CLUSTER

TRADING SERVICES

UNIT

eThekwini Water and Sanitation

DEPARTMENT

Engineering

PROCUREMENT DOCUMENT

INFRASTRUCTURE

Documents are to be obtained, free of charge, in electronic format, from the National Treasury's eTenders website or the eThekwini Municipality's website.

Contract No: **WS-7759**

Contract Title: **OGUNJINI WATER TREATMENT WORKS: EMERGENCY CAPACITY UPGRADE FROM 1 ML/D TO 3 ML/D**

Est. CIDB Grade/ Class: **6 ME**

CLARIFICATION MEETING AND QUERIES

Clarification Meeting: **Compulsory Clarification Meeting**

Meeting Location, Date, Time: **Ogunjini Water Treatment Works on Wednesday, 13 September at 10h00**
GPS coordinates: -29.592595, 30.982367

Queries can be addressed to:
The Employer's Agent's Representative:
Name: Dershan Narainsamy
Tel: 031 266 8363
email: dnarainsamy@ingerop.co.za

TENDER SUBMISSION

Delivery Location: **The Tender Box in the foyer of the Municipal Building 166 KE Masinga Road, Durban**

3333Closing Date/ Time: **Friday, 29 September 2023 at 11h00**

FACSIMILE, eMAIL, or POSTED TENDERS WILL NOT BE ACCEPTED

Issued by:

ETHEKWINI MUNICIPALITY

Deputy Head: Engineering

Date of Issue: 24/02/2023

Document Version 24/02/2023(c)

FOR OFFICIAL USE ONLY

Tenderer Name:			VAT Registered: Yes No
	Price (excl)	VAT	Price (incl)
Submitted:	R	R	R
Corrected:	R	R	R

INDEX to PROCUREMENT DOCUMENT

PART T1: TENDERING PROCEDURES

T1.1.1: TENDER NOTICE AND INVITATION TO TENDER

Tenders are hereby invited [to tender for Mechanical, Electrical and Civils works for the emergency capacity upgrade of the Ogunjini Water Treatment Works from 1Ml/day to 3Ml/day.]

Subject	Description	Tender Data Ref.
Employer	The Employer is the eThekwini Municipality as represented by: Deputy Head: **Engineering**	F.1.1.1
Tender Documents	Documents can only be obtained in electronic format, issued by the eThekwini Municipality. Documentation can be downloaded from the **National Treasury's eTenders website** or the **eThekwini Municipality's Website**. The entire document should be printed (on A4 paper) and suitably bound by the tenderer.	F.1.2
Eligibility	It is estimated that tenderers should have a CIDB contractor grading designation of **6 ME** (or higher). The CIDB provisions in relation to a Contractor's Potentially Emerging (PE) status do not apply.	F.2.1.1
Clarification Meeting	**Ogunjini Water Treatment Works on Wednesday, 13 September at 10h00** **GPS coordinates: -29.592595, 30.982367**	F.2.7
Seek Clarification	Queries relating to these documents are to be addressed to the Employer's Agent's Representative whose contact details are: **Name: Dershan Narainsamy** **Tel: 031 266 8363** **email: dnarainsamy@ingerop.co.za**	F.2.8
Submitting a Tender Offer	Tender offers shall be delivered to: **The Tender Box in the foyer of the Municipal Building** **166 KE Masinga Road, Durban**	F.2.13
Closing Time	Tender offers shall be delivered on or before **Friday, 29 September 2023** at or before **11h00**.	F.2.15
Evaluation of Tender Offers	**The 80/20** Price Preference Point System, as specified in the PPPFA Regulations 2022 will be applied in the evaluation of tenders. Refer to Clause F.3.11 of the Tender Data for the **Specific Goal(S)** for the awarding of Preference Points, and other related evaluation requirements.	F.3.11

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

PART T1: TENDERING PROCEDURES

T1.2: TENDER DATA

T1.2.1 STANDARD CONDITIONS OF TENDER

The conditions of tender are the Standard Conditions of Tender as contained in Annex F of the CIDB Standard for Uniformity in Construction Procurement (July 2015) as published in Government Gazette No 38960, Board Notice 136 of 2015 of 10 July 2015.

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.

T1.2.2 TENDER DATA

Each item of data given below is cross-referenced to the clause in the Standard Conditions of Tender to which it mainly applies.

F.1: GENERAL

F.1.1 **The employer**: The Employer for this Contract is the eThekwini Municipality as represented by: Deputy Head: **Engineering**

F.1.2 **Tender documents**: The Tender Documents issued by the Employer comprise:

1) This procurement document.

2) "General Conditions of Contract for Construction Works – 3rd Edition 2015" issued by the South African Institution of Civil Engineering (GCC 2015). This document is obtainable separately, and Tenderers shall obtain their own copies.

3) "City of Durban Technical Specifications" hereinafter referred to as the Standard Engineering Specifications. This document is obtainable separately, and Tenderers shall obtain their own copies of the applicable Sections.

4) Drawings, issued separately from this document, or bound in Section C3.4 (as an Annexure).

5) In addition, Tenderers are advised, in their own interest, to obtain their own copies of the following acts, regulations, and standards referred to in this document as they are essential for the Tenderer to get acquainted with the basics of construction management, the implementation of preferential construction procurement policies, and the participation of targeted enterprise and labour.
   - The Employer's current (as at advertising date) Supply Chain Management Policy.
   - The Preferential Procurement Policy Framework Act No 5 of 2000, and the Preferential Procurement Policy Framework Act Regulations (2022).
   - The Occupational Health and Safety Act No 85 and Amendment Act No 181 of 1993, and the Construction Regulations (2014).
   - The Construction Industry Development Board Act No 38 of 2000 and the Regulations issued in terms of the Act (July 2013).
   - SANS 1921:2004 – Construction and Management Requirements for Works Contract, Parts 1-3.
   - Any other eThekwini Policy documents referenced in the Tender Documents.

Electronically downloaded documentation is obtainable from the National Treasury's **eTenders Website** or the **eThekwini Municipality's Website** at URLs:

- https://www.etenders.gov.za/
- https://www.durban.gov.za/pages/business/procurement

The entire downloaded document should be printed on white A4 paper (single-sided) and suitably bound by the tenderer.

F.1.4 Communication and employer's agent: The Employer's Agent's Representative is:

Name: Dershan Narainsamy
Tel: 031 266 8363
email: dnarainsamy@ingerop.co.za

The Tenderer's contact details, as indicated in the Contract Data: Clause C1.2.2.2 "Data to Be Provided by Contractor", shall be deemed as the only valid contact details for the Tenderer for use in communications between the Employer's Agent and the Tenderer.

F.2: TENDERER'S OBLIGATIONS

F.2.1.1 Eligibility: General

A Tenderer will not be eligible to submit a tender if:

(a) the Tenderer does not comply with the legal requirements as stated in the Employer's current SCM Policy.

(b) the Tenderer cannot provide proof that he is in good standing with respect to duties, taxes, levies and contributions required in terms of legislation applicable to the work in the contract.

(c) In the event of a Compulsory Clarification Meeting:
  i) the Tenderer fails to attend the Compulsory Clarification Meeting.
  ii) the Tenderer fails to have form "Certificate of Attendance at Clarification Meeting / Site Inspection" (in T2.2) signed by the Employer's Agent or his representative.

(d) in the case of JV submissions, two or more JV entities have common directors / shareholders or common entities tendering for the same works.

(e) at the time of closing of tenders, the Tenderer is not registered on the National Treasury Central Supplier Database (CSD) as a service provider. In the case of a Joint Venture, this requirement will apply individually to each party in the Joint Venture.

(f) The tenderer has not submitted, with this tender, a valid Letter of Good Standing from the Compensation Commissioner as proof of being registered and in good standing with the compensation fund. Reference is to be made to Returnable Document T2.2.13.

(g) The tender fails to complete and sign the Declaration of Municipal Fees in T2.2: "Returnable Documents" and submits the required documentation. Reference is to be made to Returnable Document T2.2.12.

SCM Policy (Cl.14(4)) requires suppliers/ service providers/ contractors to be registered on the

eThekwini Municipality Central Supplier Database or be in a position to be so before the award.

In the event of the Tenderer not being registered on the eThekwini Municipality's Central Supplier Database, the tenderer must register on the internet at www.durban.gov.za by following these links:

- Business
- Supply Chain Management (SCM)
- Accredited Supplier and Contractor's Database.

The following are to be noted:

(a) The information for registration as in the possession of the eThekwini Municipality will apply.
(b) It is the Tenderer's responsibility to ensure that the details as submitted to the Municipality are correct.
(c) Tenderers are to register prior to the submission of tenders.

F.2.1.2 **Eligibility: CIDB**

Only those tenderers who are registered (as "Active") with the CIDB (at time of tender closing), 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 **6 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 (as "Active") with the CIDB (at time of tender closing),
(b) The lead partner has a contractor grading designation in the **6 ME** class of construction work and has a grading designation of not lower than one level below the required grading designation, and
(c) The combined contractor grading designation calculated in accordance with the Construction Industry Development Regulations (2013) is equal to or higher than a contractor grading designation determined in accordance with the sum tendered for a **6 ME** class of construction work or a value determined in accordance with Regulation 25 (1B) or 25(7A) of the Construction Industry Development Regulations.

It should be noted that this contract is not part of a Targeted Development Programme (TDP). The CIDB provisions in relation to a Contractor's Potentially Emerging (PE) status do not apply.

F.2.2.2 **The cost of the tender documents:** Replace this paragraph with the following:

"Documents are to be obtained, free of charge, in electronic format, from the **National Treasury's eTenders website** or the **eThekwini Municipality's Website**. The entire electronically downloaded document should be printed on white A4 paper (single-sided) and suitably bound by the tenderer.

F.2.6 **Acknowledge addenda:** Add the following paragraphs to the clause:

"Addenda will be published, in electronic format, on the websites specified in F.1.2. Tenderers are to ensure that the eTenders website is consulted for any published addenda pertaining to this tender up to three days before the tender closing time as stated in the Tender Data."

"Acknowledgement of receipt of the addenda will be by the return of the relevant completed, dated, and signed portion of the addenda, to the physical or email address as specified on the addenda. Failure of the tenderer to comply with the requirements of the addenda may result in the tender submission being made non-responsive."

F.2.7 Clarification meeting:

Ogunjini Water Treatment Works on Wednesday, 13 September at 10h00
GPS coordinates: -29.592595, 30.982367

In the event of a Compulsory Clarification Meeting, Tenderers must sign the attendance register in the name of the tendering entity. The Tenderer's representative(s) at the clarification meeting must be able to clearly convey the discussions at the meeting to the person(s) responsible for compiling the entity's tender offer.

F.2.12 **Alternative tender offers**: alternative tender offers will be considered.

F.2.13 **Submitting a tender offer**: Submissions must be submitted on official submission documentation issued (either in hard copy or in electronic format) by the eThekwini Municipality.

Identification details to be shown on each tender offer package are:

- Contract No. : **WS-7759**
- Contract Title : **OGUNJINI WATER TREATMENT WORKS: EMERGENCY CAPACITY UPGRADE FROM 1 ML/D TO 3 ML/D**

The Employer's address for delivery of tender offers is:

The Tender Box in the foyer of the Municipal Building
166 KE Masinga Road, Durban

Tenderers are to include, with their paper ("hard copy") submission, a memory-stick containing an electronically scanned (300 dpi resolution) Public Document Format (PDF) copy of their complete bid submission. This PDF file should be named using the contract number and the Tenderer's name, eg. "**XX-xxxx – Tenderers Name.PDF**". The memory-stick must be labelled with the Tenderer's name and securely fixed to the paper submission.

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

F.2.15 **Closing time**: The closing time for delivery of tender offers is:

- Date : **Friday, 29 September 2023**
- Time : **11h00**

F.2.16 **Tender offer validity**: The Tender Offer validity period is 120 Days from the closing date for submission of tenders.

F.2.20 **Submit securities, bonds, policies:** The tenderer is required to submit with his tender a letter of intent from an approved insurer undertaking to provide the Performance Bond to the format included in T2.2 of this procurement document.

F.2.23 **Certificates**: Refer to T2.1 for a listing of certificates that must be provided with the tender. All certificates must be valid at the time of tender closing.

Tenderers are to include, at the back of their tender submission document, a printout of the required documents/ certificates.

The Form of Offer (C1.1.1), Data to be provided by the Contractor (C1.2.2.2), and the Bill of Quantities (C2.2) are also required to be completed in full.

Tax Clearance
Reference is also to be made to returnable form T2.2.3: "Tax Compliance Status PIN/ Tax Clearance Certificate".

SARS has introduced a new Tax Compliance Status System. Tenderers must submit a **Tax Compliance Status PIN** (TCS PIN) instead of an original Tax Clearance Certificate. This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status. This TCS PIN is to be entered on Returnable Document T2.2.1: "Compulsory Enterprise Questionnaire". Separate Tax Clearance Certificates / TCS PINs are required for each entity in a Joint Venture.

Failure to comply will make the tender non-responsive.

Compensation Commissioner
Reference is also to be made to returnable form T2.2.13: "Eligibility: Registration with Compensation Commissioner".

The tenderer is to supply proof of being registered and in good standing with the compensation fund by submitting a valid **Letter of Good Standing** from the Compensation Commissioner.

Failure to comply will make the tender non-responsive.

Central Supplier Database (CSD)
Reference is also to be made to returnable form T2.2.14: "Eligibility: CSD Registration Report".

The entities (full) **CSD Registration Report**, obtained from the National Treasury Central Supplier Database, is to be included in the tender submission (https://secure.csd.gov.za).

Separate CSD Registration Reports are required for each entity in a Joint Venture.

CIDB Registration
Reference is also to be made to returnable form T2.2.15: "Eligibility: Verification of CIDB Registration and Status".

Registration with the CIDB must be reflected as "Active" at time of tender closing.

Tenderers are to include with their submission a printout of their **CIDB Registration**, obtained from the CIDB website (https://registers.cidb.org.za/PublicContractors/ContractorSearch).

The Joint Venture Grading Designation Calculator should be used when submitting as a Joint Venture (https://registers.cidb.org.za/PublicContractors/JVGradingDesignationCalc).

The date of obtaining the CIDB printout(s) is to be indicated on the printout.

F.3: THE EMPLOYER'S UNDERTAKINGS

F.3.1.1 **Respond to requests from the tenderer:** Replace the words "five working days" with "three working days".

F.3.2 **Issue addenda:** Add the following paragraph: "Addenda will be published, in electronic format, on the same platform(s) as the Tender Notification (refer to F.1.2).

F.3.4 **Opening of Tender Submissions:** Tenders will be opened immediately after the closing time for tenders. The public reading of tenders will take place in the SCM Boardroom, 6th Floor, Engineering Unit Building, 166 KE Masinga Road, Durban.

F.3.11 **Evaluation of Tender Offers:**

Eligibility

Tenders will be checked for compliance with the ELIGIBILITY requirements, as specified in T1.2.2 Clause F.2.1. Tenderers not in compliance will be deemed non-responsive.

Functionality

FUNCTIONALITY will be evaluated to determine the responsiveness of tenders received. The minimum score for FUNCTIONALITY is 70 points. Those tenders not achieving the minimum score will be deemed non-responsive.

The functionality Criteria, Sub-Criteria, Points per Criteria/ Sub-Criteria, Returnable Documentation and Schedules, Method of Evaluation, and Prompts for Judgement are as specified in T1.2.3: "Additional Conditions of Tender".

Preference Point System

The procedure for the evaluation of responsive tenders is **PRICE AND PREFERENCE** in accordance with the Employer's current SCM Policy, the Preferential Procurement Policy Framework Act (5 of 2000), and the Preferential Procurement Policy Framework Act Regulations (2022).

Price Points

The **80/20** preference points system will be applied. The Formula used to calculate the **Price Points (max. 80)** will be according to that specified Regulation 4.1.

Preference Points

Reference is also to be made to T2.2.7: "MBD 6.1: Preference Points Claim".

The Preference Points (either 20 or 10) will be derived from points allocated/ claimed for **Specific Goals** as indicated in the table(s) below, according to the specified **Goal/ Category Weightings**.

- **Ownership Goal**
  Goal Weighting: 30%

  The tendering entity's **Percentage Ownership**, in terms of the **Ownership Category(s)** listed below, is to be used in the determination of the tenderer's claim for **Preference Points**.

Ownership Categories	Criteria	80/20	90/10
Race: Black (w1)	Equals 0%	0	n/a
	Between 0% and 51%	1	n/a
	Greater or equal to 51% and less than 100%	2	n/a
	Equals 100%	4	n/a
Gender: Female (w2)	Equals 0%	0	n/a
	Between 0% and 51%	0.5	n/a
	Greater or equal to 51% and less than 100%	1	n/a
	Equals 100%	2	n/a
	Maximum Goal Points:	6	n/a

The **Weightings** of the **Ownership Categories** will be:
- w1 =60%, w2=40% (where: w1 + w2 = 100%)

Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the tenderer's status)
- Companies and Intellectual Property Commission registration document (CIPC)
- CSD report.
- B-BBEE Certificate of the tendering entity.
- Consolidated BBBEE Certificate if the tendering entity is a Consortium, Joint Venture, or Trust (Issued by verification agency accredited by the South African Accreditation System).
- Agreement for a Consortium, Joint Venture, or Trust.

- **RDP Goal: The promotion of South African owned enterprises**
  Goal Weighting: 40%

  The tendering entity's **Address** (as stated on the National Treasury Central Supplier Database (CSD) or on the eThekwini Municipality Vendor Portal) is to be used in the determination of the tenderer's claim for **Preference Points** for this Specific Goal.

Location	80/20	90/10
Not in South Africa	0	n/a
South Africa	2	n/a
Kwa Zulu Natal	4	n/a
eThekwini Municipality	8	n/a
Maximum Goal Points:	8	n/a

Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the tenderer's status)
- CSD report

- **RDP Goal: The promotion of export-oriented production to create jobs**
  Goal Weighting: 30%

The tendering entity's **Business Type**, in terms of the categories below, is to be used in the determination of the tenderer's claim for **Preference Points** for this Specific Goal.

Local content and production	80/20	90/10
Retailer	0	n/a
Distributor	2	n/a
Wholesaler	4	n/a
Manufacturer	6	n/a
Maximum Goal Points:	6	n/a

Proof of claim as declared on MBD 6.1 (1 or more of the following will be used in verifying the tenderer's status)
- SABS/ SANAS certification
- ISO 9001
- Piping and other manufacturing standards

F.3.13 **Acceptance of tender offer:** In addition to the requirements of Clause F.3.13 of the Standard Conditions of Tender, tender offers will only be accepted if:

(a) The tenderer submits a **valid Tax Clearance Certificate OR Tax Compliance Status PIN**, issued by the TCS System of the South African Revenue Services, or has made arrangements to meet outstanding tax obligations.
(b) The tenderer is **registered, and "Active", with the Construction Industry Development Board**, at time of tender closing, in an appropriate contractor grading designation.

(c) The tenderer or any of its directors/shareholders is n**ot listed on the Register of Tender Defaulters** in terms of the Prevention and Combating of Corrupt Activities Act of 2004 as a person prohibited from doing business with the public sector.

(d) The tenderer has not:
- Abused the Employer's Supply Chain Management System; or
- Failed to perform on any previous contract and has been given a written notice to this effect.

(e) 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) The tenderer is **registered and in good standing with the compensation fund or** with a **licensed compensation insurer**.

(g) The Employer is reasonably satisfied that the tenderer has in terms of the Construction Regulations, 2014, issued in terms of the Occupational Health and Safety Act, 1993, the **necessary competencies and resources to carry out the work safely**.

The Municipality does not bind itself to accept the lowest or any tender. It reserves the right to accept the whole or any part of a tender to place orders. Bidders shall not bind the Municipality to any minimum quantity per order. The successful Tenderer (s) shall be bound to provide any quantities stipulated in the specification.

The municipality has a firm intention to proceed with the work, subject to funding being identified. Notwithstanding clause F.1.1.3 of the Standard Conditions of Tender, the municipality reserves the right to award or not award the tender based on the municipalities available budget.

F.3.15 **Complete adjudicator's contract:** Refer to the General Conditions of Contract and the Contract Data.

F.3.17 **Copies of contract:** The number of paper copies of the signed contract to be provided by the Employer is ONE (1).

Tenderers are to include, with their "hard copy" submission, a memory-stick containing an electronically scanned (300 dpi resolution) Public Document Format (PDF) copy of their complete bid submission. This PDF file should be named using the contract number and the Tenderer's name, eg. "**XX-xxxx – Tenderers Name.PDF**". The memory-stick must be labelled with the Tenderer's name and securely fixed to the paper submission.

T1.2.3 ADDITIONAL CONDITIONS OF TENDER

T1.2.3.1 Appeals

In terms of Regulation 49 of the Municipal Supply Chain Management Regulations persons aggrieved by decisions or actions taken by the Municipality, may lodge an appeal within 14 days of the decision or action, in writing to the Municipality. All appeals (clearly setting out the reasons for the appeal) and queries with regard to the decision of award are to be directed to:

The City Manager
Attention Ms S. Pillay eMail: Simone.Pillay@durban.gov.za
P O Box 1394
DURBAN, 4000

T1.2.3.2 Prohibition on awards to persons in the service of the state

Clause 44 of the Supply Chain Management Regulations states that the Municipality or Municipal Entity may not make any award to a person:

(a) Who is in the service of the State;
(b) If that person is not a natural person, of which a director, manager, principal shareholder or stakeholder is a person in the service of the state; or
(c) Who is an advisor or consultant contracted with the municipality or a municipal entity.

Should a contract be awarded, and it is subsequently established that Clause 44 has been breached, the Employer shall have the right to terminate the contract with immediate effect.

T1.2.3.3 Code of Conduct and Local Labour

The Tenderers shall make themselves familiar with the requirements of the following policies that are available on web address: ftp://ftp.durban.gov.za/cesu/StdContractDocs/:

- Code of Conduct;
- The Use of CLOs and Local Labour.

The value of W_2 is 100. The Functionality criteria (and sub criteria if applicable) and maximum score in respect of each of the criteria are as follows:

Functionality Criteria / Sub Criteria		Maximum Score (Ms)	Weighting (Ms)
Tenderer's Experience		**100**	**40**
Project Organogram and Experience of Key Staff	**Lead Mechanical Engineer**	**100**	**10**
	Lead Electrical Engineer	**100**	**10**
	Lead Civil Engineer	**100**	**10**
	Contracts Manager	**100**	**20**
Preliminary Programme		**100**	**10**
Maximum possible score for Functionality (Ms)			**100**

The minimum number of evaluation points for Functionality is **70**. Only those tenderers who achieve the minimum number of Functionality evaluation points (or greater) will be eligible to have their tenders further evaluated.

Functionality shall be scored by not less than three evaluators and the scores of each of the evaluators will be averaged, weighted and then totalled to obtain the final score for Functionality. Each evaluation criteria will be assessed in terms of six indicators and scores allocated according

to the following table:

Level 0	Level 1	Level 2	Level 3	Level 4
0	40	70	90	100

Evaluation criteria will be adjudicated according to submissions made in accordance with the following schedules, which are found in T2.2: Returnable Schedules:

Functionality Criteria	Returnable Schedules
Tenderer's Experience	• Experience of Tenderer
Project Organogram and Experience of Key Staff	• Proposed Organisation and Staffing • Key Personnel • CV's with Experience of Key Personnel
Preliminary Programme	• Preliminary Programme

Unless otherwise stated, evaluation criteria will be adjudicated with respect to the contract specific Scope of Work, as specified in C.3. In this regard the following definitions apply to the evaluation criteria prompts for judgement:

- "**successfully completed**" implies a project has been completed on time and to specification;
- "**similar nature**" implies projects that were of a value of at least 70% of this tender's value, and had a comparable Scope of Work in terms of technical requirements and operations;
- "**experience**" implies experience on projects of a similar nature;
- "**accredited degree / diploma**" implies a minimum 3 year qualification within the built environment, from a registered University or Institute of Technology.

Criterion: Tenderer's Experience Note: "successfully completed" implies a project that has been completed on time and to specification. The tenderer must submit certificates of completion / signed letters from the respective Client/s confirming completion of the said project. Failure to submit this information will result in the project not being considered as part of the evaluation.	
Level 0 Score = 0	**No information provided / no relevant experience / projects completed more than fifteen (15) years ago / successfully completed less than two (2) projects / failure to submit certificates of completion.**
Level 1 Score = 40	**To have successfully completed at least two (2) projects within the past fifteen (15) years of value => R 12 million (including VAT) involving electromechanical and civil work for the upgrade of a water treatment plant.**
Level 2 Score = 70	**To have successfully completed at least three (3) projects within the past fifteen (15) years of value => R 12 million (including VAT) involving electromechanical and civil work for the upgrade of a water treatment plant.**
Level 3 Score = 90	**To have successfully completed at least four (4) projects within the past fifteen (15) years of value => R 12 million (including VAT) involving electromechanical and civil work for the upgrade of a water treatment plant.**
Level 4 Score = 100	**To have successfully completed at least five (5) projects within the past fifteen (15) years of value => R 12 million (including VAT) involving electromechanical and civil work for the upgrade of a water treatment plant.**

	LEAD MECHANICAL ENGINEER	LEAD ELECTRICAL ENGINEER	LEAD CIVIL ENGINEER	CONTRACTS MANAGER
Level 0 **Score = 0**	No information provided / irrelevant information provided / does not meet minimum educational requirement / does not meet professional registration requirement / **less than 3 years of relevant experience**	No information provided / irrelevant information provided / does not meet minimum educational requirement / does not meet professional registration requirement **/ less than 3 years of relevant experience.**	No information provided / irrelevant information provided / does not meet minimum educational requirement / does not meet professional registration requirement / **less than 3 years of relevant experience**.	No information provided / irrelevant information provided / does not meet minimum educational requirement / does not meet professional registration requirement / **less than 3 years relevant experience**.
Level 1 Score = 40	**Greater than 3 years and up to 8 years relevant experience** on projects relating to the design and installation of mechanical components for a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Mechanical Engineering	**Greater than 3 years and up to 8 years relevant experience** on projects relating to the design and installation of medium and low voltage electrical networks and motor control systems. **AND** BSc Degree/BEng Degree/BTech Degree/NHD/NTD in Electrical Engineering	**Greater than 3 years and up to 8 years relevant experience** on projects relating to the construction of a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Engineering (Civil)	**Greater than 3 years and up to 8 years relevant experience** on projects relating to the multi-disciplinary engineering construction management of a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Engineering (Civil/Mechanical/ Electrical)
Level 2 **Score = 70**	**Greater than 8 years and up to 12 years relevant experience** on projects relating to the design and installation of mechanical components for a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Mechanical Engineering	**Greater than 8 years and up to 12 years relevant experience** on projects relating to the design and installation of medium and low voltage electrical networks and motor control systems. **AND** BSc Degree/BEng Degree/BTech Degree/NHD/NTD in Electrical Engineering	**Greater than 8 years and up to 12 years relevant experience** on projects relating to the construction of a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Engineering (Civil)	**Greater than 8 years and up to 12 years relevant experience** on projects relating to the multi-disciplinary engineering construction management of a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Engineering (Civil/Mechanical/ Electrical)
Level 3 **Score = 90**	**Greater than 12 years and up to 15 years relevant experience** on projects relating to the design and installation of mechanical components for a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Mechanical Engineering	**Greater than 12 years and up to 15 years relevant experience** on projects relating to the design and installation of medium and low voltage electrical networks and motor control systems. **AND** BSc Degree/BEng Degree/BTech Degree/NHD/NTD in Electrical Engineering	**Greater than 12 years and up to 15 years relevant experience** on projects relating to the construction of a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Engineering (Civil)	**Greater than 12 years and up to 15 years relevant experience** on projects relating to the multi-disciplinary engineering construction management of a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Engineering (Civil/Mechanical/ Electrical)

	LEAD MECHANICAL ENGINEER	LEAD ELECTRICAL ENGINEER	LEAD CIVIL ENGINEER	CONTRACTS MANAGER
Level 4 **Score = 100**	**Greater than 15 years relevant experience** on projects relating to the design and installation of mechanical components for a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Mechanical Engineering	**Greater than 15 years relevant experience** on projects relating to the design and installation of medium and low voltage electrical networks and motor control systems. **AND** BSc Degree/BEng Degree/BTech Degree/NHD/NTD in Electrical Engineering	**Greater than 15 years relevant experience** on projects relating to the construction of a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Engineering (Civil)	**Greater than 15 years relevant experience** on projects relating to the multi-disciplinary engineering construction management of a water treatment plant. **AND** BSc Degree/BEng Degree/BTech Degree/NHD in Engineering (Civil/Mechanical/ Electrical)

Criterion: Proposed Implementation Programme	
Level 0 Score = 0	No information provided; OR submission of no substance / irrelevant information provided
Level 1 Score = 40	The programme is generic and does not adequately cover all key activities, in sequential order, with reasonable time frames relating to the scope of work and reflects the critical path.
Level 2 Score = 70	The programme adequately covers all key activities, in sequential order, with reasonable time frames relating to the scope of work and reflects the critical path.
Level 3 Score = 90	The programme well defines all key activities and resources, in sequential order, with reasonable time frames relating to the scope of work and reflects the critical path.
Level 4 Score = 100	The programme well defines all key activities and resources, in sequential order, with reasonable time frames relating to the scope of work and reflects the critical path - **Plus:** • Risk management. • Staff and resource management. • Relevant approvals. • Quality control. • S-curve cash flow. • Communication and stakeholder engagement. • List of service providers to be used for quality control procedures (where applicable).

PART T2: RETURNABLE DOCUMENTS

T2.1 LIST OF RETURNABLE DOCUMENTS

T2.1.1 General

The Tender Submission Documentation must be submitted in its entirety. All forms must be properly completed as required.

The Tenderer is required to complete each and every Schedule and Form listed below to the best of their ability as the evaluation of tenders and the eventual contract will be based on the information provided by the Tenderer. Failure of a Tenderer to complete the Schedules and Forms to the satisfaction of the Employer will inevitably prejudice the tender and may lead to rejection on the grounds that the tender is non-responsive.

T2.1.2 Returnable Schedules, Forms and Certificates

Entity Specific

Eligibility

Technical or Functionality Evaluation

T2.2 RETURNABLE SCHEDULES, FORMS, AND CERTIFICATES

The returnable schedules, forms, and certificates, as listed in T2.1.2, can be found on pages 17 to 35.

NOTE
The **Form of Offer** (C1.1.1), The **Data to be Provided by Contractor** (C1.2.2.2), and the **Bill of Quantities** (C2.2) are also required to be completed by the tenderer.

