stations, LV cabling and cable support systems.
- j) Programmable logic controllers, fibre optic and control cabling.
- k) SCADA upgrades.
- l) Controls and instrumentation.

3. LOCATION OF THE WORKS

The approximate co-ordinates to Site are:

Table 1: Site Information

Site	Co-ordinates	
Zandvliet WWTW	34° 3'3.03"S	18°43'3.81"E

4. DESCRIPTION OF THE SITE

4.1 Access to the Site

Access to the Site will be made available from Macassar Road (M9). The Contractor shall provide the necessary gate, road etc. No access will be permitted through the existing entrance off Baden Powell Drive. The Contractor will be held to have satisfied himself with regard to the existing access roads on site and shall make suitable provision for the accessibility to the site. Use of the existing roads on site is restricted and the Contractor shall note that he shall provide his own access roads for heavily trafficked routes.

Numerous services are known to exist on the site. Their approximate positions are shown on the drawings but, although they are based on the best information available, their accuracy cannot be guaranteed. It is likely that other services that are not shown on the drawings exist on the site.

The existing wastewater treatment works will be operational during the construction work of this Contract.

4.2 General

The following site conditions shall be taken into consideration in the design and selection of the plant and equipment:

Altitude above sea level	15 m mean (approximate)
Minimum Temperature	5°C
Average Temperature	25°C
Maximum Temperature	40°C
Average Relative Humidity	70%
Maximum Relative Humidity	95%
Corrosion Conditions	Very Severe
Lightning	Infrequent
1:50 Year Flood Levels	10.97 m
1:100 Year Flood Level	11.60 m

The climate in the area is windy, with high winter rainfall. Summers are generally hot with little rainfall, though some rainfall in summer months has occurred in the past.

4.3 Ground Conditions

Materials investigations were undertaken and reported on in July 2015. The following report is included in Part C4 of this document:

- Report on Subsoil Investigation for Extensions to Zandvliet Water Treatment Works (K&T Project Reference No: 14742GG, dated July 2015).

The Contractor shall familiarise himself with the contents of this report. For the purposes of the Contract it will be deemed that, prior to submitting his Tender, the Contractor acquainted himself fully with the information and data provided within the geotechnical report made available to the Tenderers during the tendering period and, subject to the provisions of the Conditions of Contract, the Contractor shall have no claim against the Employer in respect of geotechnical/subterranean conditions encountered during the course of the Contract.

4.4 Trenching Subsurface Conditions

The groundwater level on site varies seasonally and depending on rainfall. Water may be encountered in excavations, especially during wet periods when the water table could be near existing ground levels.

4.5 Disclaimer

The abovementioned geotechnical investigation reports are provided to the Contractor in good faith, however the Employer does not take responsibility for the correctness of the information contained therein, and it therefore remains the Contractor's responsibility to determine the true nature of the geotechnical/subterranean material.

The information given herein regarding the geotechnical/ subterranean material and conditions, and the abovementioned materials investigation report, are provided in good faith for the Contractor's convenience as an indication of the conditions likely to be encountered. The Employer does not take responsibility for, and there is no guarantee of, the information being correct or representative of the whole area of the Works. The provision of such information shall not be regarded as in any way limiting, or detracting from the Contractor's responsibilities in terms of the General Conditions of Contract or the Specifications. The Contractor will be held to have satisfied himself as to the subsurface conditions to be encountered on Site and to have allowed accordingly in his tendered rates.

5. SITE FACILITIES

5.1 Contractor's Camp Establishment

The Contractor is responsible for providing a suitable site for his camp and to provide accommodation for his personnel and labourers.

The Contractor shall be responsible for identifying suitable positions (subject to the designated sites shown on the drawings and to the approval of the Engineer) to locate all facilities, including, as necessary, construction camps, offices, stores, workshops etc. required for the due and proper performance of the Contract. The proposed site camp positions shall be submitted to the Engineer for approval.

The Contractor shall supply and maintain adequate and suitable sheds for the storage of materials that might deteriorate if exposed to the weather.

The Contractor shall, provide, maintain and keep clean all facilities to be provided for the Engineer and all other facilities for all persons engaged in the works.

On completion of the Works, or when the facilities provided by the Contractor are no longer required, the Contractor shall remove them and clear away all surface indications of their presence.

5.2 Security

The Contractor may be exposed to criminal actions such as, but not limited to, robbery and hijacking, theft and vandalism, and shall make the necessary security arrangements for the duration of the Contract. Any such costs arising from this shall be covered under the rates tendered in the Bill of Quantities. The security offered shall be two Level C guards with dogs and pepper spray.

5.3 Power, Water and other Services

A 1-phase and 3-phase power supply is available at the WWTW for the use of small tools and lighting. The Contractor shall make arrangements for the use of this with the Employer's officials, and shall pay all installation and consumption charges for the power supply required. Any costs arising from this shall be covered under the rates tendered for the General Requirements (i.e. Preliminary and General) items in the Bill of Quantities.

A water supply will be made available to the Contractor free of charge. The Contractor shall, however, be responsible for arranging these services and ensuring that these services are not wasted and are used with discretion by his staff.

5.4 Rail Facilities

The nearest goods handling station is at Cape Town Railway Station.

5.5 Telephone Facilities

The Contractor shall be responsible for his own arrangements for telephones for his use.

5.6 Disposal Sites

The Contractor shall dispose of any cleared vegetation, rubble, unsuitable surplus material excavated, or any rubbish or unwanted material off Site to within 150 km radius measured from site. Any costs arising from this shall be covered under the rates tendered for the General Requirements (i.e. Preliminary and General) items in the Bill of Quantities.

5.7 Maintaining and Cleaning of the Site

The Contractor shall maintain the whole of the Site where his activities are taking place in a clean, tidy and orderly condition, to the satisfaction of the Engineer. The Contractor shall be liable for the cost of making good any damage to the Site or to the facilities constructed by the Civil Contractor, or to the Civil Contractor's camp and plant, or to any of the Employer's or Engineer's property.

5.8 Existing Infrastructure

The Contractor shall be liable for the cost of making good any damage to the infrastructure or facilities on the Site, or to any of the Employer's property.

5.9 Disruption to the operation of the treatment works

The Contractor shall not disrupt the operation of the treatment works in any way without prior authorization by the Engineer. Further, the Contractor shall finalise the specific arrangements and timing of such disruptions with the Engineer and the Employer's staff responsible for the operation of the treatment works, two weeks in advance of the event.

The Contractor shall execute the Works in such a way as to allow the Employer's operation and maintenance staff to have safe and convenient access to all parts of the treatment works (including those filters that are required to be operational whilst the Contractor executes the Works in a staged fashion for sets of filters), excepting those parts where the Contractor has been granted full access and possession and which have thus been temporarily de-commissioned for the execution of the Works.