T2.2.1 COMPULSORY ENTERPRISE QUESTIONNAIRE

Ref	Description	Complete or Circle Applicable
1.1	Name of enterprise	
1.2	Name of enterprise's representative	
1.3	ID Number of enterprise's representative	
1.4	Position enterprise's representative occupies in the enterprise	
1.5	National Treasury Central Supplier Database Registration number	**MAAA**
1.6	eThekwini Supplier Database: Reference number (PR), if any:	**PR**
1.7	VAT registration number, if any:	
1.8	CIDB registration number, if any:	
1.9	Department of Labour: Registration number	
1.10	Department of Labour: Letter of Good Standing Certificate number	

2.0 **Particulars of sole proprietors and partners in partnerships (attach separate pages if more than 4 partners)**

	Full Name	Identity No.	Personal income tax No. *
2.1			
2.2			
2.3			
2.4			

3.0 **Particulars of companies and close corporations**

3.1	Company registration number, if applicable:	
3.2	Close corporation number, if applicable:	
3.3	Tax Reference number, if any:	
3.4	South African Revenue Service: Tax Compliance Status PIN:	

4.0 **Record in the service of the state** (Insert on a separate page if necessary)

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
- ☐ a member of any provincial legislature
- ☐ an official of any municipality or municipal entity
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ a member of the board of directors of any municipal entity
- ☐ a member of the National Assembly or the National Council of Province
- ☐ 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)
- ☐ an employee of Parliament or a provincial legislature

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

5.0 **Record of spouses, children and parents in the service of the state** (Insert on a separate page if necessary)

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 in the service of any of the following:

- ☐ a member of any municipal council
- ☐ a member of any provincial legislature
- ☐ an official of any municipality or municipal entity
- ☐ a member of an accounting authority of any national or provincial public entity
- ☐ a member of the board of directors of any municipal entity
- ☐ a member of the National Assembly or the National Council of Province
- ☐ 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)
- ☐ an employee of Parliament or a provincial legislature

Name of spouse, child or parent	**Name of institution, public office, board or organ of state and position held**	**Status of service (tick appropriate column)**	
		Current	**Within last 12 mths**

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

i) authorizes the Employer to verify the tenderers tax clearance status from the South African Revenue Services that it is in order.

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

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

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

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

NAME (Block Capitals): **Date**

SIGNATURE:

T2.2.2 CERTIFICATE OF ATTENDANCE AT CLARIFICATION MEETING / SITE INSPECTION

Reference is to be made to Clauses F.2.1(c) and F.2.7 of the Tender Data.

This is to certify that:

(tenderer name): .....

of (address): .....

.....

.....

was represented by the person(s) named below at the Clarification Meeting held for all tenderers, the details of which are stated in the Tender Data (F.2.7).

I / We acknowledge that the purpose of the meeting was to acquaint myself / ourselves with the site of the works and / or matters incidental to doing the work specified in the tender documents in order for me / us to take account of everything necessary when compiling our rates and prices included in the tender.

Particulars of person(s) attending the meeting:

Name:	……	Name:	..... ……
Signature:	……	Signature:	..... ……
Capacity:	……	Capacity:	……

Attendance of the above person(s) at the meeting is confirmed by the Employer's Agent's Representative, namely:

Name: D Narainsamy

Signature: ……

Date: ……

T2.2.3 TAX COMPLIANCE STATUS PIN / TAX CLEARANCE CERTIFICATE

Reference is to be made to Clauses F.2.23 and F.3.13(a) of the Tender Data.

SARS has introduced a new Tax Compliance Status System. Tenderers can submit a Tax Compliance Status PIN (TCS PIN) instead of an original Tax Clearance Certificate. This TCS PIN can be used by third parties to certify the taxpayer's real-time compliance status.

Separate Tax Clearance Certificates / TCS PINs are required for each entity in a Joint Venture.

The TCS PIN(s) are to be entered under item 3.4 on form **T2.1.2.1: Compulsory Enterprise Questionnaire**.

Tenderers are to include, at the back of their tender submission document, a printout of their Tax Compliance Status PIN (TCS PIN) OR an original Tax Clearance Certificate.

Failure to include the required document will make the tender submission non-responsive.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, ***and that the requested documentation has been included in the tender submission****.*

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.4 CONTRACTOR'S HEALTH AND SAFETY DECLARATION

If Functionality is applicable as part of tender evaluation, reference is to be made to Clause F3.11.9 of the of the Conditions of Tender.

Reference is to be made to Clauses F.2.1(e) and F.2.23 of the Tender Data.

In terms of Clause 5(1)(h) of the OHSA 1993 Construction Regulations 2014 (referred to as "the Regulations" hereafter), a Principal Contractor may only be appointed to perform construction work if the Client is satisfied that the Principal Contractor has the necessary competencies and resources to carry out the work safely in accordance with the Occupational Health and Safety Act No 85 of 1993 and the OHSA 1993 Construction Regulations 2014.

To that effect, a person duly authorised by the tenderer, must complete and sign the declaration hereafter in detail.

Declaration by Tenderer

1 I, the undersigned, hereby declare and confirm that I am fully conversant with the Occupational Health and Safety Act No 85 of 1993 (as amended by the Occupational Health and Safety Amendment Act No 181 of 1993), and the OHSA 1993 Construction Regulations 2014.

2 I hereby declare that my company has the competence and the necessary resources to safely carry out the construction work under this contract in compliance with the Construction Regulations and the Employer's Health and Safety Specifications.

3 I propose to achieve compliance with the Regulations by one of the following **(Tenderers are to Circle Applicable - Yes or No)**:

	Circle Applicable	
(a) From my own competent resources as detailed in 4(a) hereafter.	Yes	NO
(b) From my own resources still to be appointed or trained until competency is achieved, as detailed in 4(b) hereafter:	Yes	NO
(c) From outside sources by appointment of competent specialist Subcontractors as detailed in 4(c) hereafter:	YES	NO

4 Details of resources I propose:
(Note: Competent resources shall include safety personnel such as a construction supervisor and construction safety officer as defined in Regulation 8, and competent persons as defined in Regulations 9, 10, 11, 12, 13, 14, 16, 17, 20, 21, 22, 23(1), 24, 25, 26, 27, 28 and 29, as applicable).

(a) Details of the competent and qualified key persons from my company's own resources, who will form part of the contract team:

NAMES OF COMPETENT PERSONS	POSITIONS TO BE FILLED BY COMPETENT PERSONS

(b) Details of training of persons from my company's own resources (or to be hired) who still have to be trained to achieve the necessary competency:

(i) By whom will training be provided?	
(ii) When will training be undertaken?	
(iii) Positions to be filled by persons to be trained or hired:	

(c) Details of competent resources to be appointed as subcontractors if competent persons cannot be supplied from own company:

Name of proposed subcontractor:	
Qualifications or details of competency of the subcontractor:	

5 I, the undersigned, hereby undertake, if this tender is accepted, to provide, before commencement of the works under the contract, a suitable and sufficiently documented Health and Safety Plan in accordance with Regulation 7(1) of the Construction Regulations, which plan shall be subject to approval by the Client.

6 I, the undersigned, confirm that copies of this company's approved Health and Safety Plan, the Client's Safety Specifications as well as the OHSA 1993 Construction Regulations 2014 will be provided on site and will at all times be available for inspection by the Principal Contractor's personnel, the Client's personnel, the Employer's Agent, visitors, and officials and inspectors of the Department of Labour.

7 I, the undersigned, hereby confirm that adequate provision has been made in the tendered rates and prices in the Bill of Quantities to cover the cost of all resources, actions, training and all health and safety measures envisaged in the OHSA 1993 Construction Regulations 2014, and that I will be liable for any penalties that may be applied by the Client in terms of the said Regulations (Regulation 33) for failure on the Principal Contractor's part to comply with the provisions of the Act and the Regulations.

8 I, the undersigned, agree that failure to complete and execute this declaration to the satisfaction of the Client will mean that this company is unable to comply with the requirements of the OHSA 1993 Construction Regulations (2014) and accept that this tender will be prejudiced and may be rejected at the discretion of the Client.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): **Date**

SIGNATURE:

T2.2.5 MBD 4: DECLARATION OF INTEREST

MSCM Regulations: "**in the service of the state**" means to be:

(a) a member of:
  (i) any municipal council.
  (ii) any provincial legislature.
  (iii) the national Assembly or the national Council of provinces.
(b) a member of the board of directors of any municipal enterprise.
(c) an official of any municipality or municipal enterprise.
(d) an employee of any national or provincial department, national or provincial public enterprise or constitutional institution within the meaning of the Public Finance Management Act, 1999 (Act No.1 of 1999).
(e) a member of the accounting authority of any national or provincial public enterprise.
(f) an employee of Parliament or a provincial legislature.

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

1 No bid will be accepted from persons **in the service of the state**[1]**.**

2 Any person, having a kinship with persons **in the service of the state**, including a blood relationship, may make an offer or offers in terms of this invitation to bid. In view of possible allegations of favouritism, should the resulting bid, or part thereof, be awarded to persons connected with or related to **persons in service of the state**, it is required that the bidder or their authorised representative declare their position in relation to the evaluating/adjudicating authority and/or take an oath declaring his/her interest.

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

3.1 Name of enterprise	Complete T2.1.2.1 Item 1.1
Name of enterprise's representative	Complete T2.1.2.1 Item 1.2
3.2 ID Number of enterprise's representative	Complete T2.1.2.1 Item 1.3
3.3 Position enterprise's representative occupies in the enterprise	Complete T2.1.2.1 Item 1.4
3.4 Company Registration number	Complete T2.1.2.1 Item 3.1 or 3.2
3.5 Tax Reference number	Complete T2.1.2.1 Item 3.3
3.6 VAT registration number	Complete T2.1.2.1 Item 1.7

3.7 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated in paragraph 4 below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted.

	Circle Applicable	
3.8 Are you presently in the service of the state?	YES	NO
If yes, furnish particulars:		
.....		
3.9 Have you been in the service of the state for the past twelve months?	YES	NO
If yes, furnish particulars:		
.....		

3.10 Do you have any relationship (family, friend, other) with persons in the service of the state and who may be involved with the evaluation and or adjudication of this bid?	YES	NO
If yes, furnish particulars: ……		
……		
3.11 Are you, aware of any relationship (family, friend, other) between any other bidder and any persons in the service of the state who may be involved with the evaluation and or adjudication of this bid?	YES	NO
If yes, furnish particulars: ……		
……		
3.12 Are any of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?	YES	NO
If yes, furnish particulars: ……		
……		
3.13 Are any spouse, child or parent of the company's directors, trustees, managers, principle shareholders or stakeholders in service of the state?	YES	NO
If yes, furnish particulars: ……		
……		
3.14 Do you or any of the directors, trustees, managers, principle shareholders, or stakeholders of this company have any interest in any other related companies or business whether or not they are bidding for this contract ?	YES	NO
If yes, furnish particulars: ……		
……		

4 The names of all directors / trustees / shareholders / members / sole proprietors / partners in partnerships, their individual identity numbers and state employee numbers must be indicated below. In the case of a joint venture, information in respect of each partnering enterprise must be completed and submitted

Full Name	Identity No.	State Employee No.	Personal income tax No.
Use additional pages if necessary			

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): **Date**

SIGNATURE:

T2.2.6 MBD 5: DECLARATION FOR PROCUREMENT ABOVE R10 MILLION
(ALL APPLICABLE TAXES INCLUDED)

For all procurement expected to exceed R10 million (all applicable taxes included), bidders must complete the following questionnaire.

		Circle Applicable	
1.0	Are you by law required to prepare annual financial statements for auditing?	YES	NO
1.1	**If YES, submit audited annual financial statements for the past three years or since the date of establishment if established during the past three years.**		
2.0	Do you have any outstanding undisputed commitments for municipal services towards any municipality for more than three months or any other service provider in respect of which payment is overdue for more than 30 days?	YES	NO
2.1	If NO, this serves to certify that the bidder has no undisputed commitments for municipal services towards any municipality for more than three months or other service provider in respect of which payment is overdue for more than 30 days.		
2.2	If YES, provide particulars.		
	……..……..……..		
	……..……..……..		
3.0	Has any contract been awarded to you 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?	YES	NO
3.1	If YES, provide particulars.		
	……..……..……..		
	……..……..……..		
4.0	Will any portion of goods or services be sourced from outside the Republic, and, if so, what portion and whether any portion of payment from the municipality / municipal entity is expected to be transferred out of the Republic?	YES	NO
4.1	If YES, provide particulars.		
	……..……..……..		
	……..……..……..		

If required by 1.1 above, tenderers are to include, at the back of their tender submission document, a printout of their audited annual financial statements.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, ***and, if required, that the requested documentation has been included in the tender submission****.*

NAME (Block Capitals): ..... **Date**

SIGNATURE: ....

T2.2.7 MBD 6.1: PREFERENCE POINTS CLAIM In terms of THE PREFERENTIAL PROCUREMENT REGULATIONS (2022)

Reference is to be made to Clause F.3.11 of the Tender Data.

This preference form must form part of all tenders invited. It contains general information and serves as a claim form for preference points for specific goals.

NB: BEFORE COMPLETING THIS FORM, TENDERERS MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER AND PREFERENTIAL PROCUREMENT REGULATIONS, 2022

1.0 GENERAL CONDITIONS

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

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

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

1.3 Preference Points for this tender shall be awarded for:

- **Price** and **Specific Goals**: Either 80 or 90 (price) and 20 or 10 (specific goals), in terms of 1.2 above.
- The total Preference Points, for Price and Specific Goals, is 100.

1.4 Failure on the part of the tenderer to submit the required proof or documentation, in terms of the requirements in the Conditions of Tender for claiming specific goal preference points, will be interpreted that preference points for specific goals are not claimed.

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

2.0 DEFINITIONS

2.1 "**tender**" means a written offer in the form determined by an organ of state in response to an invitation to provide goods or services through price quotations, competitive tendering process or any other method envisaged in legislation.

2.2 "**price**" means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts.

2.3 "**rand value**" means the total estimated value of a contract in Rand, calculated at the time of bid invitation, and includes all applicable taxes.

2.4 "**tender for income-generating contracts**" means a written offer in the form determined by Municipality in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the Municipality and a third party that produces revenue for the Municipality, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions.

2.5 "**the Act**" means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000).

3.0 FORMULA FOR CALCULATION OF PREFERENCE PRICE POINTS

3.1 PROCUREMENT OF GOODS AND SERVICES

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

80 / 20 Points System

$$Ps = 80\left(1 - \frac{Pt - Pmin}{Pmin}\right)$$

OR

90 / 10 Points System

$$Ps = 90\left(1 - \frac{Pt - Pmin}{Pmin}\right)$$

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

4.0 POINTS AWARDED FOR SPECIFIC GOALS

4.1 In terms of Regulation 4(2); 5(2); 6(2) and 7(2) of the Preferential Procurement Regulations, preference points must be awarded for specific goals stated in the tender. For the purposes of this tender the tenderer will be allocated points based on the goal(s) stated in **Table 1** below, as supported by proof/ documentation stated in the **Conditions of Tender**:

4.2 In cases where organs of state intend to use Regulation 3(2) of the Regulations, which states that if it is unclear whether the 80/20 or 90/10 preference point system applies, an organ of state must, in the tender documents, stipulate in the case of:

(a) an invitation for tender for income-generating contracts, that either the 80/20 or 90/10 preference point system will apply and that the highest acceptable tender will be used to determine the applicable preference point system, or
(b) any other invitation for tender, that either the 80/20 or 90/10 preference point system will apply and that the lowest acceptable tender will be used to determine the applicable preference point system,

then the organ of state must indicate the points allocated for specific goals for both the 90/10 and 80/20 preference point system.

TABLE 1: Specific Goals for the tender and maximum points for each goal are indicated per the table below.

Tenderers are to indicate their points claim for each of the Specific Goals in the shaded blocks.

The Specific Goals to be allocated points in terms of this tender	Maximum Number of points ALLOCATED (80/20 system)	Maximum Number of points ALLOCATED (90/10 system)	Number of points CLAIMED (80/20 system)	Number of points CLAIMED (90/10 system)
Ownership Goal: Race (black)	4	n/a		n/a
Ownership Goal: Gender (female)	2	n/a		n/a
RDP Goal: The promotion of South African owned enterprises.	8	n/a		n/a
RDP Goal: The promotion of export-oriented production to create jobs	6	n/a		n/a
Total CLAIMED Points (20 Maximum)				n/a

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, certify that the points claimed, based on the specific goals as specified in the tender, qualifies the tendering entity for the preference(s) shown.

I acknowledge that:

1) The information furnished is true and correct.

2) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 1 of this form.

3) In the event of a contract being awarded as a result of points claimed as shown in paragraphs 1.4 and 4.2, the contractor may be required to furnish documentary proof to the satisfaction of the organ of state that the claims are correct.

4) If the specific goals have been claimed or obtained on a fraudulent basis, or any of the conditions of contract have not been fulfilled, the organ of state may, in addition to any other remedy it may have:

   (a) disqualify the person from the tendering process.
   (b) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct.
   (c) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation.
   (d) recommend that the tenderer or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the *audi alteram partem* (hear the other side) rule has been applied; and
   (e) forward the matter for criminal prosecution, if deemed necessary.

NAME (Block Capitals): ---------- **Date**

SIGNATURE: _____ ----------

T2.2.8 MBD 8: DECLARATION OF BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES

1.0 This Municipal Bidding Document must form part of all bids invited.

2.0 It serves as a declaration to be used by municipalities and municipal entities in ensuring that when goods and services are being procured, all reasonable steps are taken to combat the abuse of the supply chain management system.

3.0 The bid of any bidder may be rejected if that bidder, or any of its directors have:

a) abused the municipal entity's supply chain management system or committed any improper conduct in relation to such system.
b) been convicted for fraud or corruption during the past five years.
c) wilfully neglected, reneged on or failed to comply with any government, municipal or other public sector contract during the past five years.
d) been listed in the Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No 12 of 2004).

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

		Circle Applicable	
4.1	Is the bidder or any of its directors listed on the National Treasury's Database of Restricted Suppliers as companies or persons 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 audi alteram partem 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

4.1.1 If YES, provide particulars.

……

……

4.2	Is the bidder 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 (No 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

4.2.1 If YES, provide particulars.

……

……

4.3	Was the bidder 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

4.3.1 If YES, provide particulars.

……

……

4.4	Does the bidder 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

4.4.1 If YES, provide particulars.

……

……

4.5	Was any contract between the bidder 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

4.5.1 If YES, provide particulars.

……

……

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

I accept that, in addition to cancellation of a contract, action may be taken against me should this declaration prove to be false.

NAME (Block Capitals): **Date**

SIGNATURE:

T2.2.9 MBD 9: CERTIFICATE OF INDEPENDENT BID DETERMINATION

NOTES

[1] Includes price quotations, advertised competitive bids, limited bids and proposals.

[2] Bid rigging (or collusive bidding) occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and / or services through a bidding process. Bid rigging is, therefore, an agreement between competitors not to compete.

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

1.0 This Municipal Bidding Document (MBD) must form part of all **bids**[1] invited.

2.0 Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by, firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or **bid rigging**).[2] Collusive bidding is a *pe se* prohibition meaning that it cannot be justified under any grounds.

3.0 Municipal Supply Regulation 38 (1) prescribes that a supply chain management policy must provide measures for the combating of abuse of the supply chain management system, and must enable the accounting officer, among others, to:

a. take all reasonable steps to prevent such abuse;
b. reject the bid of any bidder if that bidder or any of its directors has abused the supply chain management system of the municipality or municipal entity or has committed any improper conduct in relation to such system; and
c. cancel a contract awarded to a person if the person committed any corrupt or fraudulent act during the bidding process or the execution of the contract.

4.0 This MBD serves as a certificate of declaration that would be used by institutions to ensure that, when bids are considered, reasonable steps are taken to prevent any form of **bid rigging**.

5.0 In order to give effect to the above, the attached Certificate of Bid Determination (MBD 9) must be completed and submitted with the bid.

CERTIFICATE OF INDEPENDENT BID DETERMINATION

I, the undersigned, in submitting the accompanying bid:

(Bid Number and Description)

in response to the invitation for the bid made by:

(Name of Municipality / Municipal Entity)

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

I certify, on behalf of:

(Name of Bidder)

that:

1. I have read and I understand the contents of this Certificate.

2. I understand that the accompanying bid will be disqualified if this Certificate is found not to be true and complete in every respect.

3. I am authorized by the bidder to sign this Certificate, and to submit the accompanying bid, on behalf of the bidder;

4. Each person whose signature appears on the accompanying bid has been authorized by the bidder to determine the terms of, and to sign, the bid, on behalf of the bidder;

5. For the purposes of this Certificate and the accompanying bid, I understand that the word "competitor" shall include any individual or organization, other than the bidder, whether or not affiliated with the bidder, who:
   (a) has been requested to submit a bid in response to this bid invitation.
   (b) could potentially submit a bid in response to this bid invitation, based on their qualifications, abilities or experience.
   (c) provides the same goods and services as the bidder and/or is in the same line of business as the bidder.

6. The bidder has arrived at the accompanying bid independently from, and without consultation, communication, agreement, or arrangement with any competitor. However, communication between partners in a joint venture or consortium[3] will not be construed as collusive bidding.

7. In particular, without limiting the generality of paragraphs 6 above, there has been no consultation, communication, agreement or arrangement with any competitor regarding:
   (a) prices.
   (b) geographical area where product or 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 bid.
   (e) the submission of a bid which does not meet the specifications and conditions of the bid.
   (f) bidding with the intention not to win the bid.

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 bid invitation relates.

9. The terms of the accompanying bid have not been, and will not be, disclosed by the bidder, directly or indirectly, to any competitor, prior to the date and time of the official bid 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 bids and contracts, bids 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.

NAME (Block Capitals): ---------- **Date**

SIGNATURE: _____ ----------

T2.2.10 JOINT VENTURES AGREEMENTS

Joint Venture agreement and Power of Attorney Agreements to be attached here (if applicable).

T2.2.11 RECORD OF ADDENDA TO TENDER DOCUMENTS

I / We confirm that the following communications received from the Employer or his representative before the date of submission of this tender offer, amending the tender documents, have been taken into account in this tender offer.

ADD.No	DATE	TITLE OR DETAILS
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

It is also confirmed that the requirements, as stated on the Addenda, have been complied with.

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.12 ELIGIBILITY: DECLARATION OF MUNICIPAL FEES

Reference is to be made to Clause F.2.1(f)(ii) of the Tender Data.

I, the undersigned, do hereby declare that the Municipal fees of:

.....

(full name of Company / Close Corporation / partnership / sole proprietary/Joint Venture)

(hereinafter referred to as the TENDERER) are, as at the date hereunder, fully paid or an Acknowledgement of Debt has been concluded with the Municipality to pay the said charges in instalments.

The following account details relate to property of the said TENDERER:

Account	**Account Number: to be completed by tenderer**											
Consolidated Account												
Electricity												
Water												
Rates												
JSB Levies												
Other												

I acknowledge that should the aforesaid Municipal charges fall into arrears, the Municipality may take such remedial action as is required, including termination of any contract, and any payments due to the Contractor by the Municipality shall be first set off against such arrears.

- Where the tenderer's place of business or business interests are outside the jurisdiction of eThekwini municipality, a copy of the accounts/ agreements from the relevant municipality are to be provided.

- Where the tenderer's Municipal Accounts are part of their lease agreement, then a copy of the agreement, or an official letter to that effect, is to be provided.

Tenderers are to include, at the back of their tender submission document, a printout of the above account's and or agreements signed with the municipality.

Failure to include the required document will make the tender submission non-responsive.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, **and that the requested documentation has been included in the tender submission**.*

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.13 ELIGIBILITY: REGISTRATION WITH COMPENSATION COMMISSIONER

Reference is to be made to Clause F.2.1(f)(i) of the Tender Data.

The Occupational Injuries and Diseases Act (130 of 1993 as amended) (the Act) refers. A summary of the pertinent Clauses are listed below. The act is to be referenced for the full text of the clauses.

Clause 80: Employer to register with commissioner and furnish him with particulars
The Act requires that an Employer carrying out business in the Republic to register with the Compensation Commissioner. Any person who fails to comply with the provisions of the this clause is guilty of an offence.

Clause 82: Employer to furnish returns of earnings
The Act requires an Employer to furnish the commissioner with a return showing:

- The amount of earnings paid by him to his employees.
- Any further information as may be prescribed or as the commissioner may require.

Any Employer who fails to comply with the provisions of the this clause is guilty of an offence.

Clause 86: Assessment to be paid by an employer to commissioner
The Act states that an Employer will receive notices of assessment from the commissioner. The Employer must pay the commissioner the assessment amount on the notices.

Clause 89: Mandators and contractors
The Act requires a contractor (a person with a contract with a mandator) to register as an Employer in accordance with the provisions of the Act and pay the necessary assessments. Failing registration or payment of assessments, the mandator is required to pay the assessments in respect of the employees of the contractor. The mandator is allowed to recover the assessment amounts paid from the contractor.

The Department of labour issues contractors with a **Letter of Good Standing** if the contractor has complied with the requirement(s) of the Act and is in "good standing" with the Compensation Fund. Employers can check the validity of such Letters of Good Standing on the internet (https://cfonline.labour.gov.za/VerifyLOGS).

Tenderers are to include, at the back of their tender submission document, a printout of their most recent Letter of Good Standing from the Department of Labour.

Failure to include the required document will make the tender submission non-responsive.

*I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, **and that the requested documentation has been included in the tender submission**.*

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.14 ELIGIBILITY: CSD REGISTRATION REPORT

Reference is to be made to Clauses F.2.1(e) and F.2.23 of the Tender Data.

The Conditions of Tender, Clause F.2.1: Eligibility, requires a tenderer to be registered, at the time of tender closing, on the **National Treasury Central Supplier Database (CSD)** as a service provider.

CSD Registration Reports can be obtained from the National Treasury's CSD website at https://secure.csd.gov.za/Account/Login.

The date of obtaining the printout is to be indicated on the printout.

The following is an example of the beginning of the printout obtained from the above website.

CENTRAL SUPPLIER DATABASE FOR GOVERNMENT

Report Date:

Report Ran By:

CSD REGISTRATION REPORT

SUPPLIER IDENTIFICATION

Supplier number		Have Bank Account	
Is supplier active?		Total annual turnover	
Supplier type		Financial year start date	
Supplier sub-type		Registration date	
Legal name		Created by	
Trading name		Created date	
Identification type		Edit by	
Government breakdown		Edit date	
Business status		Restricted Supplier	
Country of origin		Restriction Last Verification Date	
South African company/CC registration number			

Tenderers are to include, at the back of their tender submission document, a printout of their (full) CSD Registration Report.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, ***and that the requested documentation has been included in the tender submission****.*

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

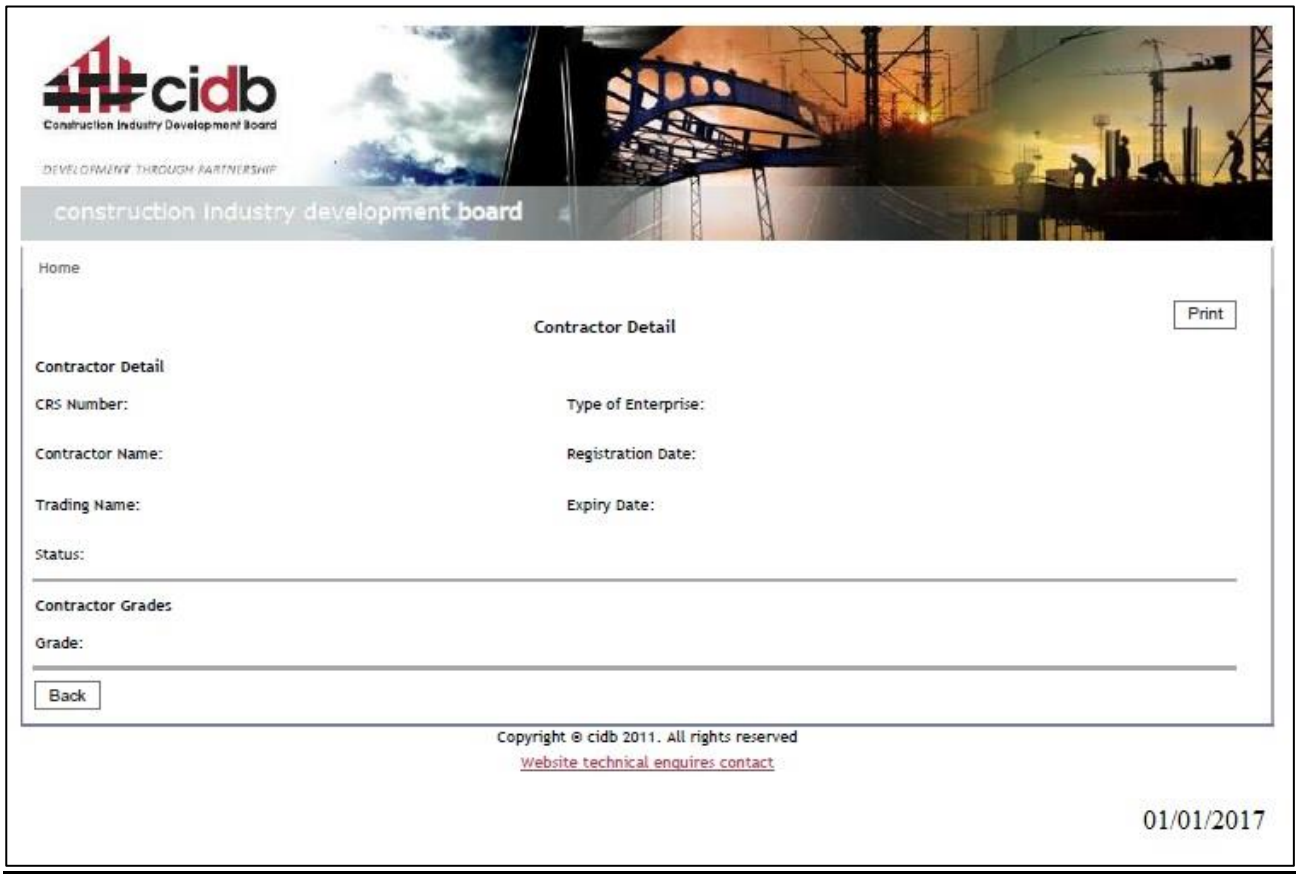
T2.2.15 ELIGIBILITY: VERIFICATION OF CIDB REGISTRATION AND STATUS

Reference is to be made to Clause F.2.1.1 and F.2.23 of the Tender Data**.**

The Conditions of Tender, **Clause F.2.1.1: Eligibility**, requires a tenderer to be registered, as "Active", with the CIDB (at time of tender closing), 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. The required class of construction work is specified in Clause F.2.1.1.

CIDB Registrations can be obtained from the CIDB website at https://registers.cidb.org.za/PublicContractors/ContractorSearch. The date of obtaining the printout is to be indicated on the printout.

The following is an example of the beginning of the printout obtained from the above website.



Tenderers are to include, at the back of their tender submission document, a printout of their registration with the CIDB.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct, ***and that the requested documentation has been included in the tender submission****.*

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.16 EXPERIENCE OF TENDERER

Refer to Clause T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

The following is a statement of works of similar nature (in relation to the scope of works) recently (within the past 15 years) executed by myself / ourselves.

Tenderers are to submit copies of signed completion certificates for all projects submitted.

EMPLOYER: CONTACT PERSON AND TELEPHONE NUMBER	CONSULTING ENGINEER: CONTACT PERSON AND TELEPHONE NUMBER	NATURE OF WORK	VALUE OF WORK (inclusive of VAT)	DATE COMPLETED

Attach additional pages if more space is required

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): -- **Date**

SIGNATURE: -- ------------------------

T2.2.17 PROPOSED ORGANISATION and STAFFING (N/A)

Refer to Clause T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

The tenderer should propose the structure and composition of their team i.e. the main disciplines involved, the key staff member / expert responsible for each discipline, and the proposed technical and support staff and site staff.

The roles and responsibilities of each key staff member / expert should be set out as job descriptions. In the case of an association / joint venture / consortium, it should, indicate how the duties and responsibilities are to be shared.

The tenderer must attach his / her organization and staffing proposals to this page. (this is to include both the on-site and off-site staffing resources used for this project)

In addition to any lists, this information should also be shown in an organogram format (flow chart) clearly indicating the staff hierarchy and reporting lines, again for on- and off-site resources.

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

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): _____ **Date**

SIGNATURE: ..... _____

T2.2.18 KEY PERSONNEL

Refer to Clause T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

The Tenderer shall list below the personnel which he intends to utilize on the Works, including key personnel (Contract's Manager, Site Agent, and Foremen) which may have to be brought in from outside if not available locally.

CATEGORY OF EMPLOYEE	NUMBER OF PERSONS	
	KEY PERSONNEL, PART OF THE CONTRACTOR'S ORGANISATION	KEY PERSONNEL TO BE IMPORTED IF NOT AVAILABLE LOCALLY
Site Agent, Project Managers		
Lead Mechanical Foremen		
Lead Electrical Foremen		
Lead Civil Engineer		
Contracts Manager		
Others:		
.....		

Note: CVs of key personnel may be requested during the contract period.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.19 EXPERIENCE OF KEY PERSONNEL

Refer to Clause T1.2.3.4 for Functionality Points evaluation prompts (if applicable).

KEY STAFF	FULL NAME AND SURNAME
Lead Mechanical Engineer	
Lead Electrical Engineer	
Lead Civil Engineer	
Contracts Manager	

The experience of assigned staff member in relation to the Scope of Work will be evaluated from three different points of view:

1) General experience (total duration of professional activity), level of education and training and positions held of each discipline specific team leader.
2) The education, training, skills and experience of the Assigned Staff in the specific sector, field, subject, etc which is directly linked to the scope of work.
3) The key staff members' / experts' knowledge of issues which the tenderer considers pertinent to the project e.g. local conditions, affected communities, legislation, techniques etc.

A CV of the contract manager, site agent(s) and general foreman of not more than 2 pages should be attached to this schedule:

Each CV should be structured under the following headings:

a) Personal particulars
- name
- date and place of birth
- place (s) of tertiary education and dates associated therewith
- professional awards

b) Qualifications (degrees, diplomas, grades of membership of professional societies and professional registrations)

c) Skills

d) Name of current employer and position in enterprise

e) Overview of post-graduate / diploma experience (year, organization and position)

f) Outline of recent assignments / experience that has a bearing on the scope of work

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): **Date**

SIGNATURE:

QUALIFICATIONS AND EXPERIENCE OF LEAD MECHANICAL ENGINEER

The relevant person listed under key staff above shall complete all the required information below and sign the declaration at the end of this form.

Full Name & Surname			
ID/Passport No.:		**Age:**	

Name of Tertiary Institution Attended:			
Relevant Qualification/s Obtained (and year):			
Name of Professional Institution Registered With:		**Registration No:**	

EMPLOYMENT HISTORY (To be listed in chronological order with reference to relevant experience only)

Period of Employment (MM/YY to MM/YY)	**Name of Employer**	**Years of Relevant Experience**
Total number of years of relevant experience:		

Note:
1. The tenderer must submit a brief CV (of not more than 4 pages) containing relevant work experience only. Ambiguous, vague, or unclear statements submitted in the CV will not be considered.

Declaration by Key Staff
I the undersigned, declare that all the information provided above and contained in my CV is a true reflection of myself, my qualifications and my experience.

NAME : ..... (Block Capitals)

SIGNATURE : ……..…….…… DATE: .....

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise, confirms that the contents attached hereto relative to the above are within his/her personal knowledge and are to the best of his/her belief both true and correct.

NAME : ..... (Block Capitals)

SIGNATURE : ……..…….……DATE: .....
(of person authorised to sign on behalf of the Tenderer)

QUALIFICATIONS AND EXPERIENCE OF LEAD ELECTRICAL ENGINEER

The relevant person listed under key staff above shall complete all the required information below and sign the declaration at the end of this form.

Full Name & Surname:			
ID/ Passport No.:		**Age:**	

Name of Tertiary Institution Attended:			
Relevant Qualification/s Obtained (and year):			
Name of Professional Institution Registered With:		**Registration No.:**	

EMPLOYMENT HISTORY (To be listed in chronological order with reference to relevant experience only)

Period of Employment (MM/YY to MM/YY)	**Name of Employer**	**Years of Relevant Experience**
Total number of years of relevant experience:		

Note:
1. The tenderer must submit a brief CV (of not more than 4 pages) containing relevant work experience only. Ambiguous, vague, or unclear statements submitted in the CV will not be considered.

Declaration by Key Staff
I the undersigned, declare that all the information provided above and contained in my CV is a true reflection of myself, my qualifications and my experience.

NAME : ..... (Block Capitals)

SIGNATURE : ..... DATE: .....

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise, confirms that the contents attached hereto relative to the above are within his/her personal knowledge and are to the best of his/her belief both true and correct.

NAME : ..... (Block Capitals)

SIGNATURE : .....DATE: .....
(of person authorised to sign on behalf of the Tenderer)

QUALIFICATIONS AND EXPERIENCE OF LEAD CIVIL ENGINEER

The relevant person listed under key staff above shall complete all the required information below and sign the declaration at the end of this form.

Full Name & Surname:			
ID/ Passport No.:		**Age:**	

Name of Tertiary Institution Attended:			
Relevant Qualification/s Obtained (and year):			
Name of Professional Institution Registered With:		**Registration No.:**	

EMPLOYMENT HISTORY (To be listed in chronological order with reference to relevant experience only)

Period of Employment (MM/YY to MM/YY)	**Name of Employer**	**Years of Relevant Experience**
Total number of years of relevant experience:		

Note:
1. The tenderer must submit a brief CV (of not more than 4 pages) containing relevant work experience only. Ambiguous, vague, or unclear statements submitted in the CV will not be considered.

Declaration by Key Staff

I the undersigned, declare that all the information provided above and contained in my CV is a true reflection of myself, my qualifications and my experience.

NAME : ..... (Block Capitals)

SIGNATURE : ……..…….…… DATE: .....

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise, confirms that the contents attached hereto relative to the above are within his/her personal knowledge and are to the best of his/her belief both true and correct.

NAME : ..... (Block Capitals)

SIGNATURE : ……..…….……DATE: .....
(of person authorised to sign on behalf of the Tenderer)

QUALIFICATIONS AND EXPERIENCE OF CONTRACTS MANAGER

The relevant person listed under key staff above shall complete all the required information below and sign the declaration at the end of this form.

Full Name & Surname:			
ID/ Passport No.:		**Age:**	

Name of Tertiary Institution Attended:			
Relevant Qualification/s Obtained (and year):			
Name of Professional Institution Registered With:		**Registration No.:**	

EMPLOYMENT HISTORY (To be listed in chronological order with reference to relevant experience only)

Period of Employment (MM/YY to MM/YY)	**Name of Employer**	**Years of Relevant Experience**
Total number of years of relevant experience:		

Note:
1. The tenderer must submit a brief CV (of not more than 4 pages) containing relevant work experience only. Ambiguous, vague, or unclear statements submitted in the CV will not be considered.

Declaration by Key Staff:

I the undersigned, declare that all the information provided above and contained in my CV is a true reflection of myself, my qualifications and my experience.

NAME : ..... (Block Capitals)

SIGNATURE : ……..…….…… DATE: .....

The undersigned, who warrants that he/she is duly authorised to do so on behalf of the enterprise, confirms that the contents attached hereto relative to the above are within his/her personal knowledge and are to the best of his/her belief both true and correct.

NAME : ..... (Block Capitals)

SIGNATURE : ……..…….……DATE: .....
(of person authorised to sign on behalf of the Tenderer)

T2.2.20 PRELIMINARY PROGRAMME

Refer to Clause T1.2.3.4 for Functionality Points evaluation prompts

The Tenderer shall attach hereto a preliminary programme reflecting the proposed sequence and tempo of execution of the various activities comprising the work for this Contract. The programme shall be in accordance with the information supplied in this tender enquiry, requirements of the Project Specifications and Drawings and with all other aspects of his Tender.

PROGRAMME														
ACTIVITY	**WEEKS / MONTHS**													

Note: The programme must be based on the completion time as specified in the Contract Data.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.22 SCHEDULE OF PROPOSED SUBCONTRACTORS

The following firms have been identified as possible subcontractors for work in this contract.

NAMES AND ADDRESSES OF PROPOSED SUBCONTRACTORS	NATURE AND EXTENT OF WORK TO BE SUBCONTRACTED	PREVIOUS EXPERIENCE WITH SUBCONTRACTOR

Attach additional pages if more space is required

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.23 PLANT and EQUIPMENT

Refer to Clause F3.11.9 for Functionality Points evaluation prompts (if applicable).

The following are lists of major items of relevant equipment that I / we presently own or lease and will have available for this contract if my / our tender is accepted.

(a) Details of major equipment that is owned by me / us and immediately available for this contract.

DESCRIPTION (type, size, capacity etc)	QUANTITY	YEAR OF MANUFACTURE

Attach additional pages if more space is required

(b) Details of major equipment that will be hired, or acquired for this contract if my / our tender is accepted

DESCRIPTION (type, size, capacity etc)	QUANTITY	HOW ACQUIRED	
		HIRE/ BUY	SOURCE

Attach additional pages if more space is required

The Tenderer undertakes to bring onto site without additional cost to the Employer any additional plant not listed but which may be necessary to complete the contract within the specified contract period.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

T2.2.24 CONTRACTOR'S HEALTH AND SAFETY PLAN

Refer to Clause F3.11.9 for Functionality Points evaluation prompts (if applicable).

At tender stage only a brief overview (**to be attached to this page**) of the tenderers perception on the safety requirements for this contract will be adequate.

Only the successful Tenderer shall submit separately the Contractor's Health and Safety Plan as required in terms of Regulation 7 of the Occupational Health and Safety Act 1993 Construction Regulations 2014.

The detailed safety plan will take into consideration the site specific risks as mentioned under C.3: Project Specification. A generic plan will not be acceptable.

I, the undersigned, who warrants that they are authorised to sign on behalf of the Tenderer, confirms that the information contained in this form is within my personal knowledge and is to the best of my belief both true and correct.

NAME (Block Capitals): _____ **Date**

SIGNATURE: _____ _____

PART C1: AGREEMENT AND CONTRACT DATA

C1.1: FORM OF OFFER AND ACCEPTANCE

C1.1.1: OFFER

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

Contract No: **WS7759**

Contract Title: **Ogunjini Water Treatment Works Emergency Capacity Upgrade from 1 Ml/d to 3 Ml/d**

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

By the representative of the Tenderer, deemed to be duly authorised, signing this part of this Form of Offer and Acceptance, the Tenderer offers to perform all of the obligations and liabilities of the Contractor under the Contract including compliance with all its terms and conditions according to their true intent and meaning for an amount to be determined in accordance with the Conditions of Contract identified in the Contract Data.

*** The offered total of the prices inclusive of Value Added Tax is:**

R..... (*In words* .....

.....)

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.

For the Tenderer:

*** Name of Tenderer** *(organisation)* **:** .....

*** Signature** *(of person authorized to sign the tender)* **:** .....

*** Name** *(of signatory in capitals)* **:** .....

Capacity *(of Signatory)* **:** .....

Address : .....

: .....

Telephone : .....

Witness:

Signature : ..... **Date** : .....

Name *(in capitals)* : : .....

Notes:
*** Indicates what information is mandatory.**
Failure to complete the mandatory information and sign this form will invalidate the tender.

C1.1: FORM OF OFFER AND ACCEPTANCE

C1.1.2: FORM OF ACCEPTANCE

This Form will be completed by the Employer

By signing this part of the 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 : Agreement and Contract Data, (which includes this Agreement)
- Part C2 : Pricing Data, including the Bill of Quantities
- Part C3 : Scope of Work
- Part C4 : Site Information

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

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

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 bonds, guarantees, proof of insurance and any other documentation to be provided in terms of the Conditions of Contract identified in the Contract Data at, or just after, the date this Agreement comes into effect. 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 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 *(person authorized to sign the acceptance)* **:** .....

Name *(of signatory in capitals)* **:** .....

Capacity *(of Signatory)* **:** .....

Name of Employer *(organisation)* **:** .....

Address : .....

: .....

Witness:

Signature : ..... **Date** : .....

Name*(in capitals)* : : .....

C1.1: FORM OF OFFER AND ACCEPTANCE
C1.1.3: SCHEDULE OF DEVIATIONS

This form will be completed by THE EMPLOYER and ONLY THE SUCCESSFUL TENDERER

1. **Subject** : ……..

Details : ……..

: ……..

2. **Subject** : ……..

Details : ……..

: ……..

3. **Subject** : ……..

Details : ……..

: ……..

By the duly authorised representatives signing this Schedule of Deviations, 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 Tender Schedules, as well as any confirmation, clarification or change to the terms of the offer agreed by the Tenderer and the Employer during this process of offer and acceptance.

It is expressly agreed that no other matter whether 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		**FOR THE EMPLOYER**
……..……..	Signature	……..……..
……..……..	Name *(in capitals)*	……..……..
……..……..	Capacity	……..……..
……..……	Name and Address of	……..……
……..	Organisation	……..
……..		……..
……..		……..
……	Witness Signature	……
……..	Witness Name	……..
……..	Date	……..

C1.2: CONTRACT DATA

C1.2.1 CONDITIONS OF CONTRACT

C1.2.1.1 GENERAL CONDITIONS OF CONTRACT

The Conditions of Contract are the General Conditions of Contract for Construction Works (2015 3rd Edition), (GCC 2015) published by the South African Institution of Civil Engineering. Copies of these conditions of contract may be obtained from the South African Institution of Civil Engineering (Tel: 011-805-5947, Fax: 011-805-5971, E-mail: civilinfo@saice.org.za).

The Contract Data (including variations and additions) shall amplify, modify, or supersede, the GCC 2015 to the extent specified below, and shall take precedence and shall govern.

Each item of data given below is cross-referenced to the clause in the GCC 2015 to which it mainly applies.

C1.2.2 CONTRACT DATA

C1.2.2.1 DATA TO BE PROVIDED BY THE EMPLOYER

1.1.1.13 The **Defects Liability Period**, from the date of the Certificate of Completion, is 365 days (**1Year).**

1.1.1.14 The **time for achieving Practical Completion**, from the Commencement Date is **40 Weeks**. The period as stated in 5.3.2, and the 7 days referred to in 5.3.3, are included in the above time for achieving Practical Completion. The special non-working days as stated in 5.8.1 are excluded from the above time for achieving Practical Completion.

1.1.1.15 The Employer is the eThekwini Municipality as represented by:
Deputy Head: **Engineering**

1.2.1.2 The address of the Employer is:
Physical: 4th Floor, 3 Prior Road, Durban, 4001
Postal: Water and Sanitation Unit, P.O. Box 1038, Durban, 4000.
Telephone: (031) 311 8659
E-Mail: ashley.pillay@durban.gov.za

1.1.1.16 The **name of the Employer's Agent** is Ingerop South Africa
1.2.1.2 The address of the Employer' Agent is:
Physical: 2nd Floor, 53 Richefond Circle, Ridgeside Office Park, Umhlanga Rocks, 4319.
Postal: 2nd Floor, 53 Richefond Circle, Ridgeside Office Park, Umhlanga Rocks, 4319
Telephone: (031) 266 8363
E-Mail: dnarainsamy@ingerop.co.za

1.1.1.26 The **Pricing Strategy** is by **Re-measurement Contract** (with escalation applied as per CESA rates).

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

- 6.3: Council approval in order to authorise any expenditure in excess of the Tender Sum plus **10%** contingencies.

4.11.1 To carry out and complete the works, the Contractor shall employ a competent Site Agent and Foreman as part of the key staff. It is a requirement for the Contractor's Site Agent and Foreman to each have a minimum of 3 years relevant experience including experience on projects of a

similar nature. The CV's of the Site Agent and the Foreman should be submitted to the Employer's Agent's Representative for acceptance by the Department (reference is made to Cl.5.3.1 of the Contract Data).

Note:

i) "similar nature" implies projects that were of a value of at least 70% of this tender's value, and had a comparable Scope of Work in terms of technical requirements and operations.

ii) "experience" implies experience on projects of a similar nature.

iii) "accredited degree / diploma" implies a minimum 3-year qualification within the built environment, from a registered University or Institute of Technology.

5.3.1 The **documentation required** before commencement with Works execution are:

- Health and Safety Plan (refer to Clause 4.3)
- Initial Programme (refer to Clause 5.6)
- Security (refer to Clause 6.2)
- Insurance (refer to Clause 8.6)
- CV(s) of Key Site Staff (refer to Clause 4.11.1)
- CPG Implementation Plan

5.3.2 The **time to submit the documentation** required before commencement with Works is **14 Days**.

5.3.3 Add the following paragraph:

"If a construction work permit, in terms of Clause 3(1) of the Construction Regulations (2014), is applicable, the instruction to commence carrying out of the works may only be issued once the construction work permit has been obtained by the Employer's Agent. If a construction work permit is applicable, the contractor shall allow for a minimum period of 37 days, after the submission (or re-submission) of the documentation referred to in Clause 5.3.1., for the issuing of the construction work permit."

5.4.2 The access and possession of Site shall not be exclusive to the Contractor but as set out in the Site Information.

5.8.1 The **non-working days** are **Saturdays and** Sundays.

(5.1.1) The **special non-working** days are:

- All statutory holidays as declared by National or Regional Government.
- The year-end break:
  - Commencing on the first working day after 15 December.
  - Work resumes on the first working day after 5 January of the next year.

5.8.1 Delete the words "sunset and sunrise" and replace with "17:00 and 07:00".

5.12.2.2 **Abnormal Climatic Conditions (Rain Delays)** - The numbers of days per month, on which work is expected not to be possible as a result of rainfall, for which the Contractor shall make provision, is given in the table below. During the execution of the Works, the Employer's Agent's Representative will certify a day lost due to rainfall only if at least 75% of the work force and plant on site could not work during that specific working day.

Extension of time as a result of rainfall shall be calculated monthly being equal to the number days certified by the Employer's Agent's Representative as lost due to rainfall, less the number of days allowed for as in table below, which could result in a negative figure for certain months. The total extension of time for which the Contractor may apply, shall be the cumulative algebraic sum of the monthly extensions. Should the sum thus obtained be negative, the extension of time shall be taken as NIL.

Month	**Days Lost**	**Average Rainfall**	**Month**	**Days Lost**	**Average Rainfall**
January	4*	134	July	1	39
February	3	113	August	2	62
March	3	120	September	2	73
April	2	73	October	3	98
May	2	59	November	3	108
June	1	28	December	1*	102
TOTAL	27	1009mm	* = The number of working days lost allows for the annual statutory Construction holiday in December and January of each year.		

5.13.1 The **penalty for delay** in failing to complete the Works is **R 20 000.00** (per Day).

5.14.1 The **requirements for achieving Practical Completion** will be determined by the Employer's Agent (in consultation with the Contractor) and recorded in the minutes of the first Site Meeting / Handover Meeting. (Refer to 1.1.1.24 for a generic definition.) The requirements are to be regularly reviewed with respect to any variations to the Contract.

5.16.3 The **latent defect liability** period is **10 Years**.

6.2.1 **Security (Performance Guarantee)**: Delete the word "selected" and replace it with "stated".

The liability of the Performance Guarantee shall be as per the following table:

Value of Contract (incl. VAT)	**Performance Guarantee Required**
Less than or equal to R 1m	Nil
Greater than R 1m and less than or equal to R 10m	5% of the Contract Sum
Greater than R 10m	10% of the Contract Sum

6.5.1.2.3 The **percentage allowance** to cover overhead charges for daywork are as follows:

- **80%** of the gross remuneration of workmen and foremen actually engaged in the daywork;
- **20%** on the net cost of materials actually used in the completed work.

No allowance will be made for work done, or for materials and equipment for which daywork rates have been quoted at tender stage.

6.8.2 **Contract Price Adjustment Factor for Civil Works**: The value of the certificates issued shall be adjusted in accordance with the Contract Price Adjustment Schedule (GCC 2015 - page 86) with the following Indices / Descriptions / Coefficients:

- The proportion not subject to adjustment: **x = 0.10**.
- The base month will be the month prior to the month in which tenders close.

- The Index for Labour, Plant, and Materials shall be based on **September 2023 = 100**.
- The Index for Fuel shall be based on **September 2023 = 100**.

	STATS SA Statistical Release	Table	Description	Coefficient
• "L" is the "Labour Index"	P0141	Table A	Geographic Indices; CPI per Province; Kwa-Zulu Natal	**a = 0.28**
• "P" is the • "Contractor's Equipment Index"	P0151.1	Table 4	Plant and Equipment	**b = 0.28**
• "M" is the "Materials Index"	P0151.1	Table 6	Civil Engineering Material (excluding bitumen)	**c = 0.38**
• "F" is the "Fuel Index"	P0142.1	Table 1	Coke, petroleum, chemical, rubber and plastic products; Coal and petroleum products; Diesel	**d = 0.06**

Contract Price Adjustment Factor for Mechanical and Electrical Works : Notwithstanding the provisions and/or anything to the contrary in Clause 6.8.2, Application of Contract Price Adjustment Factor, of the General Conditions of Contract and to the extent that the relevant SEIFSA indices and Formulae are applicable and may be applied, such indices and formulae shall be used to determine the amount of the variation of the Contract price, in terms of the abovementioned Clause.

1) For the Manufacturing Portion of the Contract

a) 24% of the Contract shall be adjusted in accordance with the price indices applicable in "Table G" Mechanical Engineering Materials" at the closing date of the tender and two months prior to the quoted delivery date.

b) 21% of the Contract price shall be adjusted in accordance with the price indices applicable in "Table G" "Electrical Engineering Material" at the closing date of the tender and two months prior to the quoted delivery date.

c) 45% of the Contract price shall be adjusted in accordance with the price indices applicable in "Table C.3" "Actual Labour Cost" for hourly paid employees at the closing date of the tender and two months prior to the quoted delivery date.

2) For installation Portion of the Contract

90% of the Contract Price shall be adjusted in accordance with the price indices applicable in "Table C.3(a)" "Actual Labour Cost (Field Force)" for hourly paid employees at the closing date of the tender and during the last month of the quoted installation period.

Any application for an adjustment of the Contract Price shall be accompanied by calculations, duly certified, showing how the adjustment has been derived. In the event of the dates for delivery or erection extending beyond the tendered dates plus any extensions of time granted in terms of the Conditions of Contract, the price adjustment factors calculated in accordance with the formulae above shall not exceed those applying at the quoted due dates for delivery or erection as the case may be.

Escalation factors, given as equations are as follows:

a) Manufacturing (supply and delivery) factor:

$$f_m = 0.45\left(\frac{L_t - L_0}{L_0}\right) + 0.24\left(\frac{M_1 - M_0}{M_0}\right) + 0.21\left(\frac{E_1 - E_0}{E_0}\right)$$

Escalation factors, given as equations are as follows:

b) Installation (installation, testing and commissioning) factor:

$$f_{t=0.90(\frac{L_t - L_0}{L_0}}$$

where Lo, Mo, Eo and Lt, Mt, Et are commencement date indices and completion date indices respectively for the relevant escalation period.

Imported Equipment

A Permissible Adjustment

The SEIFSA Index adjustment shall not apply to the value of any materials, goods, plant or equipment imported from outside of the Republic of South Africa and where such are listed in the Schedule of Imported Equipment in Part C2.2. Contract Price Adjustments for variations in such prices will be permitted in respect of the following variables only:

Variations in rates of exchange as detailed in Sub-Clause E.
Variations in customs surcharge and customs duty as detailed in Sub-Clause C.
All other fluctuations in the cost of imported materials, goods, plant and equipment shall be for the Contractor's account including any change in the cost of freight rates, marine insurance rates, wharfage, dock dues, landing charges, local cartage, agency charges, disbursement fees, delivery release orders, documentation, postage and petties and so forth.

B Values of Imported Materials, Goods, Plant and Equipment

The value of materials, goods, plant, and equipment imported from outside of South Africa, for which the Tenderer intends to cover his foreign exchange and import cost risk, shall be inserted in the Schedule of Imported Equipment in Part C2.2 and deducted from the total values to be adjusted by the SEIFSA Index adjustment.

The value of imported materials, goods, plant or equipment referred to in (i) above shall be the quotation value in foreign currency converted to South African Rand by using the spot selling rate quoted by the Employer's main banker (ABSA) on the Base Date, to which shall be added any Customs Surcharge and Customs Duty applicable at that date.

C Variations in Customs Surcharge and Customs Duty

Any increase or decrease in the Rand value between the amounts of Customs Surcharge and Customs Duty inserted in the Schedule of Imported Equipment 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.

D Special Requirements for Price Adjustment Claims on Imported Equipment

All claims for price adjustments shall be supported by documentary evidence such as audited statements, proof of payment, receipted vouchers and other relevant information as required to the satisfaction of the Engineer, all presented in a clear and concise manner. Failure to render the information and statements as required will result in the rejection of claims for price adjustment.

Documentary evidence shall include documents showing the cost to the Contractor of all imported materials, goods, plant and equipment, including Banker's debit notes and Bills of Entry, in respect of each and every consignment.

E Variations in Rates of Exchange

Adjustment for variations in rates of exchange referred to in Sub-Clause A (ii) above shall be based on the following:

The Tenderer shall complete the Schedule of Imported Equipment in Part C2.3 for all imported materials, goods, plant and equipment for which the he intends to cover his foreign exchange and import risk, as stated in Sub-Clause B above.

The Contractor shall within five working days from the date of placing a firm order with an overseas supplier, provide to the Engineer proof of the order (unpriced). The Engineer shall obtain the spot selling price from the Employer's main banker for the date of the order.

Providing Sub-Clause E (ii) above is fully complied with, the value in Rand inserted in the Schedule of Imported Equipment, column (C) shall be recalculated using the spot rate obtained by the Engineer as described in E (ii) above, and any increase or decrease in the Rand value shall be adjusted accordingly.

6.8.3 Price adjustments for **variation in the cost of the special material(s)** listed below, will be allowed.

Bitumen - escalation will be calculated using the "Rise and Fall" method as determined by the Employer. The base price for bitumen on this contract shall be the ruling price of 50/70 grade bitumen based on the "Shell Whole Sale List Selling Price for Penetration Grade Bitumen", seven (7) days prior to the closing date of tenders.

6.10.1.5 The **percentage advance** on materials (on site) not yet built into the Permanent Works is **80%**.

The **percentage advance** on Plant not yet supplied to Site: **on approval of the engineer.**

6.10.3 **Retention Money:** Delete the word "selected".
The percentage retention on the amounts due to the Contractor is 10%.
The limit of "retention money" is 5% of the Contract Sum.
Should the Contract Price exceed the Contract Sum then the limit of "retention money" is 5% of the Contract Price.
Interest will not be paid on retention withheld by the Employer.

8.6.1.1.2 The **value of Plant and materials** supplied by the Employer to be included in the insurance sum: **Not Required**

8.6.1.1.3 The **amount to cover professional fees** for repairing damage and loss to be included in the insurance sum: **R 1 000 000.00**

8.6.1.2 **SASRIA Coupon Policy** for Special Risks to be issued in joint names of Council and Contractor for the full value of the works (including VAT).

8.6.1.3 The limit of indemnity for **liability insurance**: **R 5 000 000.00**

8.6.1.4 **Ground Support Insurance**:

- Minimum amount for any one occurrence, unlimited as to the number of occurrences, against any claim for damages or loss caused by vibration and / or removal of lateral support: **R 5 000 000.00**
- Maximum first excess: **R 250 000.00**

8.6.1.5 Furthermore, the insurance cover effected by the Contractor shall meet the following requirements:

Third Party Insurance (Public Liability)

- Minimum amount for any one occurrence, unlimited as to the number of occurrences, for the period of the contract, inclusive of the maintenance period: **R 5 000 000.00**
- Consequential loss to be covered by policy: **Yes**
- Liability section of policy to be extended to cover blasting: **R 1 000 000.00**
- Maximum excess per claim or series of claims arising out of any one occurrence: **R50 000.00**

Principal's own surrounding Property Insurance

- Minimum amount for any one occurrence unlimited as to the number of occurrences against any claim for damage which may occur to the Council's own surrounding property: **R10 000 000.00**
- Maximum first excess: **R 500 000.00**

Insurance of Works

- Minimum amount for additional removal of debris (no damage): **R 100 000.00**
- Minimum amount for temporary storage of materials off site, excluding Contractor's own premises: **R 3 000 000.00**
- Minimum amount for transit of materials to site: **R 5 000 000.00**

8.6.5 **Approval by Employer**: At the end of the sub-clause, add the following paragraph:

"Except where otherwise provided in the Special Conditions of Contract, the insurance cover effected by the Contractor in terms of this clause shall not carry a first loss amount greater than those set out below:

Contract Price	First Loss
Less than R 100,000	R 5,000
R 100,000 to R 500,000	R 10,000
R 500,000 to R 1,000,000	R 20,000
R 1,000,000 to R 2,000,000	R 30,000
R 2,000,000 to R 4,000,000	R 40,000
Greater than R 4,000,000	R 50,000

The insurance policy shall contain a specific provision whereby cancellation of the policy prior to the end of the period referred to in Cause 8.2.1 cannot take place without the prior written approval of the Employer."