5.10 De-establishment of facilities on Site

Once the Taking-over Certificate has been issued, the Contractor shall remove all facilities established on Site and clear away all surface indications of their presence

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C3.2 Engineering

CONTENTS

1. DESIGN OF THE WORKS
2. DESIGN STAGES AND RESPONSIBILITY
3. DRAWINGS PREPARED BY THE EMPLOYER
4. DESIGN WORKSHOPS
5. HAZOP STUDY
6. CONTRACTOR'S DOCUMENTS

1. DESIGN OF THE WORKS

The Contractor, in terms of the FIDIC General Conditions, is responsible for the design of the Works. If a specific duty for a piece of equipment is provided (e.g. a pump pressure and flow rate), the Contractor may use the specified duty for tender purposes but shall check and confirm all equipment specifications and duties are correct prior to ordering equipment. Clause 5 of the General Conditions of Contract shall apply in this regard.

2. DESIGN STAGES AND RESPONSIBILITY

The design stages and entities responsible for each are as follows:

- | | | |
|---|---|------------|
| a) Concept, feasibility and treatment process | : | Employer |
| b) Basic engineering and layout to tender stage | : | Employer |
| c) Detailed design of the Works | : | Contractor |
| d) Control philosophy/functional design | : | Contractor |

The Contractor shall design the Works in accordance with the Employer's Requirements as specified in Part C3: Scope of Work and as shown on the drawings provided by the Employer in Book of Drawings (Volume 3) as issued with this Contract Document.

3. DRAWINGS PREPARED BY THE EMPLOYER

The drawings prepared by the Employer and provided in Part C3.2: Engineering form part of the Employer's Requirements; the Contractor shall design and execute the Works in accordance with these.

The Contractor shall confirm that structures constructed by others and existing equipment installations are represented correctly on the drawings. Where drawings for the structures have been prepared by the Engineer, the Contractor shall base his drawings on the Engineer's drawings and shall check that his equipment fits into and can operate satisfactorily within the structures shown on the Engineer's drawings. Drawings, dimensions and details of structures and equipment are supplied to the Contractor in good faith, however, the Contractor shall base the design of his infrastructure and equipment on actual dimensions and details measured/recorded on Site by himself and approved by the Engineer. Any inconsistencies, including any conflict between the Engineer's drawings and the actual dimensions measured on site, shall immediately be drawn to the attention of the Engineer, in writing.

The Contractor shall update and expand the Employer's Process and Instrumentation Diagram (PID) to a Piping and Instrumentation Diagrams (P&ID) in accordance with the Employer's design.

Before fixing any conduit and accessories, the Contractor shall confirm the exact positioning of equipment with the Engineer.

4. DESIGN WORKSHOPS

Notwithstanding the requirements of Clause 1.6.3 (i.e. Phase 2: Design) of Part C3.5: Management (included in Volume 2), the Contractor shall host weekly design meetings for the first six (6) months of the Contract. At this weekly design meeting the following people from the Contractor's team shall always be present:

- Contractor's Representative
- Mechanical Design Engineer
- Electrical Design Engineer
- Control and Instrumentation Engineer

In addition, the Health and Safety Officer from the Contractor's personnel shall attend at least three (3) of these meetings. The Contractor shall make allowance to also accommodate the Engineer's personnel (at least 3 No staff), and the Employer's personnel (at least 3 No staff). Such a design workshop shall be for the full working day that it is hosted.

The Contractor's design team/ personnel (which shall also include the dewatering equipment suppliers etc.) shall be suitably experienced design engineers with at least five (5) years' experience in the design aspects of projects of this nature.

The venue for the design workshops shall be within 30 kilometres from Cape Town. It shall be in a form of a suitably furnished and air-conditioned office or other venue capable of comfortably accommodating a minimum of ten (10) persons. It shall have presentation facilities and any other facilities that can reasonably be expected in an office environment (kitchen / dining area, toilet facilities, etc.).

5. HAZOP STUDY

The undertaking of a hazard and operability (HAZOP) study is considered critical to the success of the Contract and achievement of the Employer's Objectives. It is intended that participants shall include representatives of the Engineer; the Contractor; and representatives of the Employer responsible for planning, maintenance, and operation.

The Contractor shall thus arrange for and employ a suitably experienced and independent consultant to be approved by the Engineer - to lead a HAZOP study in accordance with generally accepted industry practise. The consultant shall be commissioned to provide a report detailing the findings of the study. The study shall be undertaken at the Engineer's offices in Cape Town once the Contractor's Process or Piping and Instrumentation Diagram (P&ID) has been approved by the Engineer for this purpose. This diagram shall be updated by the Contractor after completion of the study, to reflect the decisions reached.

The Contractor's Representative and design team members for all components of the Works (as a minimum including those staff proposed by the Contractor in his Schedule of Key Personnel Assigned to the Contract forming part of the Contractor's Proposal) shall be present for the full duration of the study, which shall take place at the Engineer's office, and for which a minimum of five days shall be allowed

6. CONTRACTOR'S DOCUMENTS

The requirements relating to the information and drawings to be submitted by the Contractor for approval by the Engineer prior to the purchase and manufacture of any plant and equipment must be read together with Clause 5 of the General Conditions and Sub-Clause 5.2 of the Particular Conditions.

All the documents listed below shall be submitted for approval by the Engineer.

6.1 General Requirements

The Contractor's Documents shall comply with the following general requirements:

- a) Three copies (in hard copy format) of all documents shall be submitted. An electronic (pdf) format shall also be submitted.
- b) A register of all the Contractor's documents shall be provided with each submission.
- c) Drawings shall be prepared in accordance with the latest issue of SANS 10111. An equivalent international code of engineering drawing practice will also be acceptable.

- d) General Arrangement drawings shall be to A1.
- e) Drawings shall be to scale, with both the scale and the drawing being large enough to clearly show all relevant components of the plant and equipment.
- f) Dimensioned layout drawings of the installation showing the proposed layout and design of all plant and equipment (including lifting equipment) as well as any required building modifications. In addition to the usual plan and two side elevations, sufficient additional sections shall be included to clearly show the arrangement of all plant and equipment.
- g) Item lists shall be provided on the drawing or on a separate parts list.
- h) Item descriptions shall include the material of construction, quantity and full identification information, including, as applicable, brand name, manufacturer's reference number, model number, size, rating, source, duty, quantity, etc.
- i) All tag numbers in the Contractor's documents shall be based Section J – City of Cape Town's Plant Numbering System. The Contractor shall not merely copy tags used during tender stage. All proposed numbers shall be submitted to the Employer's asset management department for approval before any labelling of software development is done.

6.2 List of Contractor's Documents to be provided

The Contractor's Documents which shall be submitted to the Engineer for review and approval in accordance with Clause 5.2 of the General Conditions of Contract, are listed in the following Table Listing Contractor's Documents to be Provided; this list does not limit the Contractor's obligations in terms of the Contract (The "Phase" column specifies the phase in terms of Work Breakdown Structure in Part C3.5: Management (refer Part C3.5, paragraph 1.6), during which the corresponding Contractor's Document shall be submitted):

Table 2: Required Contractor's Documents

Item No	Description of Contractor's Document	Phase ¹
1	General (to be submitted in respect of the entirety of the Works)	
1.1	General Arrangement Drawings (A1 or larger) of the proposed designs, including at least one plan view, two elevations, equipment dimensions, layout dimensions, sectional views where necessary for clarity and an item list including make, model, rating, number and material. The drawings shall include layout details of pipework and pipe supports, dosing stations, pump baseplates, and metal work showing how the equipment is to be incorporated into the structures designed by the Engineer. The General Arrangement drawings shall show the Contractor's equipment super-imposed on drawings provided by the Employer.	2
1.2	Process flow diagrams (PFD), including items of equipment and a mass balance of the process (especially the sludge process). Pipe isometrics shall also be provided.	2
1.3	Piping and Instrumentation Diagrams (PID) indicating all items of equipment, instruments, pipe materials, reducers and diameters. All equipment and instruments shall be tagged in accordance with the City of Cape Town's numbering system, and shall be supported by referenced detailed item lists showing brand name, manufacturer's reference number, model number, size, rating, source, duty, quantity etc. All pipework (including for chemical dosing) shall be labelled with the pipe material and class. The Contractor shall base his PID on the Process and Instrumentation Diagrams provided by the Engineer, updating and expanding upon this according to his offer.	2
1.4	Layout and construction drawings of all electrical distribution, starter, control, instrument and indicator panels with full details of proposed switchgear, relays, timers, instruments, indicators, trips, control switches, labelling (including wording), printing, and so forth.	2
1.5	Detailed Control Philosophy	2
1.6	Control System Functional Design Specification (and conversion of the Functional Design Specification (FDS) into a Functional Description of the complete control system after completion of the works for insertion into the O&M Manuals).	2
1.7	Motor and Equipment List, valve list and instrumentation list	2
1.8	HAZOP study report	2
2	Sundry Components of the Works	
2.1	Building ventilation design calculations, including pressure drop at each item and operating pressure of the fans.	2

Table 2: Required Contractor's Documents

Item No	Description of Contractor's Document	Phase ^a
2.2	Dewatering equipment design calculations; indicating sludge volumes, pump sizes, poly usage and equipment sizes etc.	2
2.3	Odour control design calculations including volumes abstracted, ducting sizes, pressure losses, blower sizes etc.	2
2.4	Pumps head calculation, including head-loss characteristic curves	2
2.5	HVAC design calculations.	2
2.6	Technical Data Sheet for Coatings.	2
2.7	Drawings indicating the loads exerted by all lifting equipment on structures.	2
2.8	Design drawings of lifting equipment which indicate the vertical and horizontal limits of the hook bowl.	2
2.9	Certified dimension drawings for all equipment other than small items such as metering pumps, instrumentation, etc.	2
2.10	Cross sectional drawings of all pump stations complete with parts lists and materials of construction.	2
2.11	Cross sectional drawings of the dewatering building complete with parts lists and materials of construction.	2
2.12	Data sheets for all items of equipment giving performance, sizing, physical and general technical data.	2
2.13	Pump performance curves including head, power and NPSH _{REQUIRED} .	2
2.14	Switchgear room layout and floor tolerance / finish requirements.	2
2.15	Transformer / mini-substation plinth layout drawings.	2
2.16	Baseplate design.	2
2.17	Proposed control panels' layouts.	2
2.18	Equipment list with the make and model of all proposed items.	2
2.19	Hand valve list with the make and model of all proposed items	2
2.20	Actuated valve and sluice gates list with the make and model of all proposed items	2
2.22	The SANS 347 hazard category and the conformity assessment module applicable to all air receivers and other pressure vessels.	2
2.23	Marked up drawings of the building and civil structures which indicate the dimensions of the Contractor's requirements for plinths, pockets, trenches, ducts, penetrations, sleeves, conduits, etc. as well as any loads and forces involved.	2
2.23.1	Inlet works	2
2.23.2	Dewatering building	2
2.23.3	PST's	2
2.23.4	Pumping equipment	2
2.23.5	Service water equipment	2
2.23.6	Sluice gates	2
2.23.7	Lifting equipment	2
2.23.8	Control room equipment	2
2.23.9	Electrical equipment rooms	2
2.23.10	Cable Trenches in concrete walkways	
2.23.11	Diesel generator sets	
2.23.12	Diesel tanks	
2.24	Design of proposed signage	2
2.25	Design calculations for the duty requirements for the equipment listed in Item 2.23 above	2
3	MV Installation	
3.1	General layout drawings of the all MV equipment	2

Table 2: Required Contractor's Documents

Item No	Description of Contractor's Document	Phase#
3.2	The internal construction drawings of the MV equipment	2
3.3	Complete wiring and protection diagrams of the MV equipment	2
3.4	Detailed datasheets of all components of MV equipment, supplier detail, etc.	2
3.5	Type Test Certificates for MV Switchgear	2
3.6	Type Test Certificates for Transformers	2
3.7	Type Test Certificates for miniature substations	2
3.8	Routine Test Reports of MV Switchgear	2
3.9	Routine Test Reports of Transformers	2
3.10	Routine Test Reports of miniature substations	2
3.11	Earthing survey report and design	2
3.12	Detailed load calculation for each transformer	2
4	Diesel Powered Generator Sets and Installation	
4.1	Diesel Powered Generator Sets data sheets and general arrangement drawings	2
4.2	Generator Controller data sheets	2
4.3	Detailed load calculations and/or simulation of power rating and load required	2
4.4	Diesel Tank data sheets and general arrangement drawings	2
4.5	Louvre general arrangement drawings	2
4.6	Factory Routine Test Reports of generator sets	2
5	LV Switchgear and Control Gear Assemblies	
5.1	LV Assemblies Design (Wiring Schematics, Cubicle component Layouts, Door Layouts, Bus bar arrangement) and General Arrangement Drawings	2
5.2	LV assemblies type test certificates (as applicable)	2
5.3	Factory Acceptance Test Report	3
5.4	LV Switchgear room layout requirements	2
5.5	Local control panels location drawings	2
5.6	Cable Route Layout and Cable Support systems layout Drawings	2
5.7	LV cable block diagrams and cable schedules	2
5.8	Harmonic mitigation study report	2
6	Programmable Controller(s) and Control System	
6.1	Programmable controllers and Control System design documentation	2
6.2	Control system architecture drawings	2
6.3	PLC panel internal arrangements	2
6.4	Telemetry system design documentation and drawings	2
6.5	Factory Acceptance Test (Hardware) and Software Simulation Test Reports	3
7	Instrumentation	
7.1	Instrumentation table or list including, as a minimum, the make, model, range and any set points of units to be installed	2
7.2	Cable schedule for power, data, control and instrumentation cables. This shall include the cable type and construction, conductor material, insulation, protection, voltage rating, start and finish points, route length, duty, load, voltage drop, core area, no. of cores, no. of cores used and gland size. For cable voltages above 400 Volts, the schedule shall also include the purchase details, specification and date of manufacture.	2
7.3	Instrument location and instrument junction box location drawings	2