10.5.1 **Dispute resolution** shall be by standing adjudication.

10.5.3 The **number of members** of the Adjudication Board to be appointed: **1**

10.7.1 Failing ad-hoc adjudication, the determination of disputes shall be by arbitration.

10.8.1 Failing ad-hoc adjudication, the determination of disputes shall be by court proceedings.

C1.2.2.2 DATA TO BE PROVIDED BY CONTRACTOR

1.1.1.9 The legal name of Contractor is:

……

……

……

……

1.2.1.2 The Physical address of the Contractor is:

……

……

……

……

The Postal address of the Contractor is:

……

……

……

……

The contact numbers of the Contractor are:

Telephone: ……

Fax: ……

The E-Mail address of the Contractor is:

……

6.5.1.2.3 The **percentage allowance** to cover overhead charges for daywork are as follows:

- % of the gross remuneration of workmen and foremen actually engaged in the daywork; 80 %
- **%** on the net cost of materials actually used in the completed work. 20. %

C1.2.3 ADDITIONAL CONDITIONS OF CONTRACT

C1.2.3.1 COMMUNITY LIAISON OFFICER

The Ward Councillor(s) in whose ward(s) work is to be done will, collectively, identify a community liaison officer (CLO) for the project and make the person known to the Contractor within two days of being requested to do so. The Contractor will be required to enter a written contract with the CLO that specifies:

- The hours of work and the wage rate of the CLO (200% of the Civil Engineering Industry minimum wage).
- The duration of the appointment.
- The duties to be undertaken by the CLO which could include:
  - Assisting in all respects relating to the recruitment of local labour.
  - Acting as a source of information for the community and councillors on issues related to the contract.
  - Keeping the Contractor advised on community issues and issues pertaining to local security.
  - Assisting in setting up any meetings or negotiations with affected parties.
  - Keeping a written record of any labour or community issue that may arise.
  - Any other duties that may be required by the Contractor.

Responsibility for the identification of a pool of suitable labour shall rest with the CLO, although the Contractor shall have the right to choose from that pool. The Contractor shall have the right to determine the total number labourers required at any one time and this may vary during the contract.

The Contractor shall have the right to replace labour that is not performing adequately. Should such occasion arise, it must be done in conjunction with the CLO.

Payment: The CLO will be reimbursed from the PC Sum item in the Preliminary & General Section of the Bill of Quantities.

C1.2.3.2 EMPLOYMENT OF LOCAL LABOUR

It is a condition of contract that the contractor will be required to employ local labour as specified in eThekwini Council Policy “The use of CLOs and Local Labour”. The contractor will be required to ensure that a minimum of 50% of the labour force is made up of local labour. For the purposes of this contract, “Local labour” will be deemed to be any **persons who reside within Ward 59.** The contractor will be required to provide proof of authenticity of local labour. Signed confirmation by the appointed CLO will suffice for this.

No additional costs will be entertained due to this Particular Specification. The contractor will remain responsible for providing proper supervision of all labour and will be responsible for the quality of work produced.

C1.2.3.3 CONTRACTOR PARTICIPATION GOAL (CPG)

It is a condition of contract that the contractor must allow for a minimum of **30%** of the contract value (excluding PC Sum items and Fixed Cost allowances) to be subcontracted to contractors who are **>51% PPG** (Priority Population Group) owned. Proof of payment to the subcontractors will be required to verify that the minimum has been achieved.

The penalty for not achieving the specified CPG will be 0.5% of the contract value (excluding PC Sum items and Fixed Cost allowances) for every 1% of CPG not achieved**.**

C1.2.3.4 FTE (Full Time Equivalent) EMPLOYMENT INFORMATION

It is a condition of contract that the Contractor supplies the Employer's Agent's Representative with information in respect of the employment of all foremen, artisans and labour (skilled and unskilled) employed to work on this contract. The information required is:

- Initials (per ID doc)
- Last Name (per ID doc)
- ID Number
- Disability (y / n)
- Education Level

Level 1 Unknown	**Level 2** No Schooling	**Level 3** Grade 1-3	**Level 4** Grade 4	**Level 5** Grade 5-6
Level 6 Grade 7-8	**Level 7** Grade 9	**Level 8** Grade 10-11	**Level 9** Grade 12	**Level 10** Post Matric

- Category of Employment

Category A: Employed as Local Labour for this contract only
Category B: Temporarily employed by the Contractor
Category C: Permanently employed by the Contractor

In addition, the following information is required in respect of each person listed above, on a monthly basis:

- Number of days worked during the month;
- Daily wage rate;
- Number of training days during the month.

The information is to be forwarded in a format acceptable to the Employer's Agent's Representative, but preferably in the form of an emailed EXCEL file (an original file, to be used as a template, will be issued to the Contractor). Contractors without computer facilities will be required to submit a hard copy of the information in a format as agreed to between the Contractor and the Employer's Agent's Representative.

In addition to the tax invoice, to be submitted by the Contractor with his monthly statement, mentioned in Clause 6.10.4 of GCC 2015, the Employer reserves the right to withhold payment until the monthly FTE information has been forwarded to the Employer's Agent's Representative. No additional payment for complying with the above will be made and the Contractor is to make allowance for complying through the time related P & G items (sum) under Part AA: Preliminaries, of the Bill of Quantities.

C1.2.3.5 PERFORMANCE MONITORING OF SERVICE PROVIDERS

[For contract awards over R10m] The Contractor shall be subjected to "Performance Monitoring" assessments in terms of the applicable Section (S.53) of the Employer's Supply Chain Management Policy.

Key Performance Indicators (KPIs) are specified in the C3: Scope of Works, or will be discussed and agreed with the Contractor before commencement of the contract.

C1.2.3.6 EXCEPTED RISKS (Clause 8.3)

Pursuant to Clause 8.3 of the Conditions of Contract (GCC 2015), the Employer shall not be liable for the payment of standing time costs as a result of the occurrence of any of the "Excepted Risks" as defined under Clause 8.3.

However, the Employer shall reimburse the Contractor in respect of plant de-establishment and re-establishment costs as a result of "Excepted risks" when a written instruction to de-establish is issued to the Contractor.

C2.1: PRICING ASSUMPTIONS / INSTRUCTIONS

C2.1.1 GENERAL

The Bill of Quantities forms part of the Contract Documents and must be read and priced in conjunction with all the other documents comprising the Contract Documents (refer to F.1.2 of the Tender Data).

C2.1.2 PRICING INSTRUCTIONS AND DESCRIPTION OF ITEMS IN THE SCHEDULE

Measurement and payment shall be in accordance with the relevant provisions of Clause 8 of each of the Standard Engineering Specifications referred to in the Scope of Work. The Preliminary and General items shall be measured in accordance with the provisions of C2.1.8.

The descriptions of the items in the Bill of Quantities are for identification purposes only and comply generally with those in the Standard Engineering Specification.

Clause 8 of each Standard Engineering Specification, read together with the relevant clauses of the Scope of the works, set out what ancillary or associated work and activities are included in the rates for the operations specified. Should any requirements of the measurement and payment clause of the applicable Standard Engineering Specification, or the Scope of the works, conflict with the Bill of Quantities, the requirements of the Standard Engineering Specification or Scope of the work, as applicable, shall prevail.

C2.1.3 QUANTITIES REFLECTED IN THE SCHEDULE

The quantities given in the Bill of Quantities are estimates only, and subject to re-measuring during the execution of the work. The Contractor shall obtain the Employer's Agent's detailed instructions for all work before ordering any materials or executing work or making arrangements for it.

The Works as finally completed in accordance with the Contract shall be measured and paid for as specified in the Bill of Quantities and in accordance with the General and Special Conditions of Contract, the Specifications and Project Specifications and the Drawings. Unless otherwise stated, items are measured net in accordance with the Drawings, and no allowance has been made for waste.

The validity of the contract will in no way be affected by differences between the quantities in the Bill of Quantities and the quantities finally certified for payment.

C2.1.5 MONTHLY PAYMENTS

Unless otherwise specified in the Specifications and Project Specifications, progress payments in Interim Certificates, referred to in Clause 6.10.1 of the General Conditions of Contract, in respect of "sum" items in the Bill of Quantities shall be by means of interim progress instalments assessed by the Employer's Agent and based on the measure in which the work actually carried out relates to the extent of the work to be done by the Contractor.

C2.1.4 PROVISIONAL SUMS / PRIME COST SUMS

Where Provisional Sums or Prime Cost sums (PC Sum) are provided for items in the Bill of Quantities, payment for the work done under such items will be made in accordance with Clause 6.6 of the General Conditions of Contract. The Employer reserves the right, during the execution of the works, to adjust the stated amounts upwards or downwards according to the work actually done under the item, or the item may be omitted altogether, without affecting the validity of the Contract.

The Tenderer shall not under any circumstances whatsoever delete or amend any of the sums inserted in the "Amount" column of the Bill of Quantities and in the Summary of the Bill of Quantities unless ordered or authorized in writing by the Employer before closure of tenders. Any unauthorized changes made by the Tenderer to provisional items in the schedule, or to the provisional percentages and sums in the Summary of the Bill of Quantities, will be treated as arithmetical errors.

C2.1.6 PRICING OF THE BILL OF QUANTITIES

The prices and rates to be inserted by the Tenderer in the Bill of Quantities shall be the full inclusive prices to be paid by the Employer for the work described under

the several items, and shall include full compensation for all costs and expenses that may be required in and for the completion and maintenance during the defects liability period of all the work described and as shown on the drawings as well as all overheads, profits, incidentals and the cost of all general risks, liabilities and obligations set forth or implied in the documents on which the Tender is based.

Each item shall be priced and extended to the "Total" column by the Tenderer, with the exception of the items for which only rates are required (Rate Only), or items which already have Prime Cost or Provisional Sums affixed thereto. If the Contractor omits to price any items in the Bill of Quantities, then these items will be considered to have a nil rate or price.

All items for which terminology such as "inclusive" or "not applicable" have been added by the Tenderer will be regarded as having a nil rate which shall be valid irrespective of any change in quantities during the execution of the Contract.

All rates and amounts quoted in the Bill of Quantities shall be in Rands and Cents and shall include all levies and taxes (other than VAT). VAT will be added in the Summary of the Bill of Quantities.

C2.1.7 "RATE ONLY" ITEMS

The Tenderer shall fill in rates for all items where the words "Rate Only" appear in the "Total" column. "Rate Only" items have been included where:

(a) an alternative item or material is contemplated;
(b) variations of specified components in the make-up of a pay item may be expected; and
(c) no work under the item is foreseen at tender stage but the possibility that such work may be required is not excluded.

For "Rate Only" items no quantities are given in the "Quantity" column but the quoted rate shall apply in the event of work under this item being required. The Tenderer shall however note that in terms of the Tender Data the Tenderer may be asked to reconsider any such rates which the Employer may regard as unbalanced.

C2.1.8 PRELIMINARY AND GENERAL

The Preliminary and General Section is provided to cover the Contractor's expenses incurred in complying with the requirements of the tender documents and consists of the following parts:

- Part AA: Preliminaries
- Part AB: General Specifications
- Part AH: Occupational Health and Safety

Fixed Charge Items: Each item should be priced separately and, subject to the Engineer certifying in terms of Clause 6.7 of the General Conditions of Contract that the work has been done, payment will be made as follows:

(i) the total amount due when the certified value fixed charge items in this section is less than 5% of the net contract price;
(ii) when the certified value of fixed charge items in this section is greater than 5% of the net contract price, payment will be limited to 5% of the net contract price. The remainder will be paid when the value of the work done under the contract, excluding the value of fixed charge items in this section, is greater than 50% of the net contract price, excluding the value of fixed charge items in this section.

Time Related Items: Any Time Related items not priced shall be deemed to be covered by the prices of other items in the section.

Payment of Time Related items in this section will be made throughout the contract period, the amount per month being the value of the item divided by the completion in months or, if specified in weeks, the equivalent number of months, in terms of Clause 5.5 of the General Conditions of Contract. The final monthly increment will only be paid upon the issue of a completion certificate.

C2.2: BILL OF QUANTITIES

The Bill of Quantities follows and comprises of 99 pages. The pages are numbered BoQ 1 to BoQ 98.

BILL: **A CIVILS**
SECTION: **A1 PRELIMINARY AND GENERAL**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A1.1	**8.3 PSA 8.3**	**FIXED-CHARGE ITEMS**				
A1.1.1	8.3.1	Contractual Requirements	Sum	1		
	8.3.2	Establish Facilities on the Site				
	8.3.2.1 PSA 8.3.2.1	Facilities for Employer's Agent				
A1.1.2	PSAB 8.2	a) Offices: 2 No. furnished offices and a boardroom including heating/ cooling and lighting	Sum	1		
A1.1.3	PSAB 8.2	b) Provide a cellular phone, with WIFI 10MB/s	Sum	1		
A1.1.4	PSAB 8.2	c) Provide and erect 2 No. Employer's Agent's nameboards as per drawing	Sum	1		
A1.1.5	PSAB 8.2	d) Garages: 2 No. Covered carports	Sum	1		
A1.1.6	PSAB 8.2	e) Ablution and latrine facilities	Sum	1		
	8.3.2.2	Facilities for Contractor				
A1.1.7	PSA 8.3.2.2 (a)	a) Offices and storage sheds	Sum	1		
A1.1.8		b) Workshops	Sum	1		
A1.1.9		e) Ablution and latrine facilities	Sum	1		
A1.1.10		f) Tools and equipment	Sum	1		
A1.1.11		g) Water supplies, electric power and communications	Sum	1		
A1.1.12	PSA 8.3.2.2 (h)	h) Dealing with water	Sum	1		
A1.1.13		i) Access	Sum	1		
A1.1.14	C4.2	Compliance with Health and Safety requirements including the preparation of risk assessments, safe work procedures, the Health and Safety file, the Health and Safety plan, provision of Personal Protective Equipment and Clothing and any other Health and Safety matters that the contractor deems necessary	Sum	1		
A1.1.15		Completing and checking the Project H&S File and handing over the Client on completion of the works	Sum	1		
A1.1.16		HIV/AIDS awareness as per SANS 1921-6	Sum	1		
		CARRIED FORWARD				

BILL: **A CIVILS**
SECTION: **A1 PRELIMINARY AND GENERAL**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A1.1.17		Fixed charges associated with complying with the Environmental Management Plan	Sum	1		
A1.1.18		Fixed charges associated with items for insurance cover for imported goods	Sum	1		
A1.2	**8.4 PSA 8.4 PSA8.2.2**	**TIME-RELATED ITEMS**				
A1.2.1	8.4.1	Contractual Requirements	Sum	1		
	8.4.2	Operate and maintain facilities on the Site for duration of construction, except where otherwise stated				
	8.4.2.1	Facilities for Employer's Agent				
A1.2.2	PSAB 8.2	a) Offices: 2 No. furnished offices and a boardroom including heating/ cooling and lighting	Sum	1		
A1.2.3	PSAB 8.2	b) Maintain a cellular phone	Sum	1		
A1.2.4	PSAB 8.2	d) Garages: 2 No. Covered carports	Sum	1		
A1.2.5	PSAB 8.2	e) Survey assistants and equipment	Sum	1		
A1.2.6	PSAB 8.2	f) Ablution and latrine facilities	Sum	1		
	8.4.2.2	Facilities for Contractor				
A1.2.7	PSA 8.4.2.2 (a)	a) Offices and storage sheds	Sum	1		
A1.2.8		b) Workshops	Sum	1		
A1.2.9		e) Ablution and latrine facilities	Sum	1		
A1.2.10		f) Tools and equipment	Sum	1		
A1.2.11		g) Water supplies, electric power and communications	Sum	1		
A1.2.12	PSA 8.4.2.2 (h)	h) Dealing with water	Sum	1		
A1.2.13		i) Access	Sum	1		
A1.2.14		j) Plant	Sum	1		
A1.2.15	8.4.3 PSA 8.4.3	Supervision for duration of construction	Sum	1		
A1.2.16	8.4.4	Company and head office overhead costs	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A1.2.17	C4.2	Full compliance with Health and Safety matters for the duration of the works including updating and amending the risk assessments, safe work procedures, the project H&S File, the H&S Plan,medicals for all workers, the provision of PPE and protective clothing and all other H&S matters that fulfill OHS Act 85 of 1993 and construction regulation 2014	Sum	1		
A1.2.18		HIV/AIDS awareness as per SANS 1921-6	Sum	1		
A1.2.19	C4.3	Time-related charges associated with complying with the Environmental Management Plan	Sum	1		
A1.2.20		Mentoring and Training of CPG Partner	Sum	1		
A1.2.21		Forward insurance cover for imported goods	Sum	1		
A1.2.22		Performance monitoring of service provider as per C1.2.3.4	Sum	1		
A1.3	**8.5**	**SUMS STATED PROVISIONALLY BY EMPLOYER'S AGENT** **For work to be done by Contractor and valued in terms of Clause 6.6 of the conditions of contract**				
A1.3.1		Additional testing required by the Employer's Agent	Prov Sum	100000		
A1.3.2		Percentage adjustment on item A1.3.1 for Additional Testing	%			
A1.3.3		Supply of and installation of Safety signage and other safety related equipment	Prov Sum	50000		
A1.3.4		Percentage adjustment on item A1.3.3 for cost and profit	%			
A1.3.5		Relocation of existing services where ordered (rates to be negotiated)	Prov Sum	250000		
A1.3.6		Percentage adjustment on item A1.3.4 for cost and profit	%			
A1.3.7		Specialist subcontractor to expose and safely remove all asbestos-cement pipework (Quotes to be called)	Prov Sum	150000		
A1.3.8		Percentage adjustment on itemA1.3.7 for cost and profit	%			
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A1.3.9		Allow for all the costs and expenses in connection with maintaining the operation of the existing system (where not measured elsewhere) while new works is being constructed, including change-overs between old and upgraded systems	Prov Sum	200000		
A1.3.10		Percentage adjustment on item A1.3.9 for cost and profit	%			
A1.4	**8.7 PSA 8.7**	**DAYWORKS**				
		Labour				
A1.4.1		Skilled	h	200		
A1.4.2		Semi-skilled	h	500		
A1.4.3		Unskilled	h	1000		
		Materials				
A1.4.4		Materials	Prov.Sum	150000		
A1.4.5		Percentage adjustment to item A1.4.4 for materials	%			
		Plant				
A1.4.6		Contractors own Plant	Prov.Sum	250000		
A1.4.7		Plant hired by Contractor	Prov.Sum	250000		
A1.4.8		Percentage adjustment to item A1.4.7 for plant	%			
A1.5	**8.8**	**TEMPORARY WORKS**				
A1.5.1	8.8.2	Accommodation of traffic	Sum	1		
	8.8.4	Existing services				
A1.5.2	PSDB 8.3.2	Excavate by hand in soft material to expose existing services	m^3	100		
TOTAL FOR SECTION A1 CARRIED FORWARD TO SUMMARY						

BILL: **A CIVILS**
SECTION: **A2 SITE CLEARANCE AND EARTHWORKS (WTW SITE)**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A2.1	**SANS 1200 C**	**SITE CLEARANCE**				
A2.1.1	8.2.1 PSC 8.2.1	Clear and grub	m²	750		
A2.1.2	8.2.2	Remove and grub large trees and tree stumps of girth Over and up to				
A2.1.3		1 m to 2 m	No.	5		
A2.1.4	8.2.8	Demolish and remove structures/buildings and dismantle steelwork, etc.				
A2.1.5		Existing Batching Tank Slab	Sum	1		
A2.1.6		Existing Generator Slab	Sum	1		
A2.1.7		Remove existing concrete walkway, store for re-use or dispose	m²	10		
A2.1.8	PSC8.2.5	Take down existing fences for re-use	m	65		
A2.1.9	8.2.10 PSC 8.2.10	Remove topsoil to nominal depth of 150 mm and stockpile	m³	50		
A2.2	**SANS 1200 D**	**EARTHWORKS**				
A2.2.1	8.3.3 PSD 8.3.3	Restricted Excavation				
	8.3.3(a)	Excavate for restricted foundations and footings in all materials, select and use for backfill or embankment or dispose, as ordered:				
A2.2.2		Forming of platforms	m³	100		
A2.2.3		Sludge Holding Tank	m³	120		
A2.2.4		Clear Water Pump Station Staircase	m³	100		
A2.2.5		Raw Water Feed Pump Station	m³	10		
A2.2.6		Clear Water Tank Ring Beam	m³	12		
	PSD 8.3.3(b)	Extra-over for items 1.2.2.1.1 to 1.2.2.1.6:				
A2.2.7		Hard rock excavation (by hydraulic breaker or other non-blasting technique)	m³	5		
A2.2.8		Boulder excavation	m³	5		
A2.2.9		Hand excavation (where allowed or directed by the Engineer)	m³	10		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A2.2.10		8% Cement Stabilisation of Fill (where allowed or directed by the Engineer) in cluding compaction to 98% MOD AASHTO	m³	5		
A2.2.11		Rip and compact:				
A2.2.12		300 mm of in-situ material to 93% Mod AASHTO density under Filter Plant Building	m³	5		
A2.2.13		300 mm of in-situ material to 93% Mod AASHTO density under Clear Water Pump Station Staircase	m³	5		
A2.2.14		300 mm of in-situ material to 93% Mod AASHTO density under Generator Slab	m³	8		
A2.2.15		300 mm of in-situ material to 93% Mod AASHTO density under Batching Tank Slab	m³	3		
A2.2.16		300 mm of in-situ material to 93% Mod AASHTO density under New Plant Slab	m³	40		
A2.2.17	8.3.4	Importing of Material				
A2.2.18		Extra-over item 1.2.2.1 for importation from commercial sources of G5 quality material placed in 150 mm layers and compacted to 98% MOD AASHTO density 150 mm layers and compacted to 98% MOD AASHTO density	m³	90		
A2.2.19		Extra-over item 1.2.2.1 for importation from commercial sources of G7 quality material placed in 150 mm layers and compacted to 98% MOD AASHTO density 150 mm layers and compacted to 98% MOD AASHTO density	m³	90		
A2.2.20	8.3.5	Extra excavation in all materials to provide working space around structures				
A2.2.21		Sludge Holding Tank	m²	100		
A2.2.22		Clear Water Pump Station Staircase	m²	100		
A2.2.23		Clear Water Tank Ring Beam	m²	100		
A2.2.24	8.3.7	Additional lateral support:				
A2.2.25		For construction of clear water pumpstation staircase up to 4m	Sum	1		
A2.2.26	8.3.8	Existing services				
		CARRIED FORWARD				

BILL: **A CIVILS**
SECTION: **A2 SITE CLEARANCE AND EARTHWORKS (WTW SITE)**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A2.2.27	8.3.8.1	c) Excavate by hand in soft material to expose existing services	m³	20		
A2.2.28	8.3.9	Extra-over for backfill or fill material against structures				
A2.2.29		Sludge Holding Tank	m³	60		
A2.2.30		Clear Water Tank Ring Beam	m³	40		
A2.2.31		Clear Water Pumpstation Staircase	m³	60		
A2.2.32	8.3.10 PSD 8.3.10	Topsoiling to a minimum thickness of 100 mm after compaction	m²	150		
A2.2.33	8.3.11 PSD 8.3.11	Grassing	m²	150		
TOTAL FOR SECTION A2 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A3.1	**SANS 1200 G**	**CONCRETE (STRUCTURAL)**				
A3.1.1	8.1.1 PSG 8.1.1	Formwork				
A3.1.2	8.2.2	Rough vertical to:				
A3.1.3		Footings	m²	15		
A3.1.4		Concrete channel	m²	6		
A3.1.5	8.2.2	Smooth vertical to:				
A3.1.6		Sump walls	m²	5		
A3.1.7		Tank walls	m²	150		
A3.1.8		Walkway	m²	50		
A3.1.9	PSG 8.2.7	Kickers	m²	6		
A3.1.10		Concrete channel	m²	5,2		
A3.1.11	8.2.2	Smooth horizontal to:				
A3.1.12		Walkway	m²	25		
A3.1.13	8.2.6	Box out holes/form voids for all depths				
A3.1.14		Small, circular of diameter up to and including 0,35 m	No.	3		
A3.1.15	8.1.2 PSG 8.1.2	Reinforcement				
A3.1.16	8.3.1	Mild steel bars	t	1		
A3.1.17	8.3.1	High tensile steel bars	t	4		
A3.1.18	8.3.2	High-tensile welded mesh ref #245 reinforcement	m²	50		
A3.1.19	8.1.3 PSG 8.1.3	Concrete				
A3.1.20	8.4.1	Prescribed mix concrete				
A3.1.21	PSG 8.9	No-fines concrete minimum 75 mm thickness	m²	10		
A3.1.22	8.4.2	Strength concrete: 15 MPa/19 mm concrete				
A3.1.23		Blinding layer 50 mm minimum thickness	m²	69		
A3.1.24		Mass concrete	m³	2		
A3.1.25	8.4.3	Strength concrete: 25 MPa/19 mm				
A3.1.26		Concrete channel	m³	7		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A3.1.27	8.4.3	Strength concrete: 35 MPa/19 mm				
A3.1.28		Sump floor and walls	m³	0,5		
A3.1.29		Floor slabs	m³	8		
A3.1.30		Footings	m³	9		
A3.1.31		Walls	m³	25		
A3.1.32		Walkway	m³	10		
A3.1.33		DP Beams	m³	4		
A3.1.34	8.4.4 PSG 8.4.4	Unformed surface finishes				
		Wood-floated finish to:				
A3.1.35		Concrete channel	m²	32		
		Steel-floated finish to:				
A3.1.36		Floor slabs	m²	40		
A3.1.37		Footings	m²	32		
A3.1.38		Wall tops	m²	8		
A3.1.39		Walkway & beams	m²	17		
A3.1.40	8.5 PSG 8.5	Joints				
A3.1.41		Contraction joint in floor, as shown on drawing no. 57270-401	m	5		
A3.1.42		Construction joint at the base of wall complete with 200mm wide x 2mm thick Hypalon bandage or similar approved, as shown on drawing no. 57270-401	m	50		
A3.1.43		Expansion joint in floor complete with 200mm wide x 2mm thick Hypalon bandage or similar approved,, as shown on drawing no. 57270-401	m	50		
A3.1.44		Joint detail between structure and concrete channel, as shown on drawing no. 57270-401	m	28		
A3.1.45		Contraction joint in concrete channel, as described on drawing no. 57270-401	m	5		
A3.1.46	PSG 8.10	Items cast into concrete				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A3.1.47		Setting puddle pipes or specials into or through concrete work, incl. for formwork around the pipes and fixing the pipes to the designated lines and levels using ABE Durated expansive cementitious grout or similar approved (pipes measured elsewhere) for diameters: 50 mm up to 250 mm	No	2		
A3.1.48	PSG 8.14	Watertightness test including provision of water	Sum	1		
A3.1.49	PSG 8.15	Slurry coat and curing: Supply and apply waterproof treatment with Xypex concentrate or similar approved and Xypex modified or similar approved to all areas as specified	m²	250		
A3.1.50	PSG 8.16	Bond breaker:				
A3.1.51		250 micron DPC	m²	100		
A3.2	**SANS 1200 HA**	**STRUCTURAL STEELWORK (SUNDRY ITEMS)**				
A3.2.1	8.3.2 PSHA 8.3.2 & 8.3.6	Supply and install handrails complete as shown on drawing no. 57270-401	m	50		
A3.2.2	8.3.3 PSHA 8.3.6	Supply and install stainless steel ladder complete as shown on drawing no. 57270-401	No	1		
A3.3	**SANS 1200 L**	**MEDIUM-PRESSURE PIPELINES**				
A3.3.1	8.2.5 PSL 8.2.5	Supply and install pipes, valves, and specials as per drawing no. 57270-401				
A3.3.2		200mm diameter stainless steel pipe, 2100mm long, flanged one end	No	1		
TOTAL FOR SECTION A3 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A4.1	**SANS 1200 G**	**CONCRETE (STRUCTURAL)**				
A4.1.1	8.1.1 PSG 8.1.1	Formwork				
A4.1.2	8.2.1	Rough vertical to (below final ground level):				
A4.1.3		Column bases	m²	3		
A4.1.4		Stip footings	m²	10		
A4.1.5	8.2.2	Smooth vertical to:				
A4.1.6		Walls and beams	m²	30		
A4.1.7		Columns	m²	12		
A4.1.8		Roof slabs	m²	8		
A4.1.9		20 mm diameter drip groove to underside of roof slab	m	30		
A4.1.10		Pump plinths	m²	3		
A4.1.11		Apron slab	m²	8		
A4.1.12	8.2.2	Smooth horizontal to:				
A4.1.13		Slab soffits	m²	40		
A4.1.14		Beams	m²	4		
A4.1.15	8.2.6	Box out holes/form voids for all depths				
A4.1.16		Small, circular of diameter up to and including 0,35 m	No.	2		
A4.1.17		Small, other than circular of area up to and including 0,1 m²	No.	1		
A4.1.18	8.1.2 PSG 8.1.2	Reinforcement				
A4.1.19	8.3.1	Mild steel bars	t	1		
A4.1.20	8.3.1	High tensile steel bars	t	4		
A4.1.21	8.3.2	High-tensile welded mesh ref #245 reinforcement in surface bed and walkway	m²	50		
A4.1.22	8.1.3 PSG 8.1.3	Concrete				
A4.1.23	8.4.2	Strength concrete: 15 MPa/19 mm concrete				
A4.1.24		Blinding layer 50 mm minimum thickness	m²	25		
A4.1.25		Screed	m²	20		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A4.1.26	8.4.3	Strength concrete: 25 MPa/19mm				
A4.1.27		Strip footings	m³	4		
A4.1.28	8.4.3	Strength concrete: 30 MPa/19mm				
A4.1.29		Column bases	m³	4		
A4.1.30		Columns	m³	2		
A4.1.31		Walls and beams	m³	10		
A4.1.32		Surface bed	m³	5		
A4.1.33		Roof slab to falls	m³	8		
A4.1.34		Plinths	m³	1		
A4.1.35		Apron slabs	m³	4		
A4.1.36	8.4.4 PSG 8.4.4	Unformed surface finishes				
		Wood-floated finish to:				
A4.1.37		Column bases	m²	4		
A4.1.38		Strip footing	m²	10		
		Steel-floated finish to:				
A4.1.39		Wall tops and beams	m²	5		
A4.1.40		Column tops	m²	0,5		
A4.1.41		Plinths	m²	1,5		
A4.1.42		Roof slab	m²	30		
		Power-floated finish to:				
A4.1.43		Surface bed	m²	16		
A4.1.44		Apron slabs	m²	20		
A4.1.45	8.5 PSG 8.5	Joints				
A4.1.46		Isolation joint, as shown on drawing no. 57270-402	m	36		
A4.1.47		Saw-cut joint, as shown on drawing no. 57270-402	m	10		
A4.1.48		Butt joint, as shown on drawing no. 57270-402	m	4		
		CARRIED FORWARD				

BILL: **A CIVILS**
SECTION: **A4 RAW WATER FEED PUMPSTATION**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A4.1.49		Joint detail between column and walls, as shown on drawing no. 57270-402	m	16		
A4.1.50		Layer of malthoid between brickwork and concrete beams to form slip joint	m	12		
A4.1.51	PSG 8.10	Items cast into concrete Setting puddle pipes or specials into or through concrete work, incl. for formwork around the pipes and fixing the pipes to the designated lines and levels using ABE Durated expansive cementitious grout or similar approved (pipes measured elsewhere) for diameters:				
A4.1.52		50mm up to 250mm	No	1		
A4.1.53	PSG 8.16	Bond breaker, 250 micron DPC	m²	18		
TOTAL FOR SECTION A4 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A5.1	PSQB	Brickwork				
		Brickwork (Face brick selected by the Client) in 1:5 Cement Mortar				
A5.1		One brick wall	m²	40		
A5.2		Extra over brickwork for face brickwork	m²	40		
A5.3		Extra over brickwork for header course	m	15		
A5.4		Extra over brickwork for brick-on-edge header course lintels one course high, pointed on face and 230mm soffit.	m	8		
A5.5		Fair cutting and fitting around pipe not exceeding 250mm diameter	No	1		
A5.5.1		Brickwork reinforcement:				
A5.6		Brickforce	m	70		
A5.6.1		Galvanised hoop iron cramps, ties, etc.:				
A5.7		1.2mm x 30mm x800mm galvanised hoop iron strap shot fixed to column	No.	36		
A5.7.1		Lintels, DPC and sills:				
A5.8		Prestressed fabricated lintel, 110 x 75mm	m	6		
A5.8.1	PSQB	Waterproofing				
A5.9		Derbigum or similar approved waterproofing	m²	50		
A5.9.1	PSQB	Painting				
		Prepare, stop and apply				
A5.10		1 coat plaster primer internally	m²	30		
A5.11		3 coats polyacrylic emulsion internally	m²	30		
A5.11.1	PSQB	Plasterwork				
		Internal plaster				
A5.12		4:1 Cement plaster on brickwork	m²	40		
A5.13		3:1 Cement plaster on Concrete	m²	30		
A5.13.1	PSQB	Screed and floor topping				
A5.14		Supply and apply 2 part epoxy floor paint - grease and oil resistant according to the manufacturers specifications. 3 coats ABE or similar Employers Agent approved	m²	25		
A5.14.1	PSQB	Doors				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A5.15		Single hardwood FLB external door and frame complete including sealing, parliament hinges, cabin hooks, barrel bolts, yale lock, handles, stops	No	1		
A5.16		Door closer (Dorma TS 73 V EN 2-4 or similar approved)	No	1		
A5.16.1	PSQB	Louvers Supply and install aluminium weather resistant louvers complete with frame and 25 x 25mm galvanized steel screen (TROX AWG or similar approved):				
A5.17		Size 900mm x 600mm	No	3		
A5.18		**MISCELLANEOUS**				
A5.18.1		Supply and fix in place a 7.5l fire extinguisher complete including bracket	No	1		
TOTAL FOR SECTION A5 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A6.1	**SANS 1200 G**	**CONCRETE (STRUCTURAL)**				
A6.1.1	8.1.1 PSG 8.1.1	Formwork				
A6.1.2	8.2.1	Rough vertical to (below final ground level):				
A6.1.3		Column bases	m²	10		
A6.1.4		Strip footings	m²	20		
A6.1.5	8.2.2	Smooth vertical to:				
A6.1.6		Walls	m²	20		
A6.1.7		Columns	m²	5		
A6.1.8		Beams	m²	10		
A6.1.9		Roof slabs	m²	15		
A6.1.10		20 mm diameter drip groove to underside of roof slab	m	60		
A6.1.11		Plinths	m²	10		
A6.1.12		Cable trench	m²	15		
A6.1.13		Apron slabs	m²	5		
A6.1.14		Ramp	m²	2		
A6.1.15	8.2.2	Smooth horizontal to:				
A6.1.16		Slab soffits	m²	100		
A6.1.17		Beams	m²	100		
A6.1.18	8.2.6	Box out holes/form voids for all depths				
A6.1.19		Small, circular of diameter up to and including 0,35 m	No	2		
A6.1.20		Small, other than circular of area up to and including 0,1 m²	No	1		
A6.1.21	8.1.2 PSG 8.1.2	Reinforcement				
A6.1.22	8.3.1	Mild steel bars	t	2		
A6.1.23	8.3.1	High tensile steel bars	t	7		
A6.1.24	8.3.2	High-tensile welded mesh ref #245 reinforcement	m²	100		
A6.1.25	8.3.2	High-tensile welded mesh ref #617 reinforcement	m²	4		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A6.1.26	8.1.3 PSG 8.1.3	Concrete				
A6.1.27	8.4.2	Strength concrete: 15 MPa/19 mm concrete				
A6.1.28		Blinding layer 50 mm minimum thickness	m²	60		
A6.1.29		Screed	m²	70		
A6.1.30	8.4.3	Strength concrete: 25 MPa/19mm				
A6.1.31		Strip footings	m³	15		
A6.1.32	8.4.3	Strength concrete: 30 MPa/19mm				
A6.1.33		Column bases	m³	7		
A6.1.34		Columns	m³	5		
A6.1.35		Walls	m³	6		
A6.1.36		Surface bed	m³	7		
A6.1.37		Beams	m³	5		
A6.1.38		Roof slab	m³	10		
A6.1.39		Plinths	m³	1		
A6.1.40		Cable trench	m³	1		
A6.1.41		Apron slabs	m³	5		
A6.1.42		Ramp	m³	2		
A6.1.43	8.4.4 PSG 8.4.4	Unformed surface finishes				
		Wood-floated finish to:				
A6.1.44		Column bases	m²	8		
A6.1.45		Strip footing	m²	20		
		Steel-floated finish to:				
A6.1.46		Wall tops	m²	1		
A6.1.47		Column tops	m²	1		
A6.1.48		Plinths	m²	1,5		
A6.1.49		Cable trench	m²	1,5		
A6.1.50		Beams	m²	8		
A6.1.51		Roof slab	m²	68		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Power-floated finish to:				
A6.1.52		Surface bed	m²	40		
A6.1.53		Apron slabs	m²	35		
A6.1.54		Ramp	m²	10		
A6.1.55	8.5 PSG 8.5	Joints				
A6.1.56		Isolation joint, as shown on drawing no. 57270-403	m	70		
A6.1.57		Saw-cut joint, as shown on drawing no. 57270-403	m	15		
A6.1.58		Joint detail between column and walls, as shown on drawing no. 57270-403	m	70		
A6.1.59		Layer of malthoid or similar approved between brickwork and concrete beams to form slip joint	m	40		
A6.1.60	PSG 8.10	Items cast into concrete				
A6.1.61		Setting puddle pipes or specials into or through concrete work, incl. for formwork around the pipes and fixing the pipes to the designated lines and levels using ABE Durated expansive cementitious grout or similar approved (pipes measured elsewhere) for diameters: 50mm up to 250mm	No	2		
A6.1.62	PSG 8.16	Bond breaker, 375 micron DPM	m²	0,5		
A6.2	**SANS 1200 HA**	**STRUCTURAL STEELWORK (SUNDRY ITEMS)**				
A6.2.1	8.3.1 PSHA 8.3.1 & 8.3.6	Structural steel				
		Supply, fabricate, deliver and install structural steelwork for				
A6.2.2		IPE 160 crawl beam 9.13m long including block and tackle capable of lifting 1 ton load complete with fixing as detailed on drawing no. 57270-403	No	1		
A6.2.3	8.3.4 PSHA 8.3.6	Flooring, complete and installed with frames as shown on drawing no. 57270-403				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A6.2.4		Open grid floors, GMS Rectagrid RS40 Type 40 x 4.5 or similar approved.	m²	2		
A6.3	**PSQB**	**BUILDING WORKS**				
A6.3.1	PSQB	Brickwork				
		Brickwork (Face brick selected by the Client) in 1:5 Cement Mortar				
A6.3.2		One brick wall	m²	100		
A6.3.3		Extra over brickwork for face brickwork	m²	100		
A6.3.4		Extra over brickwork for header course	m	30		
A6.3.5		Extra over brickwork for brick-on-edge header course lintels one course high, pointed on face and 230mm soffit.	m	10		
A6.3.6		Fair cutting and fitting around pipe not exceeding 250mm diameter	No	1		
A6.3.7		Brickwork reinforcement:				
A6.3.8		Brickforce	m	300		
A6.3.9		Galvanised hoop iron cramps, ties, etc.:				
A6.3.10		1.2mm x 30mm x800mm galvanised hoop iron strap shot fixed to column	No.	140		
A6.3.11		Lintels, DPC and sills:				
A6.3.12		Prestressed fabricated lintel, 110 x 75mm	m	7		
A6.3.13	PSQB	Waterproofing				
A6.3.14		Derbigum waterproofing	m²	40		
A6.3.15	PSQB	Painting				
		Prepare, stop and apply				
A6.3.16		1 coat plaster primer internally	m²	130		
A6.3.17		3 coats polyacrylic emulsion internally	m²	130		
A6.3.18	PSQB	Plasterwork				
		Internal plaster				
A6.3.19		4:1 Cement plaster on brickwork	m²	100		
A6.3.20		3:1 Cement plaster on Concrete	m²	30		
A6.3.21	PSQB	Screed and floor topping				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A6.3.22		Supply and apply 2 part epoxy floor paint - grease and oil resistant according to the manufacturers specifications. 3 coats ABE or similar Employers Agent approved	m²	50		
A6.3.23	PSQB	Doors				
A6.3.24		Single hardwood FLB external door and frame complete including sealing, parliament hinges, cabin hooks, barrel bolts, yale lock, handles, stops	No	1		
A6.3.25		Powder coated heavy-duty aluminium roller shutters fixed to brickwork or concrete (including motor and control) 3000 x 3000mm high opening, motor, control unit, including locks, handles, hinges, fixing bolts, tracks etc., fixed as per manufacturers specifications	No	1		
A6.3.26		Door closer (Dorma TS 73 V EN 2-4 or similar approved)	No	1		
A6.3.27	PSQB	Windows Steel windows supply and install including hot dip galvanizing after fabrication painting, glazing and burglar bars:				
A6.3.28		Type NC11F	No	1		
A6.3.29	PSQB	Louvers Supply and install aluminium weather resistant louvers complete with frame and 25 x 25mm galvanized steel screen (TROX AWG or similar approved):				
A6.3.30		Size 600mm x 600mm	No	2		
A6.4		**MISCELLANEOUS**				
A6.4.1		Supply and fix in place a 7.5l fire extinguisher complete including bracket	No	2		
TOTAL FOR SECTION A6 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A7.1	**SANS 1200 G**	**CONCRETE (STRUCTURAL)**				
A7.1.1	8.1.1 PSG 8.1.1	Formwork				
A7.1.2	8.2.2	Smooth vertical to:				
A7.1.3		Slabs	m²	70		
A7.1.4	8.1.2 PSG 8.1.2	Reinforcement				
A7.1.5	8.3.2	High-tensile welded mesh ref #245 reinforcement	m²	20		
A7.1.6	8.3.2	High-tensile welded mesh ref #395 reinforcement	m²	20		
A7.1.7	8.1.3 PSG 8.1.3	Concrete				
A7.1.8	8.4.2	Strength concrete: 15 MPa/19 mm concrete				
A7.1.9		Blinding layer 50 mm minimum thickness	m²	200		
A7.1.10	8.4.3	Strength concrete: 30 MPa/19 mm				
A7.1.11		Floor slabs including edge thickenings	m³	50		
A7.1.12	8.4.4 PSG 8.4.4	Unformed surface finishes				
		Wood-floated finish to:				
A7.1.13		Floor slabs	m²	180		
A7.1.14	8.5 PSG 8.5	Joints				
A7.1.15		Construction joint, as shown on drawing no. 57270-401	m	12		
A7.1.16		Expansion joint in floor, as shown on drawing no. 57270-401	m	10		
A7.1.17		Contraction joint in concrete channel, as described on drawing no. 57270-401	m	20		
A7.1.18	PSG 8.16	Bond breaker:				
A7.1.19		375 micron DPC	m²	180		
A7.2		**MISCELLANEOUS**				
A7.2.1		Supply, deliver and install as indicated on the drawing 160mm diameter uPVC cable ducting	m	80		
TOTAL FOR SECTION A7 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A8.1	**SANS 1200 G**	**CONCRETE (STRUCTURAL)**				
A8.1	8.1.1 PSG 8.1.1	Formwork				
A8.2	8.2.2	**Smooth vertical to:**				
A8.3		Walls	m²	70		
A8.4		Slabs	m²	2		
A8.5		Staircase	m²	6		
A8.6	8.2.2	**Smooth horizontal to:**				
A8.7		Staircase	m²	8		
A8.8	8.2.2	**Smooth sloped to:**				
A8.9		Staircase	m²	5		
A8.10	8.1.2 PSG 8.1.2	Reinforcement				
A8.11	8.3.1	Mild steel bars	t	1		
A8.12	8.3.1	High tensile steel bars	t	4		
A8.13	8.3.2	Dowel Y12 bars, 800mm long, into existing floor/walls using Hilti-Hit HY200 (or similar approved), epoxied 200mm into reinforced concrete at 400mm spacing	No	90		
A8.14	8.1.3 PSG 8.1.3	Concrete				
A8.15	8.4.2	Strength concrete: 15 MPa/19 mm concrete				
A8.16		Blinding layer 50 mm minimum thickness	m²	15		
A8.17	8.4.3	Strength concrete: 30 MPa/19mm				
A8.18		Walls	m³	10		
A8.19		Slabs	m³	5		
A8.20		Staircase	m³	7		
A8.21	8.4.4 PSG 8.4.4	Unformed surface finishes				
		Steel-floated finish to:				
A8.22		Wall tops	m²	2		
A8.23		Staircase	m²	4		
		Power-floated finish to:				
		CARRIED FORWARD				

BILL: **A CIVILS**
SECTION: **A8 CLEAR WATER PUMPHOUSE STAIRCASE**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A8.24		Slabs	m²	9		
A8.25	8.5 PSG 8.5	Joints				
A8.26		Vertical RC wall to wall joints as per drawing 57270-405, including wet to dry epoxy	m	10		
A8.27		Vertical masonry wall to existing wall joints as per drawing 57270-405	m	8		
A8.28		Horizontal floor to floor joints as per drawing 57270-405 including wet to dry epoxy	m	6		
A8.29	PSG 8.16	Bond breaker, 375 micron DPM	m²	12		
A8.29.1	**SANS 1200 HA**	**STRUCTURAL STEELWORK (SUNDRY ITEMS)**				
A8.30	8.3.1 PSHA 8.3.1 & 8.3.6	Structural steel				
A8.31	8.3.2 PSHA 8.3.2 & 8.3.6	Supply and install handrails complete as shown on drawing 57270-405	m	10		
TOTAL FOR SECTION A8 CARRIED FORWARD TO SUMMARY						

BILL: **A CIVILS**
SECTION: **A9 BUILDING WORKS**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A9.1	PSQB	Brickwork				
		Brickwork (Face brick selected by the Client) in 1:5 Cement Mortar				
A9.2		One brick wall	m²	20		
A9.3		Extra over brickwork for face brickwork	m²	20		
A9.4		Extra over brickwork for header course	m	5		
A9.5		Extra over brickwork for brick-on-edge header course lintels one course high, pointed on face and 230mm soffit.	m	5		
A9.6		Brickwork reinforcement:				
A9.7		Brickforce	m	90		
A9.8		Lintels, DPC and sills:				
A9.9		Prestressed fabricated lintel, 110 x 75mm	m	7		
A9.9.1	PSQB	Roof sheeting and accessories				
		Timberwork to be Grade 5 SA Pine with trusses spaced at approximately 1173 centres.				
		The contractor will be required to provide a certificate of approval signed by a registered Professional Engineer that the trusses have been designed, manufactured and installed in accordance with the relevant SABS specifications.				
A9.9.2		Roof construction to single pitched roof for pump station building including all wall plates, trusses, girders, jack rafters, permanent bracing, loose connectors, galvanised steel shoes, hangers, bolts and 50 x 76mm purlins at 1050mm centres and 38 x 140mm rafters @ 1.3m centres installed complete as per	m²	12		
A9.9.3		IBR 890 Galvanised 0.8mm thick sheeting or similar approved	m²	20		
A9.9.4		0.8mm Flashing to match roof sheeting	m	5		
A9.9.5	PSQB	Painting				
		Prepare, stop and apply				
A9.9.6		1 coat plaster primer internally	m²	90		
A9.9.7		3 coats polyacrylic emulsion internally	m²	90		
A9.9.8	PSQB	Plasterwork				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Internal plaster				
A9.9.9		4:1 Cement plaster on brickwork	m²	20		
A9.9.10		3:1 Cement plaster on Concrete	m²	46		
A9.9.11	PSQB	Screed and floor topping				
A9.9.12		Supply and apply 2 part epoxy floor paint - grease and oil resistant according to the manufacturers specifications. 3 coats ABE or similar Employers Agent approved	m²	12		
A9.9.13	PSQB	Doors				
A9.9.14		Single hardwood FLB external door and frame complete including sealing, parliament hinges, cabin hooks, barrel bolts, yale lock, handles, stops	No	2		
A9.9.15		Door closer (Dorma TS 73 V EN 2-4 or similar approved)	No	1		
A9.9.16	PSQB	Windows				
		Steel windows supply and install including hot dip galvanizing after fabrication painting, glazing and burglar bars:				
A9.9.17		Type NC11	No	1		
A9.9.18		**MISCELLANEOUS**				
A9.9.19		Make 850 x 2100mm high opening by breaking into the concrete wall. Minimum concrete cover of 40mm around opening should be maintained using repair mortar	Sum	1		
TOTAL FOR SECTION A9 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A10.1		**MODIFICATIONS TO RIVER INTAKE PIPEWORK**				
A10.1		Unbolt existing inlet strainers and replace with DN150 304L schedule 10 stainless steel intakes 1300mm long bolted to existing suction pipes, complete with 200 No 25mm diameter holes per intake (6 No around circumference @ 39mm c/c alternately staggered, 66 rows along length @ 75mm c/c alternately staggered) per intake	No	2		
A10.2		Abstraction upgrade	Prov Sum	1		
A10.3		Percentage adjustment on item 1.8.5 for overheads and profit, incl install	%			
A10.3.1		**RAW WATER BALANCING TANK**				
A10.4		Core drill for 2 x down-opening penstocks (400mm x 300mm) openings into existing raw water balancing tank for new outlets.	No	2		
A10.5		Wedge wire screen assembly: designed and fabricated by specialist supplier	Prov Sum	1		
A10.6		Percentage adjustment on item 1.8.5 for overheads and profit, incl install	%			
A10.7		Extra-over items A10.4 to A10.7 for all costs associated with limiting shutdowns to one tank at a time and draining tanks and liaison with Operations Staff to coordinate activities with operational needs.	Sum	1		
A10.7.1		**REPLACE SLOW SAND FILTER SAND**				
A10.8		Excavate and dispose-of off-site all filter sand	m³	290		
A10.9		Supply cleaned and sterilised natural river or pit sand and re-fill slow sand filter beds (effective size of 0.15 – 0.35 mm and a uniformity coefficient of 1.5 – 2). Contractor to submit grading analysis and iron and manganse content analysis of proposed source for approval BEFORE delivery to Site	m³	290		
A10.10		Extra-over items A10.9 to A10.8 for all costs associated with limiting shutdowns to one filter bed at a time and draining tanks and liaison with Operations Staff to coordinate activities with operational needs.	Sum	1		
A10.10.1		**MODIFICATIONS TO CLEAR WATER RESERVOIR**				
A10.11		Core drill for up to 250mm diameter opening into existing clear water reservoir for new inlet/outlet	No	3		
		CARRIED FORWARD				

BILL: **A CIVILS**
SECTION: **A10 REFURBISH EXISTING STRUCTURES**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A10.12		Design and preparation of general arrangement drawings to clear water reservoir baffle wall installation as per drawing 57270-407	Sum	1		
A10.13		Supply, deliver and install complete as per drawing 57270-407:				
A10.14		Vertical support Type A	No	11		
A10.15		Vertical support Type B	No	3		
A10.16		Vertical support Type C	No	3		
A10.17		Division panels (300mm x 1440mm)	No	90		
A10.18		100mm diameter Vosa equilibrium float valve or similar approved	No	1		
A10.19		Install 125mm diameter GMS (FBE coated) inlet pipe incorporating 125 x 100mm flanged reducer as per drawing 57270-407	No	1		
A10.20		Install 200mm diameter GMS (FBE coated) outlet pipe as per drawing 57270-407	No	1		
A10.21		Extra-over items 1.8.5.1 to 1.8.5.7 for all costs associated with limiting shutdowns to max 12h periods and draining tank at start of each work session and cleaning and sterilizing at the end of each session before returning to service and liaison with Operations Staff to coordinate activities with operational needs	Sum	1		
TOTAL FOR SECTION A10 CARRIED FORWARD TO SUMMARY						

BILL: **A CIVILS**
SECTION: **A11 BUILDING REFURBISHMENTS & GENERAL SIGNAGE**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A11.1		Allow Provisional Sum for the refurbishment of existing buildings and concrete tanks on Water Treatment Works site	Prov Sum	1		
A11.2		Percentage adjustment on item A11.1 for installing signage & overheads and profit	%			
A11.3		Removal of abestos as per Client requirements	Prov Sum	1		
A11.4		Percentage adjustment on item A11.3 for installing signage & overheads and profit	%			
A11.4.1		**EYE-WASH STATIONS**				
A11.4.2		Supply and install (incl connections to service water supply) wall-mounted stainless steel foot-activated or push-lever activated eyewash stations next to entrance doors to Chemical Dosing Building and Sodium Hypochlorate Dosing Building	No	2		
TOTAL FOR SECTION A11 CARRIED FORWARD TO SUMMARY						

BILL: **A CIVILS**
SECTION: **A12 PREFABRICATED STEEL CLEAR WATER TANK**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A12.1		Supply, deliver to site,and erect 500kl prefabricated steel grade G300 'ZINCALUM' coated and lined water tank (8.87m Ø x 8.35m) with multi-layer woven PVC SBS 700g liner and roof. Complete with ladder assembly, platform and access hatch, 150mm Ø NB inlet, 125mm Ø NB outlet, 150mm Ø NB overflow and 150mm Ø NB scour and ventilators. All pipework to end with flanges (table 10) with flanges equidistant from reservoir wall. All pipework to be labeled	Sum	1		
A12.2		25 MPa reinforced concrete ring beam 500x300mm, R-10 stirrups @ 300 mm centres and 5 x Y-12 rebars all round	Sum	1		
A12.3		Internal lightly compacted sand bed 100 mm deep	Sum	1		
A12.4		Extra-over item A12.1 for water level indicator	No	1		
A12.5		Extra-over item A12.1 for water testing	No	1		
TOTAL FOR SECTION A12 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A13.1	**SANS 1200 DB**	**EARTHWORKS (PIPE TRENCHES)**				
A13.1	8.3.1(c)	Remove topsoil to nominal depth of 150 mm and stockpile	m²	100		
	8.3.2 PSDB 8.3.2	Excavation				
A13.2	8.3.2(a)	**Hand excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes: up to 32 mm diameter for total trench depth: Exceeding but not exceeding**				
A13.3		0,0 m 1,0 m	m	100		
A13.4	8.3.2(a)	**Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes: 50mm up to 200 mm diameter for total trench depth: Exceeding but not exceeding**				
A13.5		0,0 m 1,0 m	m	50		
A13.6		1,0 m 2,0 m	m	75		
A13.7	8.3.2(b)	Extra-over items A13.2 to A13.4 for:				
A13.8		Excavation of trench by hand instead of machine	m³	100		
A13.9		Hard rock excavation (by hydraulic breaker or other non-blasting technique)	m³	12		
A13.10	8.3.2(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m³	15		
A13.11	8.3.3	Excavation Ancillaries				
A13.12	8.3.3.3	Compaction in road reserves	m³	6		
A13.13	8.3.5	Existing services that intersect or adjoin a pipe trench				
		a) Services that intersect a trench				
A13.14		Cables	No.	4		
A13.15		Pipes up to 300 mm diameter	No.	12		
		b) Services that adjoin a trench				
A13.16		Cables	m	15		
A13.17		Pipes up to 300 mm diameter	m	20		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A13.17.1	**SANS 1200 L**	**MEDIUM-PRESSURE PIPELINES**				
A13.18	8.2.1 PSL 8.2.1	Supply, lay, bed and test pipes complete with butt-welded joints on site (or GMS backing ring flanged joints)				
A13.19		200 mm HDPE PE100 pipe Class PN10	m	100		
A13.20		200 mm HDPE PE100 pipe Class PN25	m	120		
A13.21		160 mm HDPE PE100 pipe Class PN10	m	200		
A13.22		140 mm HDPE PE100 pipe Class PN10	m	65		
A13.23		125 mm HDPE PE100 pipe Class PN10	m	10		
A13.24		75 mm HDPE pipe class PN10, SDR17	m	40		
A13.25		63 mm HDPE pipe class PN10, SDR17	m	85		
A13.26		32 mm HDPE pipe class PN16, SDR11	m	50		
A13.27		20 mm HDPE pipe class PN16, SDR11	m	50		
A13.28	8.2.1 PSL 8.2.1	Supply, lay, bed and test uPVC pipes complete				
A13.29		160 mm uPVC pipe class 12	m	10		
A13.30		extra over for testing pipeline 200DN	m	100		
A13.31		extra over for testing pipeline 160DN	m	200		
A13.32		extra over for testing pipeline 140DN	m	65		
A13.33		extra over for testing pipeline 125DN	m	10		
A13.34		extra over for testing pipeline 75DN	m	40		
A13.35		extra over for testing pipeline 63DN	m	85		
A13.36	8.2.2	Extra over item 1.11.2.1 for supply, laying, jointing, bedding and testing incl. cut pipes to length where required **Butt-welded on site (or GMS backing ring flanged) joints**				
A13.37		200 mm, 90 deg bend, HDPE class PN16	No.	2		
A13.38		160 mm, 90 deg bend, HDPE class PN16	No.	1		
A13.39		140 mm, 90 deg bend, HDPE class PN16	No.	1		
A13.40		200 mm, 45 deg bend, HDPE class PN16	No.	2		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A13.41		160 mm, 45 deg bend, HDPE class PN16	No.	12		
A13.42		140 mm, 45 deg bend, HDPE class PN16	No.	8		
		Compression couplings:				
A13.43		75 mm, 90 deg bend, HDPE class PN16	No.	1		
A13.44		75 mm, 45 deg bend, HDPE class PN16	No.	4		
A13.45		63 mm, (all fittings: tees, bends, couplings, adaptors)	No.	15		
A13.46		32 mm HDPE pipe (all fittings: tees, bends, couplings, adaptors)	No	30		
A13.47		20 mm HDPE pipe (all fittings: tees, bends, couplings, adaptors)	No	30		
A13.48	8.2.2	Extra over item 1.11.2.3 for supply, laying, jointing, bedding and testing incl. cut pipes to length where required for:				
A13.49		200 mm, 90 deg bend, HDPE Class PN16	No	1		
A13.50		200 mm, 45 deg bend, HDPE Class PN16	No	1		
A13.51		200 mm, 22.5 deg bend, HDPE Class PN16	No	1		
A13.52		200 mm, 11.25 deg bend, HDPE Class PN16	No	1		
A13.53		160 mm, 90 deg bend, HDPE Class PN16	No	1		
A13.54		160 mm, 45 deg bend, HDPE Class PN16	No	4		
A13.55		160 mm, 22.5 deg bend, HDPE Class PN16	No	1		
A13.56		160 mm, 11.25 deg bend, HDPE Class PN16	No	1		
A13.57		140 mm, 90 deg bend, HDPE Class PN16	No	1		
A13.58		140 mm, 45 deg bend, HDPE Class PN16	No	2		
A13.59		140 mm, 22.5 deg bend, HDPE Class PN16	No	1		
A13.60		140 mm, 11.25 deg bend, HDPE Class PN16	No	1		
A13.61		125 mm, 90 deg bend, HDPE Class PN16	No	1		
A13.62		125 mm, 45 deg bend, HDPE Class PN16	No	1		
A13.63		125 mm, 22.5 deg bend, HDPE Class PN16	No	1		
A13.64		125 mm, 11.25 deg bend, HDPE Class PN16	No	1		
A13.65		200mm Flanged Adaptor (HDPE to Mild Steel)	No	3		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A13.66		160mm Flanged Adaptor (HDPE to Mild Steel)	No	6		
A13.67		140mm Flanged Adaptor (HDPE to Mild Steel)	No	2		
A13.68		125mm Flanged Adaptor (HDPE to Mild Steel)	No	4		
		Socketed uPVC bends				
A13.69		160 mm, 90 deg bend, uPVC class 12	No	5		
A13.70		160 mm, 22.5 deg bend, uPVC class 12	No.	1		
A13.71		160 mm, 11.25 deg bend, uPVC class 12	No.	1		
A13.71.1	**SANS 1200 LB PSLB 8.1.2 & 8.1.3**	**BEDDING (PIPES)**				
A13.72	8.2.2.3	Imported bedding from commercial sources				
A13.73		1) Selected granular material	m³	200		
A13.74		2) Selected fill material (same spec as 1) above)	m³	100		
		Bedding for wet conditions				
A13.75	PSDB 8.3.8	Crushed stone bedding layer	m³	10		
A13.76	PSDB 8.3.9	Geofabric blanket	m²	20		
	8.2.4	Encasing of pipes in concrete where instructed by the Engineer				
A13.77		Pipes up to 200mm diameter	m³	10		
A13.77.1		**CHAMBERS**				
A13.78		Construct water meter chambers complete as per drawing including cover and frame, but excluding all valves and pipework	No	5		
A13.78.1		**MISCELLANEOUS**				
		Old works filtered water - jointing 2 into 1 for installing meter and split again back to two pipelines				
A13.79	8.2.2	Cut into existing two 160mm uPVC pipelines and supply and install water meter pipework assembly (mild steel FBE coated) complete as per drawing	Sum	1		
		CARRIED FORWARD				