Table 2: Required Contractor's Documents

Item No	Description of Contractor's Document	Phase [#]
7.4	Instrument loop diagrams, hook-up diagrams and mounting bracket drawings and details	2
7.5	Design and drawings as well as the document register.	2
7.6	Control and Instrumentation cable block diagrams and cable schedules	2
7.7	Instrumentation calibration certificates	4
8	Actuators	
8.1	Actuator list (including failsafe positions)	2
8.2	Actuated valves and sluice gates terminal junction box design drawings	2
8.3	Distribution junction box design drawings	2
9	Training (Clause 5.5 of General Conditions of Contract)	
9.1	Training Schedule	4
9.2	Pre-commissioning Testing Documentation	4
9.3	Commissioning Plan	3
10	As-built Documents (Clause 5.6 of General Conditions of Contract)	
10.1	As built versions of all drawings and documents submitted in terms of Items 1 to 8 above. The as-built documents shall be provided in both sepia hard copy and electronic format, with the latter being both in editable ("dxf" or "dwg" format for drawings, MS Word format for documents and MS Excel format for schedules) and PDF format.	4
11	Operation and Maintenance Manuals (Clause 5.7 of General Conditions of Contract)	
11.1	Proposed Operating and Maintenance Manual Contents List.	2
11.2	Two draft copies of the Operation and Maintenance Manual	3
11.3	Six copies of the Operation and Maintenance Manual. The Manual shall comply with the Standard Specification for Mechanical Works in Volume 2A.	4
12	Tests on Completion (Clause 9.1 of General Conditions of Contract)	
12.1	Comprehensive report containing detailed schedules and documentation to record all pre-commissioning tests undertaken and the results of these, demonstrating that the Works have passed the pre-commissioning tests	4
12.2	Comprehensive report containing detailed schedules and documentation to record all commissioning tests undertaken and the results of these, demonstrating that the Works have passed the commissioning tests. The report shall include the Programmable Controllers and Control System commissioning procedure and schedule of alarm messages, which shall additionally be inserted in the Operation and Maintenance Manual.	5
12.3	During the trial operation; (i) fortnightly reports detailing the equipment failures, plant performance and problems, training logs, and providing an evaluation of the performance of the Employer's operators, and (ii) a report on the completion of the trial operation	6
13	Other	
13.1	Team Member's Document setting out the Contractor's Design Engineers in compliance with Clause 1.6: Work Breakdown Structure	1
13.2	Quality Assurance Plan covering the design of the Works	1
13.3	Quality Control Procedures (QCP's) for all items to be fabricated and coated, showing hold points for inspection by the Engineer and the Independent Inspectorate	
13.4	Team Member's Document setting out the Contractor's Installation/construction team and foremen, and the Contractor's Commissioning Engineers in compliance with Clause 1.6: Work Breakdown Structure	3
13.5	Contractor's Health and Safety Plan	3
NOTE:		
#: The "Phase" column specifies the phase in terms of Clause 1.6: Work Breakdown Structure in Part C3.5: Management, during which the corresponding Contractor's Document shall be submitted.		

The date by which possession of the Site can be handed over to the Contractor and consequently the completion date of the Works, is dependent on the date of submission and acceptance of the documents referred to above. Cost resulting from delays in submission of the Contractor's Documents or in correcting errors or making changes on documents not approved by the Engineer shall be for the Contractor's account.

The item allowed for in the Schedules of Quantities to cover expenses incurred by the Contractor in the event of delays in handing over the Site shall not apply where such delay is attributable to the late submission and acceptance of the drawings referred to above.

6.3 As-built documents

The as-built documents shall be incorporated on the Control System to enable ease of reference for operators in the future.

The as-built drawings shall include as-built versions of all the Contractor's Documents required for before execution of the Works commences.

6.4 Contents of Control System Functional Design document

The Contractor shall submit a document detailing the Control System (i.e. programmable controllers and operator workstation) functional design, which shall be in the format shown in the following "Table Showing Required Contents List for the Control System Functional Design Specification", and shall provide the information stipulated in this list:

Table 3: Required Contents List for the Functional Design Specification

Item No	Description of Content
1	General
1.1	Contents List
1.2	Introduction
1.3	Drawing List (referring to P&IDs)
2	Control Philosophy
	Plant should be broken down into its various functional units (inlet works screening, dewatering etc). For each functional area the following shall be provided:
2.2	Control Modes Description
2.3	Motor List
2.4	Instrumentation List
2.4.1	Instrumentation Signals
2.4.2	Output signal during instrument error
2.5	Valve list and Failsafe positions of valves
2.6	Interlocks
2.6.1	Safety Interlocks
2.6.2	Process Interlocks
2.8	Startup/Shutdown Procedures (including for back-up power supply if applicable)
2.9	Alarms and philosophy
3	Programmable Controllers
3.1	Configuration
3.2	Hardware
3.3	Networks
3.4	IO list
3.5	Protocols
3.6	Functional blocks design and description
4	Control System
4.1	Configuration
4.2	Tags List with Tag count
4.3	Mimics (mocks ups before programming)
4.3.1	Plant Overview
4.3.2	Navigations Bar
4.3.4	Sub Plant overviews (if applicable)

Table 3: Required Contents List for the Functional Design Specification

Item No	Description of Content
4.3.5	Functional Unit Overview
4.3.6	System Page
4.3.7	Instrument Overview Screen
4.4	Drive/Instrumentation/valves Faceplates
4.5.	Process sequence pages
4.6	Alarms Page
4.7	PID Control Loops and Set point page
4.8	Reports
4.9	Database Design
4.10	Trending/logging
4.11	Security Features
4.12.	Security Passwords
4.13	Access Hierarchy

6.5 Required Submissions before Commissioning the Works

Prior to commencement of the Tests on Completion and the start of the 28 day Trial Operation Period, the Contractor shall submit two copies of the Manual as specified in the Standard Specification for Mechanical Works in Volume 2A.

6.6 Before Taking-Over Certificate

Before the Taking-Over Certificate is issued, the Contractor shall provide six copies of the final version of the Installation, Operation and Maintenance Manual and shall also provide, on electronic data storage, all drawings supplied in terms of the Required Submissions, corrected where necessary to be "as built". The drawings shall be configured for AutoCAD, or equivalent. The Manual shall comply with the Standard Specification for Mechanical Works in Volume 2A.

CITY OF CAPE TOWN

WATER AND SANITATION

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C3.3 Procurement

CONTENTS

1. PREFERENTIAL PROCUREMENT
2. SUBCONTRACTING PROCEDURES
3. PROVISIONAL SUMS

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 and of the conditions contained in the **Preference Schedule** (unless proven to be beyond the control of the Contractor).

Notwithstanding the application of penalties, the Contractor's attention is drawn to other sanctions that may be applied by the Employer (listed in the **Preference Schedule**) with due consideration to the circumstances.

2. SUBCONTRACTING PROCEDURES

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.

2.2 Procedure for the selection of Subcontractors/suppliers

Where monetary allowances for provisional sums or prime costs items have been provided in the Schedules of Quantities, and where the work or items to which the allowances relate are to be executed/supplied by Subcontractors/suppliers, then the following selection process shall be followed in respect of the required Subcontractors/suppliers:

Where the monetary allowance is less than or equal to R200 000, the Contractor shall invite three quotations from suitably qualified Subcontractors/suppliers for the required work or items. The selection of the three Subcontractors/suppliers shall be in consultation with, and to the approval of the Engineer. 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 Subcontractor/supplier for the required work or items. In such circumstances, tender documentation will be prepared by the Engineer in consultation with and to the approval of the Contractor, invitations to tender will be advertised in the media by the Engineer on behalf of the Contractor, and a Subcontractor/supplier will be selected from the responses received, by the Contractor and Engineer 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 him/herself that the selected Subcontractor/supplier can meet the requirements of the subcontract /supply agreement and may, on reasonable grounds, elect not to employ a particular Subcontractor/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 Subcontractor/supplier shall be as described in Sub-Clause 4.4 of the General Conditions.