BILL: **A CIVILS**
SECTION: **A13 INTERLINKING PIPELINES**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A13.80		Supply and install pipeline markers complete as per drawings	No	12		
TOTAL FOR SECTION A13 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A14.1	**SANS 1200DM**	**EARTHWORKS (ROADS, SUBGRADE)**				
A14.1	8.3.3 PSDM 8.3.3	Treatment of road-bed				
	8.3.3(a)	Road-bed preparation and compaction of material				
A14.2		Scarify and compact material in 150 mm layers to 93 % mod. AASHTO density	m³	75		
A14.3	8.3.4 PSDM 8.3.4	Cut to fill				
A14.4		Rockfill, process, and compact	m³	15		
A14.5		Compact to 93 % mod. AASHTO maximum density	m³	15		
A14.6	8.3.4 PSDM 8.3.4	Borrow to fill				
A14.7		Rockfill, process, and compact	m³	140		
A14.8	8.3.5 PSDM 8.3.5	Selected layer				
A14.9		150 mm Imported G7 selected subgrade layer compacted to 95% mod. AASHTO density	m³	75		
A14.10	8.3.6	Extra-over items [12.1.2.1] and [12.1.2.2] inclusive of excavating and breaking down material in:				
A14.11		Hard excavation	m³	5		
A14.12	8.3.7 PSDM 8.3.7	Cut to spoil or stockpile from				
A14.13		Soft excavation	m³	210		
A14.14		Hard excavation	m³	5		
A14.15	8.3.13	Surface finishes				
A14.16		a) Topsoiling	m²	150		
A14.17	8.3.16	Subbase				
A14.18		150 mm Imported gravel layer, G5 equivalent with a minimum CBR of 45 and maximum PI of 10 compacted to 95% MOD AASHTO	m³	60		
		CARRIED FORWARD				

BILL: **A CIVILS**
SECTION: **A14 ROADS AND STORMWATER**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A14.18.1	**SANS 1200 DK**	**STONE PITCHING**				
A14.19	8.2.5	Supply all materials and labour and construct light stone pitching where instructed by Engineer	m²	30		
TOTAL FOR SECTION A14 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
A15.1	**SANS 1200 ME**	**SUBBASE**				
A15.1	8.3.3	Construct subbase with material from commercial sources				
A15.2		a) Gravel layer 100mm, G5 equivalent with a minimum CBR of 45 and maximum PI of 10 compacted to 95% MOD AASHTO	m³	10		
A15.2.1	**SANS 1200 MJ**	**SEGMENTED PAVING**				
A15.3	8.2.1	Provision of edge restraints	m	120		
A15.4	8.2.2	Construction of paving complete with:				
A15.5		a) 200x100x80mm grey 25Mp Interlocking paving bricks	m²	450		
A15.5.1	**PSDQ**	**CONCRETE RETAINING BLOCK WALL**				
		Design, supply and construct dry-laid precast concrete block wall using u100 or similar approved at 70°				
		Earthworks				
A15.6		Rip and Recompact in-situ ground to 93% ModAASHTO (150mm)	m³	10		
A15.7		G7 Gravel Material compacted to 93% ModAASHTO (Provisional)	m³	20		
A15.8		Excavation for concrete bases	m³	20		
A15.9	PSDQ 8.5	Use selected material from excavations, stabilize with 4% cement and place and compact in layers of 150mm to 93% MOD AASHTO density behind retaining wall blocks	m³	150		
		Concrete				
A15.10		Type U100 or similar approved	m²	50		
A15.11		Construct Retaining wall base, Concrete grade 20/19	m³	25		
A15.12		Concrete grade 20/19 for infill of blocks and shear key	m³	15		
A15.13		Formwork for concrete bases	m²	100		
A15.14		Reinforcement for concrete base	t	2		
A15.15		50mm Blinding layer	m²	25		
A15.16		Finishing-wood float	m²	25		
		CARRIED FORWARD				

BILL: **A CIVILS**
SECTION: **A15 INTERLOCKING PAVING AND RETAINING WALLS**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Stormwater Control				
A15.17		Supply and install 'Bidum A4' or 'Kaymat U24' or similar approved for subsoil drain	m²	150		
A15.18		Supply and install 19 mm aggregate stone for drains where specified	m³	20		
A15.19		65mm geopipe or similar approved	m	50		
A15.20		Cut-off Drain	No.	1		
A15.21		Weep holes @ 5m centres	No.	10		
TOTAL FOR SECTION A15 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		This Section includes modifications to pipework and new chamber at Ogungini1 Reservoir				
A16.1	**SANS 1200 D**	**EARTHWORKS**				
A16.1	8.3.3 PSD 8.3.3	Restricted Excavation				
	8.3.3(a)	**Excavate for restricted foundations and footings in all materials, select and use for backfill or embankment or dispose, as ordered:**				
A16.2		Chambers	m³	75		
A16.2.1	**SANS 1200 DB**	**EARTHWORKS (PIPE TRENCHES)**				
A16.3	8.3.1(c)	Remove topsoil to nominal depth of 150 mm and stockpile	m³	500		
A16.4	8.3.2 PSDB 8.3.2	Excavation				
	8.3.2(a)	**Excavate in all materials for trenches backfill, compact, and dispose of surplus/unsuitable material, for pipes: over 125 mm up to 300 mm diameter for total trench depth:**				
		Exceeding but not exceeding				
A16.5		0,0 m 1,0 m	m	1500		
A16.6		1,0 m 2,0 m	m	1500		
A16.7		2,0 m 3,0 m	m	25		
A16.8	8.3.2(b)	Extra-over items 1.14.2.2 for:				
A16.9		Hard rock excavation (by hydraulic breaker or other non-blasting tehnique)	m³	700		
A16.10	8.3.2(c)	Excavate and dispose of unsuitable material from trench bottom (Provisional)	m³	350		
A16.11	8.3.3	Excavation Ancillaries				
A16.12	8.3.3.3	Compaction in road reserves	m³	20		
A16.13	8.3.5	Existing services that intersect or adjoin a pipe trench				
		a) Services that intersect a trench				
A16.14		Cables	No.	10		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A16.15		Pipes up to 300 mm diameter	No.	5		
A16.16		Pipes over 300 mm diameter	No.	5		
		b) Services that adjoin a trench				
A16.17		Cables	m	100		
A16.18		Pipes up to 300 mm diameter	m	1		
A16.19		Pipes over 300 mm diameter	m	50		
A16.19.1	**SANS 1200 G**	**CONCRETE (STRUCTURAL)**				
A16.20		***Pressure-Sustaining Valve Chamber***				
		Refer Drg No.57270-420				
	8.1.1 PSG 8.1.1	Formwork				
	8.2.2	Smooth vertical to:				
A16.21		Walls	m²	30		
A16.22		plinths	m²	3		
	8.2.2	Smooth horizontal to:				
A16.23		Slab soffits	m²	4		
A16.24	8.2.6	Box out holes/form voids for all depths				
A16.25		Small, circular of diameter up to and including 0,35 m	No.	3		
A16.26		Small, other than circular of area up to and including 0,1 m²	No.	2		
	8.1.2 PSG 8.1.2	Reinforcement				
A16.27	8.3.1	Mild steel bars	t	0,5		
A16.28	8.3.1	High tensile steel bars	t	2		
	8.1.3 PSG 8.1.3	Concrete				
	8.4.2	**Strength concrete: 15 MPa/19 mm concrete**				
A16.29		Blinding layer 50 mm minimum thickness	m²	8		
A16.30		Screed	m²	4		
	8.4.3	**Strength concrete: 25 MPa/19mm**				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A16.31		floor slab, walls & roof slab	m³	4		
	8.4.4 PSG 8.4.4	Unformed surface finishes				
		Steel-floated finish to:				
A16.32		Floor and roof slab	m²	8		
		Air Vent				
A16.33		Construct concrete air vent blocks into chamber roofs complete including DN110 uPVC pipework, end cap with holes and gauze, formwork and mesh reinforcement:	No	2		
		Hinged GMS MH cover				
A16.34		1250 x 1250mm GMS cover and frame (see standard detail drg) cast-in complete	No	1		
		GMS ladder				
A16.35		Supply & install GMS ladder up to 2.8m high plus grap bar on roof slab	No	1		
		GMS steelwork cast-in:				
A16.36		Grab-bar and all lifting hooks as per drg	Sum	1		
		Manhole for Isolating Valves				
A16.37		760mm dia precast concrete manhole, 1m high, laid on ring of radially-aligned loose bricks, complete with 600x600 GMS cover and frame (see standard detail drg) - placed over isolating valves	No	2		
A16.37.1	**SANS 1200 L**	**MEDIUM-PRESSURE PIPELINES**				
A16.38	8.2.1 PSL 8.2.1	Supply, lay, bed and test pipes complete with couplings				
A16.39		200 mm mPVC pipe class 25	m	780		
A16.40		200 mm HDPE PE 100 PN 25	m	120		
A16.41		Extra over for fixing and testing pipeline	m	1050		
A16.42	8.2.2	Extra over item 1.14.4.1 for supply, laying, jointing, bedding and testing incl. cut pipes to length where required				
		Socketed uPVC bends				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A16.43		200 mm, 90 deg bend, mPVC class 25	No.	10		
A16.44		200 mm, 22.5 deg bend, mPVC class 25	No.	20		
A16.45		200 mm, 11.25 deg bend, mPVC class 25	No.	20		
A16.46		200mm MPVC to HDPE flange adapters	No	20		
A16.47	8.2.3 PSL 8.2.5	Extra over item 1.14.4.2 for the supplying, fixing and bedding of valves including cutting of the pipe where necessary RBX Vent-o-Mat double acting air valve or similar Engineer approved complete with FBE coated and lined GMS flanged tee, flanged riser pipe, flanged waterworks valve (excluding chamber)				
A16.48		DN25, Class 25, for 200mm diameter mPVC rising main	No.	2		
A16.49		DN50, Class 25, for 200mm diameter mPVC rising main	No.	10		
A16.50	8.2.11	Anchor/Thrust blocks and pedestals				
A16.51		Concrete Class 15/19	m³	50		
A16.52		Rough formwork	m²	100		
A16.53	8.2.13 PSL 8.2.13	Valve chambers, etc. **Provide all materials and construct chambers and surface boxes complete:**				
A16.54	8.2.13	Chamber for air valves incl. MH cover and frame	No	12		
A16.55	8.2.13	Chamber for scour valves incl. MH cover and frame	No	2		
		Supply all materials and construct:				
A16.56		Pipeline markers complete (Prov)	No	50		
		Pressure-Sustaining Valve Chamber				
		Refer Drg No.57270-420				
A16.57		**Fabricate and install FBE (min 300 micron) coated and lined mild-steel pipe specials (minimum wall thickness of specials: 4mm)**				
A16.58		Item 2: DN250 to DN150 PN10 flanged reducing puddle-pipe special as per drg	No	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A16.59		Item 3: DN150 PN10 flanged tee	No	1		
A16.60		Item 4: DN150 PN10 flanged spool piece	No	1		
A16.61		Item 5: DN150 PN10 flanged L-shaped spool piece	No	1		
A16.62		Item 7: DN150 PN10 flanged spool piece	No	1		
A16.63		Item 8: DN150 PN10 flanged tee with extensions as shown	No	2		
A16.64		Item 9: DN150 PN10 flanged puddle pipe	No	2		
		Supply, install and commission fittings (FBE coated)				
A16.65		Item 1: 160mm PN10 socketed flange adaptor to suit 160uPVC	No	4		
A16.66		Item 10: 250mm PN10 socketed flange adaptor to suit 260uPVC pipe	No	1		
A16.67		Item 14: 100mm PN10 socketed flange adaptor to suit 110uPVC pipe	No	2		
A16.68		Item 11: DN100 PN10 flanged resilient seal gate valve with cap top	No	1		
A16.69		Item 13: DN150 PN10 flanged resilient seal gate valve with hand wheel	No	4		
A16.70		Item 12: DN150 PN10 Dismantling Joint	No	4		
A16.71		Item 6: DN150 PN10 pressure-sustaining valve c/w electric solenoid actuated pilot control for 2 different pressure settings (external elec connections measured elsewhere)	Sum	1		
A16.72		Item: DN150 PN16 Flanged Nozzle Check Valve	No	1		
A16.73		Item: 160mm PN16 socketed flange adaptor to suit 160uPVC	No	2		
A16.74		Item: DN150 PN16 Dismantling Joint	No	1		
A16.75		Item: DN150 PN16 flanged puddle pipe	No	2		
A16.76		Extra-over items 1.14.4.6 for all costs associated with limiting shutdown/s to max 12h period/s and dealing with water and cutting into / disconnecting existing pipework to modify existing system and connect-in new pipework as per drawing, including liaison with Operations Staff to coordinate activities with operational needs	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A16.76.1	**SANS 1200 LB PSLB 8.1.2 & 8.1.3**	**BEDDING (PIPES)**				
	8.2.2.3	Import from commercial sources				
A16.77		1) Selected granular material	m³	600		
A16.78		2) Selected fill material (same spec as 1) above)	m³	200		
		Bedding for wet conditions				
A16.79	PSDB 8.3.8	Crushed stone bedding layer	m³	25		
A16.80	PSDB 8.3.9	Geofabric blanket	m²	70		
	8.2.4	Encasing of pipes in concrete				
A16.81		Pipes up to 200mm diameter	m³	20		
		Stream crossing				
A16.82		Extra-over trenching, pipe-laying, remedial work upon completion, for stream crossings, as detailed on Drawing	No	5		
TOTAL FOR SECTION A16 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		The descriptions given in the various items below are not necessarily full and complete and reference must be made to the PARTICULAR SPECIFICATION: QB GENERAL BUILDING MATERIALS AND WORKMANSHIP for the full requirement of each scheduled item. SUPPLEMENTARY PREAMBLES Existing furniture, equipment, etc: The Contractor shall not remove or damage any furniture, equipment or similar items that belong to the Employer except when specifically described in the items to follow. The Contractor must give the Employer sufficient notice if the removal of these items are required before any prescribed alterations can be done. Work and material:				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Abbreviations: For the purpose of this bill certain abbreviations have been made use of, the full meanings of which are as follows: 'Break down and remove' walls, etc implies that the wall is to be taken down to the extent down on the drawings or as may be described and that all necessary shoring is to be provided and allowed for to ensure the safety of the building during the pulling down or until new walls are erected and all portions of the remaining walls where disturbed or affected by the removal are to be made good and left ready for the plaster or other finishings. 'Take out and remove doors, windows, etc' implies that the door, etc is to be carefully taken down together with the frame, linings, architraves, window sills, etc complete and where brick lintels occur, it must be supported and propped until the openings are built up or new doors or windows built in position. 'Setting aside for re-use' implies that special care is to be exercised in the taking down of any particular article that may require to be refixed and so avoid unnecessary repairs and making good and such articles are to be carefully stored				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Refixing' implies that the articles or fittings referred to are to be refixed in the new position together with all the necessary finishings such as linings, architraves, skirtings, locks and furniture, etc complete and in every respect similar to such articles before removal, and allowance is to be made for any necessary adjustmentsor alterations for the proper adaption of same to the new position. 'Making good' implies that all necessary repairs are to be made to reinstate articles that may be damaged through the removal or otherwise, and the supplying of any new materials to match existing work, and is to include any necessary repairs to adjacent finishings such as floors, skirtings, plaster, painting, etc and such making good is to match adjoining work in all respects and in all trades . 'Building up opening' implies that after the removal of any doors, windows or screens that may be described to be taken down, the opening is to be filled up solid (or to the thickness as shown) with new brickwork and is to include all necessary cutting away to form toothings to thoroughly bond to the new work and new finishes to both sides as described. Paint described in such items implies one coat alkali				
A17.1		**PROTECTION OF EXISTING WORK** General allowances				
A17.1		Allow for watering the works by spraying to prevent any nuisance from dust, etc and supply, erect and remove at completion all temporary dust screens, etc required	Sum	1		
A17.2		Allow for protecting all existing work liable to suffer damage (ie. walls, finishes, floors, windows, etc) from damage during the building operations, alterations, etc and make good all work damaged with new material to match existing to the approval of the Engineer	Sum	1		
A17.2.1		**REMOVAL OF EXISTING WORK**				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Break up and remove reinforced concrete, including cutting off and removing reinforcement				
A17.3		100mm Thick surface beds	m³	3		
		Carefully break out and remove brickwork including supporting roof structure with temporary support timbers, etc				
A17.4		Half brick walls	m²	10		
		Take out and remove doors, windows, etc including thresholds, sills, etc from brickwork to be demolished				
A17.5		Timber single door and steel frame not exceeding 2,5m²	No	4		
A17.6		Glazed steel window not exceeding 2,5m²	No	1		
		Take out and remove doors, windows, etc, including thresholds, sills, etc. Build up openings in brick walls, including making good cement plaster on both sides (making good paintwork elsewhere)				
A17.7		Timber single door and steel frame 813 x 2032mm high overall from half brick wall	No	2		
		Take down and remove roofs, floors, panelling, ceilings, partitions, etc				
A17.8		Gypsum plasterboard ceilings, including cornices, timber brandering, etc	m²	45		
		Take up and remove tile floor coverings etc and preparing screeds for new floor coverings				
A17.9		Tile floor covering	m²	45		
		Hack up/off and remove granolithic, screeds, plaster, etc from concrete or brickwork and preparing surfaces for new screed, plaster, tile finishes, etc				
A17.10		30mm Screed from floors	m²	45		
A17.11		Internal plaster from walls and columns	m²	10		
A17.12		External plaster from walls, columns and beams	m²	10		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Hack up/off and remove ceramic tiles including r emoval of mortar bed or adhesive from concrete or brickw ork and preparing surfaces for new screed, plaster, tile fi nish, etc				
A17.13		Tiles to floors	m²	45		
A17.14		Tiles to walls	m²	15		
		Take out and remove piping, sanitary fittings, et c, including cutting off as necessary, disconnecting piping fr om fittings and making good floor and wall finishes (making good tiling and paintwork elsewhere)				
A17.15		Copper piping not exceeding 50mm diameter	m	20		
A17.16		PVC piping not exceeding 50mm diameter	m	20		
A17.17		Stainless steel sink and drainer including timber cupboard 1200 x 600 x 900mm high including short lengths of piping, etc and hand over to employer	No	1		
A17.18		150l geyser including short lengths of piping, brackets, etc and hand over to employer	No	1		
A17.19		Vitreous china wash hand basin, including short lengths of piping, etc and hand over to employer	No	1		
A17.20		Vitreous china WC pan with cistern, including short lengths of piping, etc and hand over to employer	No	1		
A17.21		Shower rose, arm and taps including short lengths of piping, etc and hand over to employer	No	1		
		CUTTING THROUGH FLOORS AND CEILING S				
		Cutting through				
A17.22		100mm Thick unreinforced concrete surface bed for 800mm wide concrete wall footings and making good concrete on both sides of new half brick walls	m	15		
		MAKING GOOD OF FINISHES, ETC				
		Making good cement screeds				
A17.23		25mm Thick on floors in patches	m²	2		
A17.24		Floors where half brick walls removed	m	7		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Making good internal cement plaster				
A17.25		Walls in patches	m²	5		
A17.26		Walls where half brick walls removed	m²	10		
A17.26.1		**OPENINGS THROUGH EXISTING WALLS E TC**				
		Breaking out for and forming plain openings thro ugh brick walls, including prestressed concrete lintels, ma king good cement plaster on both sides and into reveals a nd with 20 MPa concrete thresholds with steel trowelled fini sh (making good paintwork elsewhere)				
A17.27		Opening 2000 x 2100mm high through one brick wall	No	1		
		Breaking out for and forming openings through brick walls for new doors and frames, including prestressed concrete lintels, making good cement plaster on both side s and into reveals and with 20 MPa concrete thresholds wi th steel trowelled finish (new doors and frames and mak				
A17.28		Opening for door with steel frame 813 x 2032mm high overall through one brick wall	No	4		
		Breaking out for and forming openings through brick walls for new windows, including prestressed concret e lintels, making good cement plaster on both sides and i nto reveals and with sloping fibre-cement sills on outside and flat fibre-cement sills on inside (new windows and makin				
A17.29		Opening for window 320 x 950mm high through one brick wall	No	3		
A17.30		Opening for window 1580 x 950mm high through one brick wall	No	5		
A17.31		Opening for window 1590 x 950mm high through one brick wall	No	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A17.32		Opening for window 950 x 950mm high through one brick wall	No	3		
A17.33		Opening for window 1290 x 950mm high through one brick wall	No	1		
A17.34		Opening for window 660 x 950mm high through one brick wall	No	1		
A17.35		Opening for window 1300 x 950mm high through one brick wall	No	1		
A17.35.1		**ROOF COVERINGS** MATERIAL: Safintra' or other approved 0,58mm thick 762mm cover SAF 762 corrugated profile Traffic Green Chromadek roof sheeting with Z275 spelter to both sides FIXING: Safintra' or other approved 0,58mm thick corrugated profile roof sheeting fixed to timber or steel channel purlins at 1200mm centres and eaves and ridge purlins at 900mm centres using 10 x 16mm Taptite self tapping screws with wafer heads as described at first, third, fourth and sixth crest of each sheet and at all crest at sheet ends. Side laps to be secured using 10 x 16mm Taptite self tapping screws with wafer heads over purlins and at centres not exceeding 500mm between purlins with minimum 230mm end laps sealed with a double row of sealing tape, all in accordance with the manufacturer's Prices of all roof sheeting, sidewall cladding and accessories shall include for all laps, all square cutting and waste, all bending, drilling, riveting, soldering, screwing, bolting, fastening, sealants to laps, etc and fo all cuttings to form mitres, gussets, returned ends, etc. Prices of all accessories shall include in addition for necessary butt straps and fixing brackets. Prices of polyclosures shall include for bedding and sealing with an approved waterproofing Roof purlins, cladding rails and other structural supporting steelwork and timber fixing rails are measured elsewhere.				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		All work shall be executed by Specialists and shall be sealed against adjoining work to leave perfectly watertight. GUARANTEE: The manufacturer shall comply with ISO9002 Quality Management System. Sheeting shall be laid in strict accordance with the manufacturers specifications by an approved contractor. ERECTION, HANDLING AND STORAGE: Every precaution shall be taken to prevent damage to roof sheets during all stages of construction. Duck boards should be used when necessary to protect the sheeting from damage. Sheeting which has become deformed or damaged in any way, shall be replaced. The contractor shall exercise special care when handling long length sheeting, particularly in windy conditions. Should work be interrupted for any reason, all loose sheeting and incomplete sections must be adequately secured against possible movement by wind and gravity. The contractor shall ensure that all materials used on site for cladding, etc are transported, handled and stored in accordance with the manufacturers recommendations. Material damaged shall be rejected and replaced with undamaged material at the contractors expense. Repair of damaged material will not generally be permitted. Rates are to include for preventing damage and protecting sheets through all stages of CLEANING, ETC.: All debris, swarf, etc. arising from the fixing of the cladding shall be removed from the sheeting as the fixing progresses. In addition, off-cuts of insulation, surplus fasteners and sealants, mandrels from pop rivets, off-cuts of flashings and sheeting, surplus flashing, food packaging, cartons, bottles, cans, etc shall not be left on the roof or in the gutters. Care shall be taken to ensure that no such material enters, blocks or partially impedes the flow of water into the outlets, down pipes, etc.				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		PROFILED METAL SHEETING AND ACCESS ORIES				
		0,58mm Corrugated profile Z275 spelter galvani sed steel sheeting with colour coated finish one side (or similar approved), in single lengths fixed to timber purlins, etc and 0,8mm galvanise d steel colour coated accessories				
A17.36		Roof covering with pitches not exceeding 25 degrees	m²	20		
A17.37		Headwall flashing 616mm girth	m²	12		
A17.38		150 x 60mm Aluminium box gutters fixed to roof sheeting with and including clips	m	12		
A17.39		Extra over for stopped end	no.	4		
A17.40		Extra over for outlet with nozzle for and jointing to 75mm diameter rainwater pipe including domical grating	no.	4		
		ROOF AND WALL INSULATION				
		Sisalation 420' or similar approved heavy industrial grade aluminium foil based insulation to SABS 1381 Part 4				
A17.41		Insulation laid taut over purlins (at approximately 1,20m centres) and fixed concurrent with roof covering, including taped laps and nylon straining wires	m²	20		
A17.41.1		**CARPENTRY AND JOINERY**				
		Fixing				
		Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete				
		Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere				
		Joinery				
		Descriptions of frames shall be deemed to include frames, transomes, rails, etc				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Descriptions of hardwood joinery shall be deemed to include sinking and pelleting heads and nuts of bolts Plate nailed timber roof truss construction The following is applicable in respect of roof trusses: Prefabricated timber roof trusses manufactured by specialist firms on a monoplane principle using galvanized steel plate nails with only be accepted for incorporation in the works and payment made therefor subject to the following conditions being fullfilled: Design: Timber roof trusses including all purlins or battens, etc., along with necessary stabilising braces must be designed for the successful tenderer by a suitable qualified and experienced Registered Professional Engineer. A roof truss is required adjacent to the inside face of each gable Design Loads: In addition to the dead load of the trusses, purlins or battens, braces, roof covering, ceilings, brandering, gangboarding, etc. and where applicable plumbing, etc., installation equipment, the roof shall be designed for imposed loads. Trusses are at a maximum of 1200mm centres. Roof covering is 0,58mm thick corrugated profile sheeting on 50 x 76mm purlins. Ceilings are 6,4mm gypsum board suspended on mild steel T-grid. PLATE NAILED TIMBER ROOF TRUSS CONSTRUCTION ETC Note: The Tenderers attention is drawn to the fact that the drawings of the floor plan and elevations included at the back of these Bills of Quantities only represents the overall size				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Plate nailed softwood roof truss construction to be in accordance with SABS specification 1783 Part 1 & 2 and the code of Practice 0243 (The Manufacture & Erect ion of Timber Trusses) Design, supply and install all roof trusses and bracing for the roof over the new extention to female ablutions including wall plates trimmer battens and purlins.				
A17.42		Block 2200 x 1800mm (Area measured on flat/plan)	m²	4		
	PSQB	Doors				
A17.43		Single hardwood FLB external door and frame complete including sealing, parliament hinges, cabin hooks, barrel bolts, yale lock, handles, stops	No	5		
A17.44		Single hollow core internal door and frame complete including sealing, parliament hinges, cabin hooks, barrel bolts, yale lock, handles, stops	No	2		
	PSQB	Windows				
		Steel windows supply and install including hot dip galvanizing after fabrication painting, glazing to match existing steel windows on site:				
A17.45		Opening for window 320 x 950mm high through one brick wall	No	3		
A17.46		Opening for window 1580 x 950mm high through one brick wall	No	6		
A17.47		Opening for window 950 x 950mm high through one brick wall	No	3		
A17.48		Opening for window 1290 x 950mm high through one brick wall	No	1		
A17.49		Opening for window 660 x 950mm high through one brick wall	No	1		
A17.50		Opening for window 1300 x 950mm high through one brick wall	No	1		
		EAVES, VERGES, ETC				
		Everite' or other approved medium density plain Nutec fascia boards				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
A17.51		225 x 12mm Fascia boards, fixed to 38 x 38mm tilter batten and 38 x 38mm support battens between rafters twice screwed with and including 12 x 40mm countersunk brass screws at 900mm centres to support battens with aluminium fascia jointing plate between boards and aluminium H-profile fascia corner joiners at board ends	m	3		
A17.51.1		**CEILINGS, PARTITIONS AND ACCESS FLOORING** Fixing Items described as 'nailed' shall be deemed to be fixed with hardened steel nails or pins, or to be shot-pinned, to brickwork or concrete Items described as 'plugged' shall be deemed to include screwing to fibre, plastic or metal plugs at not exceeding 500mm centres, and where described as 'bolted', the bolts have been given elsewhere Ceilings Unless otherwise described ceilings shall be deemed to be horizontal				
A17.52		FLUSH PLASTERED CEILINGS: - are to be formed of gypsum plaster board of the thickness stated, generally in 1200 mm widths and long lengths, fixed grey side down to timber brandering, bearers, etc., as described, with butted joints between the boards covered with 65 mm wide strips of galvanised wire scrim fixed along both edges, including all square notches and square cutting and waste, and the ceiling finished with two coats of approved retarded hemihydrate gypsum plaster applied in accordance with the manufacturer's instructions to a finished thickness of not less than 6 mm, including pressing into scrim over joints and	m²	40		
A17.53		85 x 85mm high moulded cornice fixed with an approved water-based adhesive and secured to wall and ceiling at 300mm centres using 25mm drywall screws, filling all fixing holes with an approved acrylic sealant, all in accordance with the manufacturer's recommendations.	m	56		
A17.53.1		**TILING**				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Fixing Unless described as "fixed with adhesive to plaster (plaster elsewhere)" descriptions of tiling on brick or concrete walls, columns, etc shall be deemed to include 1:4 cement plaster backing and descriptions of tiling on concrete floors etc shall be deemed to include 1:3 plaster bedding Special care on the tile alignment and cleaning to be taken as the work proceeds The prices for wall and floor tiling shall be deemed to include for movement joints at maximum 3m centres WALL TILING 200 x 200 x 6,5mm thick 'Johnson' code MW4 Matisse range matt white glazed ceramic tiles or similar approved fixed with adhesive to plaster with anti- bacterial grouting (plaster elsewhere)				
A17.54		On walls in isolated panels, splashbacks, etc	m²	20		
A17.55		On narrow widths	m	56		
A17.56		Fair exposed cutting and fitting around pipe not exceeding 100mm internal diameter	No	8		
		FLOOR TILING 600 x 600mm Trieste HP6689- 3 1st class porcelain floor tiles or similar approved fixed with adhesive to screed (screed elsewhere) and flush pointed with tinted waterproof grout				
A17.57		On floors and landings	m²	40		
A17.58		Skirting 150mm high of cut tiles	m	56		
A17.58.1		**PAINTWORK** SABS Specifications Matt or eggshell decorative paint for interior works : SABS 515 High gloss enamel paint : SABS 630 Grade 1 Oil gloss enamel paint : SABS 631 Primers for wood for external work : SABS 678 Type I				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Primers for wood for internal work : SABS 678 Type III Zink chromate primers for steel : SABS 679 Type Undercoats for paint (except emulsion paint) : SABS 681 Type I Aluminium paint : SABS 682 Grade II Roof paints : SABS 683 Type B Structural steel paint : SABS 684 Type B Wash primer (metal etch) : SABS 723 Varnish for interior use : SABS 887 Type I Emulsion paints : SABS 1586 PREPARATORY WORK TO EXISTING WORK Previously painted plastered surfaces Surfaces shall be thoroughly washed down and allowed to dry completely before any paint is applied. Blistered or peeling paint shall be completely removed and cracks shall be opened, filled with a suitable filler and finished smooth Previously painted metal surfaces Surfaces shall be thoroughly rubbed and cleaned down. Blistered or peeling paint shall be completely removed down to bare metal Previously painted wood surfaces Surfaces shall be thoroughly cleaned down. Blistered or peeling paint shall be completely removed and cracks and crevices shall be primed, filled with suitable filler and finished smooth COLOURS Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091 PAINTWORK ETC TO NEW WORK ON INTERNAL FLOATED PLASTER SURFACES				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Prepare surfaces as described and apply one c oat primer to SABS 1416 and two coats 'Velveglo' paint or similar approved to SABS 515				
A17.59		Walls	m²	67,75		
		ON PLASTERBOARD SURFACES Prepare surfaces as described and apply one c oat primer to SABS 1416 and two coats 'Velveglo' paint or similar approved to SABS 515				
		Ceilings and cornices, including priming metal cover strips and nailheads				
		ON FIBRE-CEMENT BOARD SURFACES				
		Prepare surfaces as described and apply one c oat primer to SABS 1416 and two coats 'Velveglo' paint or similar approved to SABS 515				
A17.60		Fascias and barge boards, including priming metal jointing strips	m²	60		
		ON METAL SURFACES				
		Prepare surfaces as described and apply one c oat calcium plumbate primer to SABS 912, one undercoat to SABS 681 type 2 and two coats 'Velveglo' gloss enamel pa int or similar approved to SABS 630 type 1 on galvanised steel				
A17.61		Door frames	m²	10		
A17.62		Windows	m²	10		
		ON WOOD SURFACES				
		One coat primer, one coat alkyd based universa l undercoat and two coats superior quality universal enamel paint				
A17.63		Doors	m²	5		
A17.64		Roof timbers at eaves and verges	m²	2		
A17.65		Skirtings, rails, etc not exceeding 300mm girth	m²	2		
		PAINTWORK, ETC TO PREVIOUSLY PAINTE D WORK				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		ON INTERNAL FLOATED PLASTER SURFACES Prepare surfaces as described and apply one coat primer to SABS 1416 and two coats 'Velveglo' paint or similar approved to SABS 515				
A17.66		Walls	m²	120		
		ON METAL SURFACES Prepare surfaces as described and apply one coat calcium plumbate primer to SABS 912, one undercoat to SABS 681 type 2 and two coats 'Velveglo' gloss enamel paint or similar approved to SABS 630 type 1 on galvanised steel				
A17.67		Door frames	m²	10		
A17.68		Windows	m²	10		
		ON WOOD SURFACES One coat primer, one coat alkyd based universal undercoat and two coats superior quality universal enamel paint				
A17.69		Doors	m²	15		
A17.70		Roof timbers at eaves and verges	m²	2		
A17.70.1		**PROVISIONAL COST** Provisional Sum items to be determined on site during demolition and relocation of wall,s windows, doors etc.				
A17.71		Sanitary Fittings	Prov Cost	1		
A17.72		Plumbing and drainage	Prov Cost	1		
A17.73		Carpentry	Prov Cost	1		
A17.74		Structural steelworks to support load bearing brickwork where required	Prov Cost	1		
TOTAL FOR SECTION A17 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		Brickwork				
		Brickwork (Face brick selected by the Client) in 1:5 Cement Mortar				
A18.1		One brick wall	m²	12		
A18.2		Half brick wall	m²	58		
A18.3		Extra over brickwork for face brickwork	m²	12		
A18.4		Extra over brickwork for header course	m	10		
A18.5		Extra over brickwork for brick-on-edge header course lintels one course high, pointed on face and 230mm soffit.	m	4		
A18.6		Fair cutting and fitting around pipe not exceeding 250mm diameter	No	1		
		Brickwork reinforcement:				
A18.7		Brickforce	m	70		
		Galvanised hoop iron cramps, ties, etc.:				
A18.8		1.2mm x 30mm x800mm galvanised hoop iron strap shot fixed to column	No.	36		
		Lintels, DPC and sills:				
A18.9		Prestressed fabricated lintel, 110 x 75mm	m	50		
		Plasterwork				
		Internal plaster				
A18.10		4:1 Cement plaster on brickwork	m²	67,75		
A18.10.1		**CONCRETE SLABS**				
		CONCRETE (STRUCTURAL)				
		Formwork				
		Smooth vertical to:				
A18.10.2		Slabs	m²	10		
		Reinforcement				
A18.10.3		High-tensile welded mesh ref #245 reinforcement	m²	25		
		Concrete				
		Strength concrete: 20 MPa/19 mm concrete				
A18.10.4		Mass concrete strip footings	m³	4		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Strength concrete: 30 MPa/19 mm				
A18.10.5		Floor slabs including edge thickenings	m³	3,75		
		Unformed surface finishes				
		Wood-floated finish to:				
A18.10.6		Floor slabs	m²	25		
		Joints				
A18.10.7		Construction joint	m	20		
A18.10.8		Expansion joint in floor	m	20		
		Bond breaker:				
A18.10.9		375 micron DPC	m²	4		
TOTAL FOR SECTION A18 CARRIED FORWARD TO SUMMARY						