3. PROVISIONAL SUMS

The Contractor is referred to Sub-Clause 13.5 in the General Conditions and in the Particular Conditions regarding the requirements for quotations.

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C3.4 Construction

CONTENTS

1. APPLICABLE STANDARDISED SPECIFICATIONS
2. PARTICULAR SPECIFICATIONS
3. WAYLEAVES, PERMISSIONS AND PERMITS
4. LOCAL PRODUCTION AND CONTENT
5. EMPLOYMENT OF SECURITY PERSONNEL

1. APPLICABLE STANDARDISED SPECIFICATIONS

For the purpose of this Contract the following Standard Specifications shall apply:

ISO 8501 -1	SANS 173
ISO 8501 -2	SANS 950
ISO 8501 -3	SANS 1091
SANS 10121	SANS 1299
SANS 60529	SANS/IEC 60439-1 & 2
SANS 10064	SANS 1473-1
SANS 5772	SANS 1765
SANS 5769	BS 4070
SANS 1217	SANS 0111
SANS 2808	BS 587
SANS 10120 -2 HC	SANS 1195
SANS 10120 -3 HC	SANS IEC 60947/4/1
SANS 156 & VC8036	SANS 1479
SANS 165	SANS 1507
SANS 172	
SANS 1200A (refer to Environmental Management Specification in Volume 2A)	

It shall be the responsibility of the Contractor to obtain, at his own expense, the most recent copies of the relevant editions of the documents referred to above.

The Contractor shall keep copies of the above Standard Specifications, copies which are available from the South African Bureau of Standards.

2. PARTICULAR SPECIFICATIONS

The following particular specifications are in Volume 2A:

Specifications

- | | |
|---|---|
| A | Detailed Mechanical Specification (including General Works) |
| B | Detailed Electrical Specification |
| C | Detailed Electronic Specification |
| D | Standard Specification for Mechanical Works (including General Works) |
| E | Standard Specification for Electrical Works |
| F | Standard Specification for Electronic Works (not used) |
| G | Health and Safety Specification |
| H | Environmental Management Specification |
| I | Electrical and Electronic Design Schedules |

3. WAYLEAVES, PERMISSIONS AND PERMITS

3.1 General

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.

3.2 Entry to the Zandvliet Wastewater Treatment Works

A permit for entry to the Zandvliet Wastewater Treatment Works is not required; however, all persons entering the Treatment Works must report to and sign in at the entrance gate

4. LOCAL PRODUCTION AND CONTENT

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

5. EMPLOYMENT OF SECURITY PERSONNEL

All security staff employed by the contractor on the site 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.

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C3.5 Management

CONTENTS

1. PROGRAMMING AND PLANNING
2. CONTRACTOR'S RESPONSIBILITY IN TERMS OF THE OHS ACT
3. WORKS NOT TO INTERFERE
4. UNAUTHORIZED PERSONS
5. KEY PERSONNEL
6. MANAGEMENT MEETINGS
7. MANAGEMENT PERSONNEL
8. FORMS FOR CONTRACT ADMINISTRATION
9. ELECTRONIC PAYMENTS

1. PROGRAMMING AND PLANNING

The Contractor is referred to Sub-Clause 8.3 in the General Conditions and the Particular Conditions.

A bar-chart type construction programme shall be submitted to the Engineer within 28 days from the Commencement Date.

The programme shall be updated monthly during the Contract period.

In addition to the above, a monthly cash flow forecast indicating the estimated value of work done and Plant and Materials not yet built into the Permanent Works, shall also be submitted to the Engineer.

1.1 General

The civil tender process runs concurrent with this Contract. The Contractor shall take note of this and also when certain structures shall become available for installation. It is imperative that the Contractor adhere to these dates and shall programme his work accordingly. The Contractor shall indicate if the access dates proposed are not within reason and shall make the Engineer aware of any potential problems timeously.

The layout of the civil structures as shown on the tender drawings is designed to generally accommodate equipment for the inlet works, primary sedimentation tanks, dewatering plant and switchgear buildings. Once this Contract is awarded, these and other structures may be modified to accommodate the specific requirements of the equipment offered. The Contractor shall allow a period of 8 weeks following the submission of drawings in his programme for liaison period between the Employer, Contractor and the civil contractor to enable finalizing the proposed amendments to civil structures. Any amendments required shall be provided in this period.

Payment for liaison meetings between the Employer, Contractor and civil contractor shall not be separate, but considered to be included in the tendered rates.

Planning and programming of the works is addressed in the Contract Data. The Contractor shall update his programme (and submit it to the Engineer for approval) before each of the site meetings held to discuss programming and coordination with other contractors, so as to reflect the outcome of those discussions. The Contractor's programme shall show the work required in terms of all phases of the specified Work Breakdown Schedule, and shall show installation and pre-commissioning work separately for each of the structures/components of structures/areas of Site listed in Table 4: Sequencing of Work with Civil Contract.

1.2 Programming Restrictions

The Contractor shall take into account and allow for being on Site for installation purposes whilst construction for the Civil Contract is on-going. The Contractor shall also make allowance for 2 weeks' of unplanned shut-downs or interruptions.

1.3 Programme, cash flow and progress claim format

Programmes shall be submitted in Microsoft Project format in hardcopy and softcopy format. Progress claims (including cash flows) shall be in Microsoft Excel format in accordance with the standard template provided by the Engineer.

1.4 Progress Reporting

Further to the requirements of the Contract data, the Contractor shall submit written reports every month (three days before each monthly site meeting) showing progress related to the agreed programme.

1.5 Review of progress

The Contractor shall review his progress each month and should progress lag behind the latest accepted programme, by more than 2 weeks, he shall submit a revised programme and method statement of how he proposes to make up the lost time. If, in the opinion of the Engineer, such revised programme will not make up the lost time, the Engineer shall have the right to request the Contractor to reorganize his work in a manner which will ensure an acceptable programme. Claims for additional payment to meet any costs incurred due to such reorganisation will not be accepted.

1.6 Work Breakdown Structure

1.6.1 General

The Contractor shall execute the Contract and provide the various deliverables in accordance with phases of the Work Breakdown Structure detailed below. The work described in the Work Breakdown Schedule does not limit the Contractor's responsibility in terms of the Contract, and is not intended as a comprehensive description of the Scope of the Contract, nor does it negate any requirements in terms of the Particular Conditions of Contract, rather it stipulates the sequencing of work required, and specifies further requirements in this regard.

1.6.2 Phase 1: Compilation and submission of preliminary documentation

During this phase, the Contractor shall submit the documentation required in terms of the Contract, including:

- (a) The programme in terms of Sub-clause 8.3 of the General Conditions of Contract.
- (b) Evidence of insurances and copies of policies for insurances.
- (c) Performance Security.
- (d) Appointment of the Contractor's Representative in terms of Sub-clause 4.3 of the General Conditions of Contract.
- (e) Appointment of accident prevention officer/Safety Officer in terms of Sub-clause 6.7 of the General Conditions of Contract.
- (f) Team Member's Document setting out the Contractor's Design Engineers, and detailing the respective:
 - Team member's name.
 - Team member's job description.
 - Team member's qualifications, certifications and experience.
 - Team members contact details.
- (g) Quality Assurance Plan covering the design of the Works.