BILL: **A CIVILS**

SECTION	DESCRIPTION	AMOUNT R
A1	PRELIMINARY AND GENERAL	
A2	SITE CLEARANCE AND EARTHWORKS (WTW SITE)	
A3	SLUDGE HOLDING TANK	
A4	RAW WATER FEED PUMPSTATION	
A5	BUILDING WORK	
A6	FILTER PLANT BUILDING	
A7	CONCRETE SLABS	
A8	CLEAR WATER PUMPHOUSE STAIRCASE	
A9	BUILDING WORKS	
A10	REFURBISH EXISTING STRUCTURES	
A11	BUILDING REFURBISHMENTS & GENERAL SIGNAGE	
A12	PREFABRICATED STEEL CLEAR WATER TANK	
A13	INTERLINKING PIPELINES	
A14	ROADS AND STORMWATER	
A15	INTERLOCKING PAVING AND RETAINING WALLS	
A16	CLEAR WATER RISING MAIN	
A17	ADDITIONS & ALTERATIONS TO EXISTING BUILDINGS	
A18	BUILDING WORK	
	BILL OF QUANTITIES A TOTAL:	

BILL: **B MECHANICAL, ELECTRICAL AND C&I**
SECTION: **B1 PRELIMINARY AND GENERAL**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
B1.1	**8.3 PSA 8.3**	**FIXED-CHARGE ITEMS**				
B1.1.1	8.3.1	Contractual Requirements	Sum	1		
	8.3.2.2	Facilities for Contractor				
B1.1.2	PSA 8.3.2.2 (a)	a) Offices and storage sheds	Sum	1		
B1.1.3		b) Workshops	Sum	1		
B1.1.4		f) Tools and equipment	Sum	1		
B1.1.5		i) Access	Sum	1		
B1.1.6		j) Plant	Sum	1		
B1.1.7	C4.2	Compliance with Health and Safety requirements including the preparation of risk assessments, safe work procedures, the Health and Safety file, the Health and Safety plan, provision of Personal Protective Equipment and Clothing and any other Health and Safety matters that the contractor deems necessary	Sum	1		
B1.1.8		Completing and checking the Project H&S File and handing over the Client on completion of the works	Sum	1		
B1.1.9		HIV/AIDS awareness as per SANS 1921-6	Sum	1		
B1.1.10		Fixed charges associated with complying with the Environmental Management Plan	Sum	1		
B1.1.11		Fixed charges associated with items for insurance cover for imported goods	Sum	1		
B1.2	**8.4 PSA 8.4 PSA8.2.2**	**TIME-RELATED ITEMS**				
B1.2.1	8.4.1	Contractual Requirements	Sum	1		
	8.4.2.2	Facilities for Contractor				
B1.2.2	PSA 8.4.2.2 (a)	a) Offices and storage sheds	Sum	1		
B1.2.3		b) Workshops	Sum	1		
B1.2.4		f) Tools and equipment	Sum	1		
B1.2.5		i) Access	Sum	1		
B1.2.6		j) Plant	Sum	1		
		CARRIED FORWARD				

BILL: **B MECHANICAL, ELECTRICAL AND C&I**
SECTION: **B1 PRELIMINARY AND GENERAL**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B1.2.7	8.4.3 PSA 8.4.3	Supervision for duration of construction	Sum	1		
B1.2.8	8.4.4	Company and head office overhead costs	Sum	1		
B1.2.9	C4.2	Full compliance with Health and Safety matters for the duration of the works including updating and amending the risk assessments, safe work procedures, the project H&S File, the H&S Plan,medicals for all workers, the provision of PPE and protective clothing and all other H&S matters that fulfill OHS Act 85 of 1993 and construction regulation 2014	Sum	1		
B1.2.10		HIV/AIDS awareness as per SANS 1921-6	Sum	1		
B1.2.11	C4.3	Time-related charges associated with complying with the Environmental Management Plan	Sum	1		
B1.2.12		Forward insurance cover for imported goods	Sum	1		
TOTAL FOR SECTION B1 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
B2.1	**16**	**PRIME COST & PROVISIONAL SUM ITEMS**				
B2.1		Supply Telemetry Equipment (Employer to arrange for installation and commissioning by others)	Prov Sum	1		
B2.2		Overheads, Charges and Profit on item B2.1 above; including delivery to Site	%			
B2.3		Provide signage as agreed with the Engineer	PC Sum	1		
B2.4		Overheads, Charges and Profit on item 2.1.1.5 above; including delivery to Site and fixing in place	%			
B2.5		PLC complete with programming interface, I/O modules, mounting brackets and accessories. System integration and programming of Programmable Logic Controller (PLC) for entire WTW to EWS's requirements. Note that integration of the filter backwash control is required by Contractor's specialist	PC Sum	1		
B2.6		Overheads, Charges and Profit on item B2.5 above	%			
B2.7		General refurbishment of existing concrete structures .	Prov Sum	1		
B2.8		Overheads, Charges and Profit on item B2.7 above; including delivery to Site and fixing in place	%			
B2.9		Supply and deliver to site 1No. 6m long lockable shipping container for storage of spare mechanical equipment, including concrete support blocks under each corner	Sum	1		
B2.10		**MISCELLANEOUS**				
B2.11		HAZOP 4				
B2.12	PS5.5	Attend 5 day HAZOP 4 workshop in DBN as soon as designs complete - Contractor's Elec & Mech designers and Site Agent to attend.	Sum	1		
B2.13		Decommission, Remove and Transport to Ethekwini Springfiled Disposal Yard				
B2.14		Old and redundant mechanical equipment	Sum	1,0		
B2.15		Old and redundant electrical items including but not limited to MCC, internal and external cabling, switches, plugs, dbs, cable trays, sleeves, internal and external lights, poles	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B2.16		Take 3 raw water and 3 final water samples (1 snap sample per day over 3 consecutive days) from existing Works at commencement of Contract and send to accredited lab for full range of determinands set out in Table 2 of SANS 241-1 2015 2nd edition	Sum	1		
B2.17		Take 3 raw water and 3 final water samples (1 snap sample per day over 3 consecutive days) from existing and new Works after successful commissioning of new works and send to accredited lab for full range of determinands set out in Table 2 of SANS 241-1 2015 2nd edition	Sum	1		
TOTAL FOR SECTION B2 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
	SPEC MG 23	**PUMPING EQUIPMENT** *Electrical control equipment, instrumentation and cabling measured elsewhere*				
B3.1		Allow for all the costs and expenses associated with the design of pumps and all associated pipework and submission of documentation for approval				
B3.1		All pumping systems complete,(abstraction works, raw water feed, filter feed, clear water)	Sum	1,00		
B3.1.1		Allow for all the costs and expenses in connection with the fabrication / procurement of the following materials and equipment: **Abstraction Works** *Drawing reference P7957M47 001*				
B3.2		2 No self-priming pumps complete (1 for installation, other packaged and clearly labelled for holding as spare in storeroom)				
B3.2.1		Self-priming (7.6m) Centrifugal pumps (3Ml/day@+/-15m)	No.	1		
B3.2.2		Pump motors with VSD	No.	1		
B3.3		All pipework, fittings, supports associated with river abstraction pumps (connection to existing suction to connection to new rising main to raw water tanks) Drawing reference P7957M47 001 – Sheets 1 & 2				
B3.3.1		Item 1: DN 200 X 304l Suction Manifold	No.	1		
B3.3.2		Item 2: DN 200 Straight Pipe Flanged, (to suit Suction and Pump)	No.	1		
B3.3.3		Item 3: DN 200 Uni-Flo Double Door Check Valve, PN 16	No.	1		
B3.3.4		Item 4: DN 200 Flanged RSV Gate Valve, PN 10, Handwheel	No.	1		
B3.3.5		Item 5: DN 200 Dismantling Joint Coupling, PN 10	No.	1		
B3.3.6		Item 6: DN 200 x 90-degree bend, flanged on one end, C/F dimension to be determined on site.	No.	1		
B3.3.7		Item 7: DN 200 Spool Piece flanged both ends, 350mm F/F, complete with 25mm heavy-duty socket with BSP thread.	No.	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B3.3.8		Item 8: DN 200 Spool Piece flanged both ends, 200mm F/F, complete with 25mm heavy-duty socket with BSP thread.	No.	1		
B3.3.9		Item 10: DN 200 Spool piece flanged both ends, length to suit, incorporating DN 200 x 100 concentric reducer, complete with 25mm heavy-duty socket with BSP thread.	No.	1		
B3.3.10		Item 11: DN 200 long radius bend, flanged both ends, PN 16.	No.	2		
B3.3.11		Item 12: DN 200 spool piece, flanged both ends, length to be determined on site, PN 16.	No.	1		
B3.3.12		Item 13: DN 200 spool piece, flanged both ends with a puddle flange (length to be determined on site), PN 16.	No.	1		
B3.3.13		Extra-over item from Item B3.3 for the supply of pipe fittings or other material	Sum	1		
		Raw Water Feed Pumpstation				
		Drawing P7957M47 002				
B3.3.14		End-suction, centrifugal, dry-well type pumps complete. (2ML/day @+/-15m)	No.	2		
B3.4		All pipework, fittings, supports associated with feed pumps to new works and pipework to old works (flowmeters & in-line flash mixers measured elsewhere) from common supply pipe outside building to delivery pipelines outside building. Drawing P7957M47 002 – Sheets 1 & 2				
B3.4.1		Item 1: DN 200 Spool piece flanged both ends, with concentric puddle flange, PN 10.	No.	1		
B3.4.2		Item 2: DN 200 to DN 150 pipe special, complete with 25mm heavy-duty socket with BSP thread, PN 10.	No.	1		
B3.4.3		Item 3: DN 150 Flanged RSV Gate Valve, PN 10, Handwheel	No.	1		
B3.4.4		Item 4: DN 150 Straight pipe with slow bend flanged, PN 10.	No.	1		
B3.4.5		Item 5: DN 150 Pipe special with slow bend flanged, complete with 25mm heavy-duty socket with BSP thread, PN 10.	No.	1		
B3.4.6		Item 6: DN 150 Dismantling joint coupling, PN 10.	No.	3		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B3.4.7		Item 7: DN 150 to DN 100 pipe special, complete with 25mm heavy-duty socket with BSP thread, PN 10.	No.	2		
B3.4.8		Item 8: DN 150 Electromagnetic flow meter, PN 16.	No.	1		
B3.4.9		Item 9: DN 65 to DN 100, with slow bend pipe, flanged both ends, PN 16.	No.	2		
B3.4.10		Item 10: DN 100 Uni-Flo Double Door Check Valve, PN 16.	No.	2		
B3.4.11		Item 11: DN 100 Straight pipe, flanged on one end, complete with 25mm heavy-duty socket with BSP thread, PN 16	No.	2		
B3.4.12		Item 12: DN 100 Dismantling joint coupling, PN 16.	No.	2		
B3.4.13		Item 13: DN 100 Butterfly valve, PN 16.	No.	2		
B3.4.14		Item 14: DN 100 to DN 150 pipe special, flanged both ends, complete with 25mm heavy-duty socket with BSP thread, PN 16.	No.	1		
B3.4.15		Item 15: DN 150 Straight pipe flanged on one end, PN 16.	No.	1		
B3.4.16		Item 16: DN 150 Spool piece flanged both ends, with puddle flange on one end (length to be determined on site), PN 16.	No.	1		
B3.4.17		Item 17: DN 150 Butterfly valve, PN 16.	No.	2		
B3.4.18		Extra-over item for Item B3.4 for the supply of pipe fittings or other material	Sum	1		
	SANS 1200 L	**Raw Water Rising Main**				
	PSL 8.2.1	*Drawing 57270-C-203 RAW WATER RISING MAIN LS*				
B3.4.19		Supply, lay bed and test pipes completed with couplings for the completion of the Raw Water rising main (connection at abstraction tower on discharge pipe and connection at inlet for raw water tanks) Drawing Reference: 57270-C-203 RAW WATER RISING MAIN LS	Sum	1		
B3.4.20		Water-tightness testing of existing lengths of rising main laid by others.	Sum	1		
		Clear Water High Lift Pump Station				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
		Drawing reference P7957M47 004				
B3.4.21		Centrifugal vertical multistage, dry-well type pumps complete(3Ml/day @+/-120m).	No	3		
B3.5		All pipework, fittings, supports associated with clear water pumps (flowmeter & instruments measured elsewhere) from new suction pipe in wall to new rising main outside building, Drawing P7957M47 004 – Sheets 1 & 2				
B3.5.1		Item 1: DN 200 Spool piece flanged both ends, with concentric puddle flange, PN 16.	No.	1		
B3.5.2		Item 2: DN 200 to DN 150 Pipe special, PN16.	No.	1		
B3.5.3		Item 3: DN 150 flanged RSV Gate Valve, PN 16, Handwheel.	No.	3		
B3.5.4		Item 4a: DN 150 to DN 100 Pipe special, complete with two 25mm Heavy-duty sockets with BSP thread, PN 16.	No.	1		
B3.5.5		Item 4b: DN 150 to DN 100 Pipe special, complete with two 25mm Heavy-duty sockets with BSP thread, PN 16.	No.	1		
B3.5.6		Item 5: DN 100 non-restrained flange adaptor, PN 25.	No.	6		
B3.5.7		Item 6: DN 100 to DN 200 Pipe special, PN 25.	No.	3		
B3.5.8		Item 7: DN 200 Uni-flo double door check valve, PN 25.	No.	3		
B3.5.9		Item 8: DN 200 Dismantling joint coupling, PN 25.	No.	3		
B3.5.10		Item 9: DN 200 Pipe special, PN 25.	No.	1		
B3.5.11		Item 10: DN 200 Spool piece flanged both ends, with puddle flange 350mm face to face on one end, complete with 25mm Heavy-duty socket with BSP thread, PN 25.	No.	1		
B3.5.12		Item 11: DN 200 Spool piece flanged both ends, length to suit, complete 25mm Heavy-duty sockets with BSP thread, PN 25	No.	3		
B3.5.13		Extra-over item for Item B3.5 for the supply of pipe fittings or other material.	Sum	1		
		Filter Plant Building				
		Drawing reference P7957M47 001				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B3.5.14		End-suction, centrifugal, dry-well type pumps complete. (2ML/day @+/-15m)	No.	2		
B3.6		All pipework, fittings, supports associated with clear water pumps (flowmeter & instruments measured elsewhere) from new suction pipe in wall to new rising main outside building, Drawing P7957M47 001 – Sheets 1 & 3				
B3.6.1		Item 1: DN 200 Spool Piece flanged both ends, complete with two 25mm Heavy-duty sockets with BSP thread, PN 10.	No.	1		
B3.6.2		Item 2: DN 150 flanged long radius bend with one long leg, welded to a DN150 flanged tee, .barrel 2500mm face to plain-end, with branch approx. 278.6mm centre to face, PN 10.	No.	1		
B3.6.3		Item 3: DN 150 flanged butterfly valve, PN 10, handwheel.	No.	2		
B3.6.4		Item 4: DN 65 to DN 100 pipe special, PN 10	No.	2		
B3.6.5		Item 5: DN 150 dismantling joint coupling, PN 10.	No.	2		
B3.6.6		Item 6: DN 150 to DN 80 pipe special, PN 10.	No.	2		
B3.6.7		Item 7: DN 100 Uni-Flo double door check valve, PN 10.	No.	2		
B3.6.8		Item 8: DN 100 dismantling joint coupling, PN 10.	No.	2		
B3.6.9		Item 9: DN 100 pipe special, complete with 25mm heavy-duty socket with BSP thread, PN 10.	No.	3		
B3.6.10		Item 10: DN 100 flanged butterfly valve, PN 10.	No.	2		
B3.6.11		Item 11: DN 100 pipe special, flanged, PN 10.	No.	1		
B3.6.12		Item 12: DN 100 spool piece flanged both ends, 500mm fact to face, PN 10	No.	1		
B3.6.13		Item 13: DN 100 pipe special, flanged, PN 10.	No.	1		
B3.6.14		Item 14: DN 100 electromagnetic flow meter.	No.	1		
B3.6.15		Item 15: DN 100 pipe special with one end plain-ended and other flanged, PN 10.	No.	1		
B3.6.16		Item 16: Rotary lobe blower.	No.	2		
B3.6.17		Item 17: DN 63 to DN 80 pipe special, PN 10.	No.	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B3.6.18		Item 18: DN 100 Uni-Flo double door check valve, PN 10.	No.	1		
B3.6.19		Item 19: DN 80 pipe special, flanged both ends, PN 10.	No.	1		
B3.6.20		Item 20: DN 80 pipe special, flanged both ends, PN 10.	No.	1		
B3.6.21		Item 21: DN 80 pipe special, flanged both ends, PN 10.	No.	1		
B3.6.22		Extra-over item for Item B3.6 for the supply of pipe fittings or other material.	Sum	1		
		Sludge Transfer Manhole				
B3.6.23		Submerisble pumps with duck-foot bend, guide rails, support chain complete (1 for installation, other pump only packaged and clearly labelled for holding as spare in storeroom)	No	1		
B3.6.24		All pipework, fittings, supports associated with clear water pumps (excl meter & instruments measured elsewhere) from pump in sump to new rising main outside Transfer Manhole	Sum	1		
		Filtrate Recycle Pump				
B3.6.25		Submerisble pumps complete (1 for installation, other packaged and clearly labelled for holding as spare in storeroom) plus DN50 flexible hose fitted with quick-release coupling and support chain complete	No.	1		
B3.6.26		All pipework, fittings, supports associated with filtrate recycle pumps (flowmeter & instruments measured elsewhere) from pump quick release coupling on flexible hose to new rising main.	Sum	1		
B3.6.27		Allow for all the costs and expenses in connection with the delivery and offloading of the following (incl cranage where necessary):				
B3.6.28		All materials and equipment included in item 2.2.2 above	Sum	1		
B3.6.29		Allow for all costs and expenses associated with the Site installation of the following:-				
B3.6.30		All materials and equipment included in item 2.2.2 above	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B3.6.31		All other items not included above but which are nevertheless necessary to meet the Scope of Wok / functionality and/or are required for the proper, safe and effective operation of all of the pumps and flow meters (Specify on separate schedule and insert):				
TOTAL FOR SECTION B3 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
	SPEC MG 23	**WATER TREATMENT EQUIPMENT** *Civil, building works, electrical supply, electrical control equipment, instrumentation and cabling measured elsewhere (except for SCD units which is to include all elec control and cabling)*				
B4.1		Allow for all the costs and expenses in connection with the design of water treatment process and control systems and all associated equipment and submission of documentation for approval				
B4.1		Provision of R2m Professional Indemnity Insurance Cover	Sum	1		
B4.2		Design, drawings and detailing for all water treatment equipment in this schedule (PFD,P&ID, functional design spec, mechnical, electrical, c&i etc)	Sum	1		
B4.2.1		Allow for all the costs and expenses in connection with the fabrication / procurement of the following materials and equipment: ***Coagulation and Flocculation System***				
B4.3		1000 litre fibreglass / GRP polyelectrolyte bulk storage tank. (designed for poly with 1.6 SG and UV-stabilised opaque walls and a translucent vertical strip for visual indication of liquid level plus load cell system to remotely monitor content, plus rainwater excluder from bund under). To include access to top of tank for hose-filling from tanker and suitable pipework and fittings and isolating ball valves to poly day	No.	2		
B4.4		250 l poly storage day tanks (1 on line and 1 for batching diluted poly) - each tank to be fitted with small motorised stirrer and service water supply. Tanks to be fibreglass or polypropylene and designed for specific gravity of 1.6 and be translucent for visual indication of liquid level. Stirrers to be fixed on wall-mount brackets and have low-revving, low shear blades suited for high viscosity long chain polymer polyelctrolyte (requires reducing gearbox, VSD or fixed digital	No.	2		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B4.5		Polyelectrolyte dosing pumps compatible with, and controlled by, SCD units (1 duty and 1 standby for old works and 1 duty and 1 standby for new works), complete with all dosing pipework and fittings from Day Tanks to dosing pumps and including draw-down cylinder to manually check pump rate	No	4		
B4.6		OLD WORKS: SCD Unit (01-AIT-04) in existing dosing/lab building including links to dosing pump controllers and progressive cavity pump for sampling flow and associated PVC suction and drainage pipework back to flocculation channel.	No.	1		
B4.7		NEW WORKS: SCD Unit (02-AIT-06) mounted on side of flocculation chamber including links to dosing pump controllers and all gravity-flow sampling water pipework from flocc chamber to clarifier sludge drainage system	No.	1		
B4.8		In-line static flash-mixers (for old and new works), including all associated dosing pipework from dosing building to in-line static mixers. Flash mixers to be easily removable from manifold and easily dismantled for cleaning.	No.	1		
B4.9		Raw-water sampling point upstream of raw water pump station (sampling point comprising saddle offtake from 200 mPVC main, 12mm HPDE and/or copper leading to above-ground standpipe)	Sum	1		
		Water Treatment Modular Plant				
B4.10		304SS with stainless steel fittings and built-in pipework 42.5m3/h Modular Clarifier complete	No.	2		
B4.11		Flocculater tank 304SS stainless steel fittings and built-in pipework 85m3/h Modular	No.	1		
B4.12		All pipework (flanged GMS) and fittings and insulating gaskets between ss tank outlets and GMS and supports from clarifier settled water outlet to settled water balancing tank inlet and sludge outlets to drainage system (including sight boxes for each desludging valve)	Sum	1		
B4.13		1 No. GRP settled water balancing tank with GRP or ss inlet/outlet; including all above-ground flanged GMS pipework and connections to GMS inlet / outlet pipelines	Sum	1		
B4.14		All pipework (flanged GMS) and fittings and supports from settled water balancing tank outlet to filter feed pump suction manifold	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B4.15		304SS filter units complete, but excluding filter media	No	4		
B4.16		Extra-over item B4.15 for supply of Filter media (0,9mm quarzitic sand filter media)	Sum	1		
B4.17		Filter inlet / outlet / backwash / scour manifolds with electrically-actuated quarter-turn ball valves, all monitoring and control instrumentation and supports and sampling points for testing filtered water from each pressure filter complete	Sum	1		
B4.18		All pipework and valves and supports from settled water balancing tank to pumpstation and filter & backwash pump suction and delivery manifolds and pipework from pumpstation to filter manifold complete	Sum	1		
B4.19		1 Duty + 1 Standby filter feed pumps to own design	No.	2		
B4.20		Air blower sets (1 Duty & 1 Standby Roots type incl silencer hoods complete)	No.	2		
B4.21		Air blower delivery manifold and all pipework (flanged GMS) to filter backwash manifold complete	Sum	1		
B4.21.1		All other items not included above but which are nevertheless necessary to meet the Scope of Work / functionality and/or are required for the proper, safe and effective operation of the dosing, clarification and filtration plant (Specify on separate schedule and insert):				
B4.22			Sum	1		
B4.23			Sum	1		
B4.24			Sum	1		
B4.25			Sum	1		
B4.26			Sum	1		
B4.27			Sum	1		
TOTAL FOR SECTION B4 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
	SPEC MG 23	**CHLORINATION EQUIPMENT**				
B5.1		Allow for all the costs and expenses in connection with the measuring-up on Site and procurement of the following materials and equipment:				
B5.1		Enviroserve' sodium hypochlorite generator system or similar approved to match existing two units complete (wall-mounted electrical unit + tank insert cell + standby cell holder + all associated electrical cabling)	No.	2		
B5.2		500 litre free-standing ploypropylene batching tank	No.	2		
B5.3		Polypropylene holding tank (1x1000 litres)	Sum	1		
B5.4		Solvent-welded 32mm uPVC interconnecting pipework and isolating valves between batching tanks and holding tanks, incl all supports	Sum	1		
B5.5		Polyelectrolyte dosing pumps compatible with, and controlled by, flow meters (1 duty and 1 standby for old works and 1 duty and 1 standby for new works), complete with corrosion-proof wall mounting brackets, all dosing pipework from below-ground Holding Tanks to dosing pumps and including draw-down cylinder to manually check pump rate (draw-down cyclinder to be manually filled with water to test pump rate	No.	4		
B5.6		Provide free-standing stainless steel digital weigh scale of up to 20kg capacity	Sum	1		
B5.7		Allowance for delivery and connecting items 2.4.1 (Note: electrical control and cabling measured separately in Electrical section).	Sum	1		
B5.7.1		Allow for all the costs and expenses in connection with maintaining the operation of the existing hypo generating and dosing system while modifications to the existing building are made to suit the upgraded hypo system; including all temporary works / modifications required				
B5.8		Keep existing hypo system operational until new system commissioned	Sum	1		
B5.8.1		Allow for all the costs and expenses in connection with delivery, offloading and installation of the following:				
		CARRIED FORWARD				