1.6.3 Phase 2: Design

Once the documentation required for Phase 1 has been submitted and approved by the Engineer, the Contractor shall:

- (a) Host the first design workshop whereby the Engineer shall present the intended design to the Contractor. The Engineer shall hand over all design drawings and calculations (if required by the Contractor). The Contractor shall allow three (3) full days for this first workshop and the following people shall be present:
 - Contractor's Representative
 - Contractor's Mechanical Design Engineer
 - Contractor's Electrical Design Engineer
 - Contractor's Control and Instrumentation Design Engineer
 - Contractor's Software (SCADA) Design Engineer
 - Three personnel from the Engineer
 - Three personnel from the Employer
- (b) Conduct the specified HAZOP study and associated work.
- (c) Check the structures constructed (or to be constructed) under the Civil Contract for accuracy and report any deviations to the Engineer before proceeding with the other duties under this phase.
- (d) Prepare and submit to the Engineer all Contractors' Documents required for this Phase of the Work Breakdown Structure. The Contractor shall submit the various documents in a steady and progressive manner, and shall not wait until the expiry of the time available for submission of all the documents.

The Contractor shall not commence the execution of such part of the Works until the abovementioned Contractor's Documents pertaining to that part have been submitted and approved by the Engineer.

1.6.4 Phase 3: Procurement, manufacture, factory testing and delivery

During this phase, the Contractor shall commence the execution of the Works, and shall:

- (a) Procure all required materials.
- (b) Procure and/or manufacture all equipment and materials.
- (c) Undertake all factory acceptance tests and control system simulation tests (for mechanical and electrical equipment).
- (d) Allow for factory inspections of equipment by the Employer and Engineer
- (e) Prepare for and deliver all equipment and materials to Site. All equipment delivered to Site shall be safely stored by and shall be the responsibility of the Contractor.
- (f) Submit to the Engineer all Contractor's Documents required for this Phase of the Work Breakdown Structure, including draft copies of the Operation and Maintenance Manuals and the Contractor's Health and Safety Plan in compliance with the Occupational Health and Safety Act (Act No 85 of 1993) and Construction Regulations in terms of that Act and any requirements in terms of the Scope of Work.
- (g) Submit to the Engineer a Team Member's Document setting out the Contractor's Installation/construction team and foremen, and the Contractor's Commissioning Engineers, and detailing the respective:
 - Team member's name.
 - Team member's job description.
 - Team member's qualifications, certifications and experience.
 - Team members contact details.

1.6.5 Phase 4: Installation and pre-commissioning tests

During this phase, the Contractor shall undertake the following during the "Period of Unhindered Access to be Allowed for Contractor to Undertake Installation and Pre-Commissioning of Equipment", as specified for the various structures/components of structures/ areas of Site in 1.7: Right of Access to Site:

- (a) Check the structures constructed under the Civil Contract for accuracy and report any deviations to the Engineer before proceeding with the other duties under this phase.
- (b) Undertake all construction work and install all equipment.
- (c) Undertake the pre-commissioning tests for all equipment in terms of Sub-clause 9.1(a) of the General Conditions of Contract, including all stand-alone equipment tests and inspections specified or ordered by the Engineer, or otherwise required to demonstrate compliance with the Scope of Work. Any further tests recommended by the Contractor shall also be submitted to the Engineer for approval, and shall be performed at this time.
- (d) Calibrate all equipment as applicable.
- (e) Correct any calibration or other errors/defects that result in a defective installation.
- (f) In addition the Contractor shall submit to the Engineer all Contractor's Documents required for this Phase of the Work Breakdown Structure, which shall include the As-built Documents, the Operation and Maintenance Manuals, and a comprehensive report containing detailed schedules and documentation to record all pre-commissioning tests undertaken and the results of these, demonstrating that the Works have passed the pre-commissioning tests.
- (g) The work to be executed under Phase 3 and Phase 4 may overlap; however, for each component of the Works, the work required for Phase 3 shall be completed before work under Phase 4 commences.

1.6.6 Phase 5: Commissioning tests

This phase shall commence after completion of Phase 4, subject to the notification requirements in terms of Sub-clause 9.1 of the General Conditions of Contract; in this phase the Contractor shall undertake the commissioning tests in terms of Sub-clause 9.1(b) of the General Conditions of Contract, and shall put the whole of the Works into operation in accordance with the specified Right of Access to Site. As part of these tests the Contractor shall:

- (a) Operate the Works over the full range of specified duties according to a pre-planned schedule which shall be submitted to the Engineer for approval at least 21 days before the tests commence.
- (b) Provide the Engineer with schedules and documentation to record all tests undertaken and the results of these.
- (c) Undertake this work in collaboration with the Employer's staff.
- (d) Submit to the Engineer all Contractor's Documents required for this Phase of the Work Breakdown Structure, which shall include a comprehensive report containing detailed schedules and documentation to record all commissioning tests undertaken and the results of these, demonstrating that the Works have passed the commissioning tests.

1.6.7 Phase 6: Trial operation and training

Once the Engineer certifies that the Works have passed the commissioning tests and that the whole of the Works have successfully been put into operation, the Contractor shall undertake the trial operation of the Works and shall train the Employer's staff in the operation and maintenance of the Works. During this phase, the Contractor shall:

- (a) During the first half of the Trial Operation Period, operate the entire Works in accordance with the production requirements of the Employer (i.e. the Works is to be operated by the Contractor's Commissioning Engineers). During this time, the Contractor's personnel shall train the Employer's staff in all aspects of the operation and maintenance of the Works, making allowance for repetition to the various shift workers.

- (b) During the second half of the Trial Operation Period, oversee and supervise the operation of the Works by the Employer; the Contractor's Commissioning Engineers shall be on Site for at least 8 hours a day for this purpose. During this time the Contractor's personnel shall provide on-the-job training to the Employer's operation and maintenance staff, so as to ensure that they are well-trained for the operating and maintaining of the Works.
- (c) Monitor and maintain the Works, and correct any defects.
- (d) Provide formal, structured and comprehensive training for the Employer's staff on all aspects of the operation and maintenance of the Works, at dates and times that suit the Employer's shifts so that all appropriate staff are trained. The training shall include formal lectures, with the provision of lecture notes to the staff, and practical demonstration to the staff of all operation and routine maintenance actions.
- (e) Submit to the Engineer all Contractor's Documents required for this Phase of the Work Breakdown Structure, which shall include (i) fortnightly reports detailing the equipment failures, plant performance and problems, training logs, and shall provide an evaluation of the performance of the Employer's operators, and (ii) report on the completion of the trial operation.

1.6.8 Phase 7: Defects Notification Period

During this phase, the Contractor shall be responsible for completion of outstanding work and remedying of defects in accordance with the General Conditions of Contract.

1.7 Right of access to site

The Contractor shall be given access to and possession of Site in accordance with the sequencing stipulated in Table 4: Sequencing of Work with Civil Contract, which details the sequencing of construction specified for the Civil Contract. The Contractor shall note and allow for the following:

- (a) This details given in Table 4 are linked to the anticipated progress of the Civil Contract, and may be changed by order of the Engineer should progress with the Civil Contract be different. The details shall be updated and revised as necessary at the site meetings held to discuss programming and co-ordination with other contractors, where after the Contractor shall adjust his program accordingly. This table assumes that the civil and mechanical contracts are awarded on the same date.
- (b) The "Date when Structure shall be ready for Installation of Equipment" as shown on Table 4, is the date when it is anticipated that the Civil Contract will have progressed sufficiently to allow the Contractor to commence installation activities in the corresponding structure/component of structure/area of the Site. The Contractor shall note that "Ready for Installation of Equipment" (as defined in the Civil Contract, and hence as applicable to this Contract) means:
 - The structure has passed any required water tightness test,
 - the structure in question is complete except in respect of matters such as floor screeds, benching, tiling, painting, which have to be done after the equipment has been erected, or which has to be done by the Contractor (whichever is applicable)
 - the disturbed ground within 7 m of the structure with access routes has been compacted and levelled to allow vehicles and cranes to run and operate on it and is near final level to allow cables to be laid to the equipment,
 - concrete has been sufficiently cured to allow erection work to start,
 - the structure and adjacent areas are clean and tidy, and
 - the structure/components of structure/area of the Site is ready to accommodate the mechanical and electrical equipment.
- (c) The "Period of Unhindered Access to be Allowed for Contractor to Undertake Installation and Pre-Commissioning of Equipment", as shown on the abovementioned Table 4, commences on the "Date when Structure Shall be Ready for Installation of Equipment". The Contractor shall complete all the installation and construction and pre-commissioning work in terms of Phase 4 of the Work Breakdown Structure for the associated structure/component of structure/area of the Site within the corresponding period stated in Table 4.

- (d) After the "Period of Unhindered Access to be Allowed for Contractor to Undertake Installation and Pre-Commissioning of Equipment", the Civil Contractor will resume final construction activities to bring the respective associated structure/component of structure/area of the Site to a point where it is "Ready for Commissioning Tests", which refers to the tests in terms of Sub-item (b) in Sub-clause 9.1 of the General conditions of Contract, and means (as defined in the Civil Contract, and hence as applicable to this Contract):
- all pipework and channel systems are sufficiently complete to allow the unit to operate,
 - all works such as floors and screeds, grouting in bolts and concreting in of pipes which could not be done before erection of equipment have been completed and adequately cured (7 days for grout and 10 days for screeds), and
 - the structure and adjacent ground are clean and tidy.
- (e) The Contractor shall commence the Commissioning Tests in terms of Sub-item (b) in Sub-clause 9.1 of the General conditions of Contract after the associated structure/component of structure/area of the Site has reached the point where it is Ready for Commissioning Tests in terms of the abovementioned Table 4.
- (f) For cabling and trenching work, and for installing of dosing pipework, the right and possession of the whole Site will not be exclusive to the Contractor. The Contractor shall be required to plan and sequence his activities with the Civil Contractor, and to work in areas where there will be no disruption to the Civil Contractor.

Table 4: Sequencing of Work with Civil Contract (refer drawing 110585-CC-0023)

Section of the Site	Date when Structure Will be Ready for Installation of Equipment (see specified definition in 1.7)
Section A	Pre-work Installation = 180 days after Commencement Date (this includes crane installation in dewatering building, MV cable installation and WAS pump station) Rest of the installation = 460 days after Commencement Date of the Works
Section B	715 days after Commencement Date of the Works
Notes:	
1. These dates assume the civil contract and mechanical and electrical contract is awarded at the same time.	

1.8 Co-Operation with the Employer

The Contractor shall ensure that:

- His staff co-operate with the Employer's staff.
- The Employer's rules and requirements for operation of the proposed new facilities required to achieve the Employer's Objectives for this project are adhered to once the whole of the Works is put into operation.
- His staff are familiar with and comply with the Employer's emergency procedures for the proposed new facilities once the whole of the Works is put into operation.
- His activities do not adversely affect the health and safety of the Employer's staff once the whole of the Works is put into operation.

1.9 Methods and procedures

1.9.1 General

No excessive dust or wind-blown debris will be allowed and thus the Contractor shall take sufficient and effective measures to limit these. Such measures shall include, but not limited to, watering down as frequently as necessary, covering up the sources and enclosing.

1.9.2 Method statements

When so requested by the Engineer or as required in terms of the Health and Safety or Environmental regulations or specifications, the Contractor shall submit within 2 weeks (14 days) of date of such written request or otherwise at least 2 weeks (14 days) prior to when the particular activity is planned to commence, whichever time is the soonest, a method statement detailing the Contractor's proposed procedure for construction or installation or testing of certain elements of the Works.

No work shall commence before the method statement has been submitted and approved. The approval shall not relieve the Contractor from his responsibilities in terms of the Contract.

1.9.3 Quality plans and control

The Contractor shall prepare a quality management plan to be followed during the course of the Contract.

The quality management plan shall:

- (a) clearly indicate the methods, programmes, procedures and other methods that the Contractor intends using as process control to ensure compliance of materials and workmanship with the requirements of the Contract (process control testing),
- (b) include the proof of status of calibration of all measuring devices that are to be used during the course of the Contract.

1.9.4 Quality assurance system

The Contractor shall institute a quality assurance system and provide experienced personnel as well as all the necessary transport, instruments and equipment, to ensure adequate supervision and positive control of the works at all times in order to comply with the requirements.

1.9.5 Continuous operation of existing treatment works

The installation work shall take place at the existing wastewater treatment works. The treatment works must remain in operation at all times except where otherwise specified or for connection purposes. The Contractor shall ensure that, wherever possible, the Employer's personnel have unhindered access to, and use of, all parts of the existing works at all times, as necessary.

The Contractor shall notify the Engineer in writing of when he intends to interrupt the operation of the treatment works in order to effect connections with the new treatment works. Such notice shall be given in writing at least 2 weeks in advance. Approval of such work shall be given only when the timing of the work is acceptable to the Engineer.

The Contractor shall ensure that his workmen do not interfere with the operation of the treatment works and he shall instruct them to refrain from entering areas where they are not required to carry out any work related to the Contract.

The Contractor shall not be allowed to shut down the treatment works completely at any stage. Work requiring interruptions of the operation of the treatment works may have to be done outside normal working hours (e.g. between midnight and early morning). Such work shall be undertaken in a manner and to the approval of the Engineer. No claims for additional payment will be considered in this regard.

2. CONTRACTOR'S RESPONSIBILITY IN TERMS OF THE OHS ACT

The Contractor shall be responsible for complying with the Occupational Health and Safety Act, 85 of 1993, and specifically the Construction Regulations, 2003 issued in terms of Section 43 of the Act (GNR 1010 of 18 July 2003).

The Contractor is referred to Part T1.2 Tender Data and the Health and Safety Specification (Section G in Volume 2A) in this regard.

3. WORKS NOT TO INTERFERE

The Zandvliet Wastewater Treatment Works will be operational throughout the Contract. The Contractor shall ensure that the Works do not affect operations without good reason and that there is access at all times.

4. UNAUTHORIZED PERSONS

The Contractor shall keep unauthorized persons from the Works at all times.

5. KEY PERSONNEL

The Contractor shall submit a schedule of key personnel, with contact particulars.

The Contractor is also referred to the OHS Specification in Volume 2A regarding Health and Safety appointments.

6. MANAGEMENT MEETINGS

6.1. Technical Meetings

Technical meetings shall be held weekly on Site once installation commences and will be called by the Engineer. Ad-hoc technical meetings may also be called by the Engineer and/or the Employer.

The Contractor shall arrange for the Contractor's Representative to attend these meetings.

6.2. Site Meetings

Site meetings shall be held monthly.

6.3. Health and Safety Meetings

The Contractor is referred to the OHS Specification in Volume 2A.

7. MANAGEMENT PERSONNEL

The Contractor is referred to the OHS Specification in Volume 2A.

8. FORMS FOR CONTRACT ADMINISTRATION

The Contractor shall complete, sign and submit with each monthly statement for payment, the following updated returns (the formats of which are attached hereto):

- a) Monthly Project Labour Report (Form 1)
- b) B-BBEE Sub-contract Expenditure Report (Form 2)
- c) Joint Venture Expenditure Report (Form 3)

The Monthly Project Labour Report must include details of all labour (including that of sub-contractors) that are South African citizens earning less than R300 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 Engineer with copies of the employment contracts entered into with such labour, together with 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.

Monthly Project Labour Reports shall be completed and submitted in accordance with the instructions therein.

The B-BBEE Sub-contract Expenditure Report is required for monitoring the prime contractor's compliance with condition 2 of Section 2 of Schedule 17 Preferencing Schedule where preferences are granted in respect of B-BBEE contribution, in Part T.2.2 Returnable Schedules, where the Tenderer/Contractor has declared in Section 5 of Returnable Schedule 17 that "I/we **DO NOT** intend sub-contracting more than 25% of the value of the contract to sub-contractor's that do not qualify for at least the points that I/we as prime contractor qualify for".

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 Expenditure Reports shall be verified by the Engineer/Engineer's Representative.

In respect of Forms 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 Returnable Schedule 17 Preferencing Schedule in Part T2.2 Returnable Schedules. In the case of joint ventures (Form 3), the contractor shall prove his compliance with item 6) in Section 2 of the Preferencing Schedule by providing a consolidated scorecard at his own cost on instruction from the Engineer.

9. ELECTRONIC PAYMENTS

The Contractor shall provide his banking details to enable electronic payments to be made. Only the banking details on the City of Cape Town's Vendor Database will be used for payments (see Clause F.2.1.1.1 in Part T1.2 Tender Data for registration requirements).

**CITY OF CAPE TOWN
MONTHLY PROJECT LABOUR REPORT**

Instructions for completing and submitting forms

1 The Monthly Project Labour Reports must be completed in full, using typed, capital letter
General
2 characters; alternatively, should a computer not be available, handwritten in black ink.
Incomplete / incorrect / illegible forms will not be accepted.

- 1 The Monthly Project Labour Reports must be completed in full, using typed, capital letter
2 characters; alternatively, should a computer not be available, handwritten in black ink.
3 Incomplete / incorrect / illegible forms will not be accepted.
4 Any conditions relating to targeted labour stipulated in the Contract (in the case of contracted
out services or works) shall apply to the completion and submission of these forms.
This document is available in Microsoft Excel format upon request from the City's EPWP
office, tel 021 400 9406, email EPWPPLR@capetown.gov.za.

5 If a field is not applicable insert the letters: NA

- 6 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.
- 7 On completion of the contract or works project the anticipated end date must be updated to reflect the actual end date.

8 Care must be taken to ensure that beneficiary details correspond accurately with the

Numbers in cells below e.g. (6) refer to the relevant instruction above for completing and submitting forms

Numbers in cells below e.g (6) (refer to the relevant instruction above for completing and submitting forms)																
CONTRACT OR WORKS		4620/2013/14														
PROJECT NAME: (6)		PROJECT NUMBER: (6)														
DIRECTORATE:		DEPARTMENT:														
CONTRACTOR OR VENDOR NAME:		CONTRACTOR OR VENDOR														
CONTRACTOR OR VENDOR		E-MAIL ADDRESS:														
CONTACT PERSON:		CONTRACTOR OR VENDOR														
		TEL. NUMBER:														
		CELL WORK														
PROJECT LABOUR REPORT CURRENT MONTH (mark with "X")																
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEAR (insert last 2 digits)	2	0	1	3

ACTUAL START DATE (yyyy/mm/dd)							ANTICIPATED / ACTUAL END DATE (yyyy/mm/dd)							(7)	
2	0	1	2	0	7	1	6	2	0	1	3	0	7	1	6
TOTAL PROJECT EXPENDITURE / VALUE OF WORK DONE TO-DATE (INCLUDING ALL COSTS, BUT EXCLUDING VAT)															
R				1	0	0	0					0			
								-							

FORM 1 (continued)

CITY OF CAPE TOWN MONTHLY PROJECT LABOUR REPORT

BENEFICIARY DETAILS AND WORK INFORMATION

NOTE: The identical form (Annex 1) is available from the EPWP office (see instruction 4 above)

SHEET 1 OF 1

YEAR AND MONTH (e.g. AUG): 2 0 1 3 AUG
CONTRACT OR WORKS PROJECT NUMBER: 452Q/2013/14

B in columns below stands for Beneficiary

No.	First name (8)	Surname (8)	ID number (8)	New B (Y/N)	Gender (M/F)	Dis - abled (Y/N)	Job seeker data - base (Y/N)	B contract start date (DDMMYY)	B contract end date (DDMMYY)	No. days worked this month (excl. training) (12)	Rate of pay per day (R - c) (13)
1	FIRST NAME	SURNAME	1 2 3 4 5 6 7 8 9 10 11 12	Y	M	Y	Y	1 2 3 4 5 6	1 2 3 4 5 6	12	1 2 3 - 4 5
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											

Numbers in header row e.g (8) refer to the relevant instruction for completing and submitting forms

Declared by Contractor or
Vendor to be true and correct:

(name).....
(signature).....

Date:

Received by Employer's Agent /
Representative:

(name).....
(signature).....

Date:

FORM 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*)		B-BBEE Status Level of Prime Contractor	
R			

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/ Representative _____

Date: _____

FORM 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*)		B-BBEE Status Level of Joint Venture			
R					
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/
Representative: _____

Date: _____

Contract

Part C3: Scope of Work
Reference No. 85Q/2016/17

246

C3.5
Management

CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

C3.6 Annexes

See Volume 2A.

Part C4: Site information

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CITY OF CAPE TOWN

WATER AND SANITATION

CONTRACT NO. 85Q/2016/17

DESIGN – BUILD OF MECHANICAL AND ELECTRICAL WORKS FOR THE CONSTRUCTION OF PRIMARY TREATMENT AND SLUDGE HANDLING FACILITIES AT ZANDVLIET WASTEWATER TREATMENT WORKS

C4 Site Information

Refer to Part C3 Scope of Works