BILL: **B MECHANICAL, ELECTRICAL AND C&I**
SECTION: **B5 MECHANICAL: CHLORINATION EQUIPMENT**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B5.9		All sodium hypochlorite generating and storage equipment above (to be carried out after existing pump room decommissioned and building modified .	Sum	1		
B5.9.1		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 chlorination equipment (Specify on separate schedule and insert)				
B5.10		…….	Sum	1		
B5.11		…….	Sum	1		
B5.12		…….	Sum	1		
B5.13		…….	Sum	1		
B5.14		…….	Sum	1		
TOTAL FOR SECTION B5 CARRIED FORWARD TO SUMMARY						

BILL: **B MECHANICAL, ELECTRICAL AND C&I**
SECTION: **B6 ELECTRICAL: GENERAL, CODING AND LABELLING**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
	SANS 10142	GENERAL, CODING AND LABELLING				
B6.1		Electrical Certificate of Compliance	Sum	1		
B6.2		Provision of temporary power to Main Contractor and/or other contractors. Power to be maximum of 100kVA.	Sum	1		
B6.3		For marking up of Engineers drawings during construction and compiling of As-built drawings	Sum	1		
B6.4		Any additional builders work over and above main contractors, including make good after chasing, plaster to builders satisfaction.	Sum	1		
B6.5		For the coding and labelling of all plant and equipment	Sum	1		
B6.6		For the coding and labelling of all Wiring	Sum	1		
TOTAL FOR SECTION B6 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		CABLING				
	SABS 150; SANS 1507-3; SABS0165; SANS 10142; SANS 950; SABS0165:	Circuit wiring along with earth wire with the following sizes of XLPE insulated copper conductor single core/ multi strand cable in surface/recessed PVC conduit as required. All cables to include surface mounted cable markers along the cable routes				
B7.1		Supply and install 1.5 sq.mm GP wire for wiring of light fittings, chorine generators and dosing pump. Quantity indicated is route length	m	140		
B7.2		Supply and install 2.5 sq.mm GP wire for wiring of light fittings, chorine generators and dosing pump. Quantity indicated is route length	m	50		
B7.3		Supply and install 4 sq.mm GP wire for wiring of small power fittings, air conditioner and extractor fan. Quantity indicated is route length.	m	1531		
B7.4		Supply and install 4mm 3-phase 4-core ECC PVC Cu cable, SWA compatible with SANS 1507-3 for motors and isolators, flood lights and three phase socket	m	498		
B7.5		Supply and install cable terminations for 4sq.mm 4 core Cu cable	No.	20		
B7.6		Supply and install 6mm 3-phase 4-core ECC PVC Cu cable, SWA compatible with SANS 1507-3 for motors and isolators and three phase socket	m	34		
B7.7		Supply and install cable terminations for 6sq.mm 4 core Cu cable	No.	4		
B7.8		Supply and install 10mm 3-phase 4-core ECC PVC Cu cable, SWA compatible with SANS 1507-3 including concrete cable route markers +E1211	m	186		
B7.9		Supply and install cable terminations for 10sq.mm 4 core Cu cable - set of 3	No.	10		
B7.10		Supply and install cable joint kits for 10sq.mm 4 core SWA cable	No.	2		
B7.11		Supply and install 16mm 1-phase 3-core ECC PVC Cu cable, SWA compatible with SANS 1507-3 including concrete cable route markers	m	163		
B7.12		Supply and install cable terminations for 16sq.mm 3 core Cu cable - set of 3	No.	4		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B7.13		Supply and install 16mm 3-phase 4-core ECC PVC Cu cable, SWA compatible with SANS 1507-3 including concrete cable route markers	m	257		
B7.14		Supply and install cable terminations for 16sq.mm 4 core Cu cable - set of 3	No.	14		
B7.15		Supply and install 25mm 3-phase 4-core ECC PVC Cu cable, SWA compatible with SANS 1507-3 including concrete cable route markers	m	34		
B7.16		Supply and install cable terminations for 25sq.mm 4 core Cu cable - set of 3	No	4		
B7.17		Supply and install cable joint kits for 25sq.mm 4 core SWA cable	No.	0		
B7.18		Supply and install 50mm 3-phase 4-core ECC PVC Cu cable, SWA compatible with SANS 1507-3 including concrete cable route markers	m	166		
B7.19		Supply and install cable terminations for 50sq.mm 4 core Cu cable - set of 3	No	4		
B7.20		Supply and install cable joint kits for 50sq.mm 4 core SWA cable	No.	2		
B7.21		Supply and install 95mm 3-phase 4-core ECC PVC Cu SWA cable compatible with SANS 1507-3	m	60		
B7.22		Supply and install cable terminations for 95sq.mm 4 core SWA cable - set of 3	No.	4		
B7.23		Supply and install 120mm 3-phase 4-core ECC PVC Cu SWA cable compatible with SANS 1507-3 including concrete cable route markers	m	40		
B7.24		Supply and install cable terminations for 120sq.mm 4 core SWA cable - set of 3	No.	2		
B7.25		Supply and install cable joint kits for 120sq.mm 4 core SWA cable	No.	1		
B7.26		Supply and install 150mm 3-phase 4-core ECC PVC Cu SWA cable compatible with SANS 1507-3 including concrete cable route markers	m	270		
B7.27		Supply and install cable terminations for 150sq.mm 4 core SWA cable - set of 3	No.	12		
B7.28		Supply and install cable joint kits for 150sq.mm 4 core SWA cable	No.	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B7.29		Manhole - FC chamber, with bases, ports and a concrete coverslab with a hinged DMC polymer lid which is lockable including excavation of dimensions 1200mm wide x 1200mm wide x 1200mm deep for POWER	No.	0		
B7.30		Supply and install M20 Bosal conduit complete with elbows, junction boxes, clamps and fittings	m	411		
B7.31		Supply and install M25 bosal conduit complete with elbows, junction boxes, clamps and fittings	m	764		
B7.32		Supply and install M50 uPVC Sleeves for DB entries chased into wall	m	39		
B7.33		DN160 flexible sleeving for power	m	0		
B7.34		N8/P801 2Compartment Power Skirting including end plates	m	0		
B7.35		Chasing 50mm wide x 40mm deep, and make good	m	201		
B7.36		Chasing 400mm wide x 50mm deep, and make good	m	42		
B7.37		Trenching for Power Cable 300mm wide x 800mm deep, including bedding soil and backfill - Refer to Site plan drawing number 57270 - 800	m	140		
B7.38		Trenching for Power Cable 300mm wide x 600mm deep, including bedding soil and backfill - Refer to Site plan drawing number 57270 - 800	m	373		
B7.39		Flexible Rip bend to match DN160 conduit	No.	0		
B7.40		100mm wide galvanised cable tray including all fittings and accessories - Refer to drawing numbers 57270-817 and 57270-820	m	51		
B7.41		200mm wide galvanised cable tray including all fittings and accessories - Refer to drawing numbers 57270-817 and 57270-820	m	52		
TOTAL FOR SECTION B7 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
B8.1	**SANS10142-1**	**SMALL POWER** Supply and installation of small power equipment in accordance with SANS10142-1.				
B8.1		SSO, 16A switchable 3-pin single socket outlet including SANS 164-2 Euro plug with cover plate, white, including 4 x 4 wall box	No.	37		
B8.2		IP65 Weather proof 16A 3-pin single switched socket outlet with cover plate, white, including 4 x 4 wall box	No.	2		
B8.3		Dedicated RED Socket 16A 3-pin single switched socket Recessed in Power Skirting	No.	5		
B8.4		IP65 E-stop ON Galv. Stand - Emergency Button, Twist to Reset, Red/Yellow/Grey 40mm Mushroom Head or similar	No.	20		
B8.5		Dedicated RED Socket 16A 3-pin Double switched socket outlet, including 4 x 4 wall box	No.	2		
B8.6		16A 3 Phase Field Isolator including pratley boxes	No.	10		
B8.7		Testing and Commissioning of Small Power Installation	Sum	1		
B8.8		20A Single Pole 3KA Isolators for Air-Conditioning Electrical Points with light indicator and cord grip including 4x4 wall box	No.	2		
B8.9		Supply and installation of 5 litre Hydroboil	No.	1		
B8.10		Extractor fan supply point including 10A skirting socket and light point, excluding extraction duct. Location and specification to be specified by the mechanical engineer	No.	2		
B8.11		3 Phase 63 A Surface Mounted socket outlet	No.	3		
B8.12		Supply and Install of Hand station panel for switching Raw Water Pump On and Off in Abstraction Tower. To include E-Stop and lockable isolator and all necessary relevant equipment	No.	1		
B8.12.1		**LIGHTING**				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
	SANS 1119; SANS 10142; SANS 1663;	Supply and installation of the following lamps and light fittings with Electronic Control Gear, starter, capacitor, tubes/lamps, reflector, diffuser, holder etc. complete with all fixing accessories. Each ligh fitting shall have a 500mm, two core plus earch cabtrye, tail piece that is to be terminated in a four way round junction. Box should have an IP rating of no less then IP65. strip connectors shall be rated at 30A. Includes installation of the 2.5 sq.mm wiring to all light points as indicated in the lighting layout drawing. All interior lighting shall				
B8.13		15W LED Round Bulkhead Surface Mounted - Black CVP	No.	30		
B8.14		2x22W 5ft T8 LED bulbs fitted in dust and hose Proof housing, Surface Mounted IP 65 rated	No.	29		
B8.15		1x22W 5ft T8 LED bulbs fitted in dust and hose Proof housing, Surface Mounted IP 65 rated	No.	1		
B8.16		10m Fibre Glass Pole Light Pole including 4 x 100W Led flood lights IP65 including but not limited to junction boxes and all relevant accessories	No.	15		
B8.17		PHOTOCELL Supply and installation of Daylight activated photo sensors, for the control of outdoor and general area lighting circuits. 16A 250V LIGHT SWITCHES Supply and install light switches complete with coverplate. Includes wiring of the switch points	No.	6		
B8.18		1-lever 1-way weather proof switch, IP65 100x50mm with cover plate, white, Including 4x2 wall box	No.	18		
B8.19		Testing and Commissioning of Lighting Installation	Sum	1		
B8.19.1		**FIRE DETECTION**				
B8.20		Addressable combined Heat and Smoke detector points including wiring	No.	8		
B8.21		Addressable Glass Break points including wiring c/w necessary control panels	No.	5		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B8.22		Addressable Fire Panel including audible and visual alarms. To also include for battery chargers, fire resistant cable, provision of training on system Operation and Maintenance. Manuals to also be provided.	No.	1		
TOTAL FOR SECTION B8 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
B9.1	**PS21-1**	**MCC PANELS** Supply all materials and assemble MCCs in accordance with SANS10142; incl FAT with Engineer:				
B9.1		MAIN LV Panel- 400V MCC - 1800 x 2100 MCC panel, with filter , raw water feed pumps, generator, PM and GeN controller with15kA info (Drawing GA).	Sum	1		
B9.2		FILTER BUILDING 400V MCC - 3400 x 2100 MCC panel, with two filter feed, 2no. blowers, with 10kA info (Drawing GA).	Sum	1		
B9.3		RAW WATER FEED PUMP 400V MCC - 1400 x 2100 MCC panel, with two raw pumps, with 6kA info (Drawing GA).	Sum	1		
B9.4		Abstraction works FEED PUMP 400V MCC - 1400 x 2100 MCC panel, with two raw pumps, with 6kA info (Drawing GA).	Sum	1		
B9.5		Clear WATER FEED PUMP 400V MCC - 3000 x 2100 MCC panel, with raw abstraction,2 clearwater pumps, telemetry & instrumentatio, 5kVA ups with10kA info (Drawing GA). Delivery to site and rig into position, pre-test and SAT with Engineer	Sum	1		
B9.6		All 4 MCCs in items 2.8.1.1 to 2.8.1.3	Sum	1		
B9.7		Commission all electrical works and hand-over documentation as specified	Sum	1		
B9.7.1	**PS21-1**	**DISTRIBUTION BOARDS** Supply all materials and assemble Distribution Boards in accordance with SANS10142:				
B9.8		FILTER BUILDING ROOM DB 140A, 6kA 3-Phase Incomer. Refer to DB schematic in Drawing No. 57270-815. Earth Leakage and Surge Protection to suit. SAT WITH ENGINEER 3 x Manuals sets FAT WITH ENGINEER DELIVERY AND INSTALL	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B9.9		MAIN PUMP STATION LOCAL DB 80A, 15kA 3-Phase Incomer Refer to DB schematic in Drawing No. 57270-810. Earth Leakage and Surge Protection to suit. SAT WITH ENGINEER 3 x Manuals sets FAT WITH ENGINEER DELIVERY AND INSTALL	Sum	1		
B9.10		ADMIN DB 63A, 15kA 1-Phase Incomer. Refer to DB schematic in Drawing No. 57270-811. Earth Leakage and Surge Protection to suit. SAT WITH ENGINEER 3 x Manuals sets FAT WITH ENGINEER DELIVERY AND INSTALL	Sum	1		
B9.11		LAB DB 63A, 15kA 3-Phase Incomer. Refer to DB schematic in Drawing No. 57270-812. Earth Leakage and Surge Protection to suit. SAT WITH ENGINEER 3 x Manuals sets FAT WITH ENGINEER DELIVERY AND INSTALL	Sum	1		
B9.12		ABSTRACTION DB 40A, 10kA 1-Phase Incomer. Refer to DB schematic in Drawing No. 57270-813. Earth Leakage and Surge Protection to suit. SAT WITH ENGINEER 3 x Manuals sets FAT WITH ENGINEER DELIVERY AND INSTALL	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B9.13		DISINFECTION DB 40A, 10kA 3-Phase Incomer. Refer to DB schematic in Drawing No. 57270-814. Earth Leakage and Surge Protection to suit. SAT WITH ENGINEER 3 x Manuals sets FAT WITH ENGINEER DELIVERY AND INSTALL	Sum	1		
B9.14		RAW WATER FEED PUMP STATION DB 40A, 10kA 1-Phase Incomer. Refer to DB schematic in Drawing No. 57270-816. Earth Leakage and Surge Protection to suit. SAT WITH ENGINEER 3 x Manuals sets FAT WITH ENGINEER DELIVERY AND INSTALL	Sum	1		
TOTAL FOR SECTION B9 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
B10.1	**PS21-1**	**POWER SUPPLY**				
		Supply Generator as per specifications.				
B10.1		400kVA generator complete with 3CR12 weather proof sound-attenuating canopy, incl FAT with Engineer	Sum	1		
B10.2		Deliver and install	Sum	1		
B10.3		SAT with Engineer	Sum	1		
B10.4		3 x Manuals sets	Sum	1		
B10.5		Drawings & wiring diagrams	Sum	1		
B10.6		Onsite commissioning & training	Sum	1		
		Supply & deliver				
B10.7		Hand wing pump + hose	Sum	1		
B10.8		800l Diesel (First Fill)	litre	800		
B10.9		150l Diesel (FAT)	litre	150		
B10.10		150l Diesel (SAT)	litre	150		
B10.10.1	**PS21-1**	**LIGHTNING PROTECTION AND EARTHING**				
B10.11		Supply and install lightning protection system in accordance with SANS10142-1. Copper Earthing straps to be bonded and earthed according to SANS10142. By Specialist	Sum	1		
TOTAL FOR SECTION B10 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
B11.1	**SPEC MGPS21-1**	**DATA SERVICES**				
B11.1		Supply, install and commission Data internet connectivity infrastructure and solution by Specialist. To include for 2 data points as well as cabling and relevant wall and junction boxes	Sum	1		
B11.1.1		**CONTROL & INSTRUMENTATION**				
	PS 23	Allow for all the costs and expenses associated with the fabrication / procurement of the following materials and equipment				
		NOTE: Costs of installation and commissioning to be included in mechanical and electrical installation and commissioning items				
		Raw Water				
		01-FIT-01				
B11.2		Local enclosure	Sum	1		
B11.3		200DN Magflow meter and flow tube	No	1		
B11.4		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.5		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-LIT-01, 01-LIT-2				
B11.6		Local Enclosure	No	1		
B11.7		Level Transmitters and sensors	No	2		
B11.8		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.9		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
B11.10		***01-JB-01***				
B11.11		Local enclosure	No	1		
B11.12		Termination accessories, including surge protection and power distribution and isolation.	Sum	1		
B11.13		12 pair instrumentation cable	Sum	1		
		01-AIT-01				
B11.14		pH meter and probe	No	2		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B11.15		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	2		
B11.16		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	2		
		01-AIT-02				
B11.17		Turbidity meter and probe	No	2		
B11.18		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	2		
B11.19		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	2		
		01-AIT-03				
B11.20		Conductivity meter and probe	No	2		
B11.21		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	2		
B11.22		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	2		
		Old Works				
		01-JB-02				
B11.23		Local enclosure	No	1		
B11.24		Termination accessories, including surge protection and power distribution and isolation.	Sum	1		
B11.25		12 pair instrumentation cable	Sum	1		
		01-LIT-03, 01-LIT-04				
B11.26		Local Enclosure	No	1		
B11.27		Dual channel Level Transmitters and submersible sensors	No	1		
B11.28		4pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.29		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-AIT-04				
		Streaming Current Detector (unit measured eleswhere)				
B11.30		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	2		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B11.31		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	2		
B11.32		***01-FIT-02, 01-FIT-08***				
B11.32.1		Local Enclosure	No	1		
B11.32.2		150DN Magflow meter and flow tube	No	2		
B11.32.3		200DN Magflow meter and flow tube	No	1		
B11.32.4		4pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.5		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-JB-03				
B11.32.6		Local enclosure	No	1		
B11.32.7		Termination accessories, including surge protection.	Sum	1		
B11.32.8		12 pair instrumentation cable	Sum	1		
		01-WIT-01, 01-WIT-02, 01-WIT-03				
B11.32.9		Weighing transmitter with loadcells	No	3		
B11.32.10		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.11		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		New Works raw water feed				
		02-FIT-05				
B11.32.12		100DN Magflow meter	Sum	1		
B11.32.13		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.14		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		New Works modular clarifier & filtration				
		02-AIT-06				
		Streaming Current Detector (unit measured eleswhere)				
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B11.32.15		2pr instrumentation cable for SCD unit, complete with surge protection and termination accessories.	Sum	1		
B11.32.16		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
B11.32.17		Local enclosure	No	1		
B11.32.18		Termination accessories, including surge protection and power distribution and isolation.	Sum	1		
B11.32.19		2 pair instrumentation cable	Sum	1		
B11.32.20		***02-LIT-05***				
B11.32.21		Ultrasonic level transmitter and transducer	No	1		
B11.32.22		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.23		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		02-LIT-06				
B11.32.24		Ultrasonic level transmitter and transducer	No	1		
B11.32.25		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.26		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		02-XV-02a through to 02-XV-02e				
		Electrically actuated ball valves measured under Mech: Filters				
B11.32.27		1pr instrumentation cable for electrically actuated Ball Valves complete with surge protection and termination accessories.	Sum	1		
		02-FIT-05				
B11.32.28		Magflow meter	No	1		
B11.32.29		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.30		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		02-FIT-06				
B11.32.31		Magflow meter	No	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B11.32.32		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.33		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		02-PdIT-01				
B11.32.34		Differential Pressure Transmitter	No	1		
B11.32.35		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
		02-XV-03 through to 02-XV-18				
		Electrically actuated Ball Valves measured under Mech: filters				
B11.32.36		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
		Clearwater & Chlorination System				
B11.32.37		Local enclosure	No	1		
B11.32.38		Termination accessories, including surge protection and power distribution and isolation.	Sum	1		
B11.32.39		4 pair instrumentation cable	Sum	1		
		01-FIT-07				
B11.32.40		250DN Magflow meter	No	1		
B11.32.41		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.42		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-AIT-07				
B11.32.43		Turbidity meter and probe	No	1		
B11.32.44		2pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.45		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-LIT-10				
B11.32.46		Ultrasonic level meter with transducer	No	1		
B11.32.47		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B11.32.48		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-LIT-09				
B11.32.49		Ultrasonic level meter with transducer	No	1		
B11.32.50		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.51		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-LS-08				
B11.32.52		Float level switch	No	1		
B11.32.53		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
		01-AIT-08				
B11.32.54		Turbidity Analyser with sensor	No	1		
B11.32.55		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.56		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-AIT-09				
B11.32.57		pH meter with probe	No	1		
B11.32.58		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.59		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-AIT-11				
B11.32.60		Chlorine Analyser and sensor	No	1		
B11.32.61		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.62		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-AIT-10				
B11.32.63		Conductivity Analyser and sensor	No	1		
B11.32.64		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
		CARRIED FORWARD				

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B11.32.65		2-Core ECC power supply cable, c/w termination and isolation accessories.	Sum	1		
		01-LS-12				
B11.32.66		Float level switch	No	1		
B11.32.67		1pr instrumentation cable, complete with surge protection and termination accessories.	Sum	1		
B11.32.68		**NETWORKING**				
B11.32.69		PLC Supply	No	3		
B11.32.70		HMI Supply	No	3		
B11.32.71		Ethernet managed router	No	3		
B11.32.72		Fibre Optic cables				
B11.32.73		Fibre Optic terminations, c/w all accessories and patch leads	Sum	1		
B11.32.74		SCADA room equipment	Prov Sum	400000		
TOTAL FOR SECTION B11 CARRIED FORWARD TO SUMMARY						

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
B12.1	**SPEC GM 24**	**COMMISSIONING** Allow for all costs and expenses in connnection with the following items:				
B12.1		Providing "as built" drawings for all civil, mechanical and electrical work	Sum	1		
B12.2		Providing 2 draft copies of the Installation, Operation and Maintenance Manual prior to commissioning of the Works	Sum	1		
B12.3		Providing 6 final copies of the Installation, Operation and Maintenance Manual prior to the Issue of the Completion Certificate	Sum	1		
B12.4		Operating instructions and signage, as specified	Sum	1		
B12.5		Checking, starting up, testing and commissioning of the entire Works; including performance acceptance testing	Sum	1		
B12.6		Providing a commissioning test report	Sum	1		
B12.6.1	**SPEC GM 24**	**TRIAL OPERATING PERIOD** Trial Operation Period (1 months after successful commissioning)				
B12.7		Trial Operation Period with Operator 5 days / week (first 1 month after successful commissioning)	Months	1		
B12.8		Trial Operation Period with Operator 2 days / wk (second 1 month after successful commissioning)	Months	1		
B12.9		Operation and Maintenance Training, including certification	Sum	1		
B12.10		Performing the specified duties during the Defects Notification Period	Sum	1		
B12.11		Quarterly Service visits (incl all servicing consumables and performance checks and adjustments)	No	4		
B12.11.1	**SPEC GM 24**	**SPARES** Allow for all costs and expenses in connnection with the following items: ***Supply and deliver to Site the following spares:***				
		CARRIED FORWARD				

BILL: **B MECHANICAL, ELECTRICAL AND C&I**
SECTION: **B12 POST INSTALLATION**

ITEM	PAYMENT REFERS	DESCRIPTION	UNIT	QUANTITY	RATE R	AMOUNT R
		BROUGHT FORWARD				
B12.12		20no Suffcient filter nozzles for 1 pressure filter	Sum	1		
B12.13		Sufficient filter media in durable 20kg bags for 1 pressure filter	Sum	1		
B12.14		SCD sensor replacement unit in protective packaging (as standby held in stores)	Sum	1		
B12.15		Electrical spares	Sum	1		
TOTAL FOR SECTION B12 CARRIED FORWARD TO SUMMARY						

C2.2.1 Bill of Quantities – Summary

SCHEDULE 1 : CIVIL WORKS		
SECTION	**DESCRIPTION**	**AMOUNT (R)**
1	Preliminary and General	
2	Site Clearance and Earthworks (WTW Site)	
3	Sludge Holding Tank	
4	Raw Water Feed Pumpstation	
5	Building Work	
6	Filter Plant Building	
7	Concrete Slabs	
8	Clear Water Pumpstation Staircase	
9	Building Works	
10	Refurbish Existing Structures	
11	Building Refurbishments & General Signage	
12	Prefabricated Steel Clear Water Tank	
13	Interlinking Pipelines	
14	Roads and Stormwater	
15	Interlocking Paving and Retaining Walls	
16	Clear Water Rising Main	
17	Additions and Alterations to Existing Buildings	
18	Building Work	
	SUB-TOTAL (A)	
SCHEDULE 2 : MECHANICAL AND ELECTRICAL WORKS		
SECTION	**DESCRIPTION**	**AMOUNT (R)**
1	Preliminary and General	
2	Provisional Sums and Miscellaneous	
3	Mechanical: Pumps	
4	Mechanical: Water Treatment Equipment	
5	Mechanical: Chlorination Equipment	
6	Electrical: General, Coding and Labelling	
7	Electrical: Cabling	
8	Electrical: Small Power and Lighting & Fire	
9	Electrical: MCC and Distribution Boards	
10	Electrical: Power Supply, Lightning Protection and Earthing	
11	Data Services, C and I, Networking	
12	Post Installation	
	SUB-TOTAL B	
C	**SUB-TOTAL C {A+B}**	
D	**ESCALATION (12%)**	
E	**CONTINGENCIES (10%)**	
F	**SUB-TOTAL F {C+D+E)**	
G	**VAT (15%)**	
H	**TOTAL H {F+G}** **(carried forward to Form of Offer and Acceptance)**	

C2.3: TECHNICAL DATA SCHEDULES

C2.3.1 General

In addition to completing the information requested on the Technical Data Sheet Returnable Schedules hereafter, Tenderers shall also submit a separate file with the 'as issued' tender document containing Manufacturer's Technical Data Sheets for all mechanical and electrical equipment, holding tanks and all pipework fittings such as valves and pressure gauges and other sensor instruments and control equipment they propose to use on this project. These shall include the following details:

All equipment and fittings:

- Manufacturer
- Country of Origin
- Materials of construction
- Local supplier name and contact details
- The particular model to be used (Technical Data Sheets to be marked to indicate particular model where such sheets cover multiple models)

Where applicable:

- Allowable maximum operating range
- Proposed operating range
- Efficiencies (for all electro-mechanical equipment greater than 2 kW motor rating)
- Duty Point absorbed power
- Maximum rated power
- Physical dimensions footprint)
- Weight
- Type of coupling between motor and driven unit
- Type of seal for pumps (gland packing or mechanical seal)
- Fuel tank capacity and fuel consumption at 80% of rated power (Standby Generator)

Manufacturer's Technical Data Sheets are required for at least the following equipment:

- All flow meters and all other sensors
- SCD unit for regulating chemical dosing
- Polyelectrolyte chemical dosing pumps
- In-line static flash mixer
- All actuators
- Filter pumps
- Air blowers (incl. details of silencer hoods)
- Raw water abstraction pumps
- Raw water feed pumps
- Sludge pump
- Vertical shaft mixer for sludge holding tank
- All dehydration equipment (i.e. dehydration unit components, screw conveyor, progressive cavity feed pump, filtrate pump)
- Clear Water High Lift pumps
- Sodium Hypochlorite generators
- Sodium Hypochlorite dosing pumps
- Diesel-engine powered standby electrical generator

For steel pipe specials and proprietary fabricated units such as clarifiers and filters, please complete the attached Data Schedules and submit concept drawings of all such units and the associated inlet / outlet / scour / backwash pipework with the 'as issued' tender document.

C2.3.2 SCHEDULE OF IMPORTED EQUIPMENT

VALUES OF IMPORTED EQUIPMENT as per Item 8 of C2.1 Pricing Assumptions					CUSTOMS DUTY		SURCHARGE		Total in Rand of (C) + (D) + (E) included in Schedule of Quantities Item (F)
Schedule of Quantities Item	Description of Equipment	Value in Foreign Currency (A)	Rate of Exchange (B)	Value in Rand (A) X (B) (C)	%	Rand (D)	%	Rand (E)	

C2.3.3 Electrical Schedules (for information)

The following Electrical Schedules are herewith provided for information:

- Electrical Cable Schedule
- Instrumentation Schedule
- Small Power & Lighting Schedule

C2.3.4 Returnable Technical Data Schedule: Electrical

The information requested on the following Electrical Data Sheets shall be duly completed and signed by the Tenderer:

- Elec Data Sheet No 1: MCC & Instrumentation
- Elec Data Sheet No 2: Standby Generator

DATA SHEET 1 : MCC - 1 of 2			
Item	**Description**	**Required**	**Offered**
Enclosure	Type testing	TTA to IEC 61439-1	
Enclosure	Material	Mild steel	
Enclosure	Door thickness	2mm	
Enclosure	Mounting plate thickness	3mm	
Enclosure	Colour	RAL 7035	
Enclosure	Voltage rating	400V	
Enclosure	Current rating	750A	
Enclosure	1s kA rating	36kA	
Enclosure	IP rating	54	
Switchgear	Circuit breakers & MCB's		
Switchgear	Contactors		
Switchgear	Softstarters		
Switchgear	Power meters		
Switchgear	Surge protection		
Switchgear	LED indication lights		
Switchgear	Terminals		
Switchgear	Electronic overloads		
Switchgear	Timers & control relays		
Switchgear	Electronic products		
Switchgear	Power supplies		
Switchgear	Pushbuttons & S/Switches		
Switchgear	Fuse holders		
Switchgear	Ammeters & CT's		
Switchgear	Voltmeters		
PLC & HMI	PLC & HMI	S7-1500 & 15” HMI	
UPS & Backup Batteries	Backup	UPS & Charger and Batteries	
Copper	Copper		
Wiring	Wiring		

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DATA SHEET 1 : MCC - 2 of 2		
Description	**Requirement**	**Compliance (Yes / No)**
Voltage (nominal)	400V	
Voltage (operational)	400V	
Current	750A	
Fault level	36kA	
Frequency	50Hz	
Insulation voltage	1000V	
Impulse voltage	8000V	
Overvoltage category	IV	
Level of contamination	3	
IP rating	IP54	
Form of separation	4a	
Maximum temperature	45 degree Celsius	
Relative humidity	85%	
Material	Mild steel (2mm doors, 3mm mounting plates)	
Colour	Electric orange (Colour B26 – SANS 1091)	
Mounting	Floor standing	
Cable entry	Bottom	
Cable exit	Bottom	
Control voltage	230V	
Instruments & PLC	24V DC	

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DATA SHEET 2 : STANDBY GENERATOR- 1 of 2			
Component	**Description**	**Required**	**Offered**
Generating set	Output	400kVA @ 0.8PF	
Generating set	One step loading	65%	
Generating set	Second step loading	35% within 4s	
Generating set	Overloading	10% for 1 hour every 12 hours	
Enclosure	Material	1.6mm, 3CR12	
Enclosure	Colour	Siemens grey	
Enclosure	Control panel access	Double door	
Enclosure	Doors	All lockable	
Enclosure	Bolts, nuts & hinges	Stainless steel	
Enclosure	Construction	Weather proof	
Engine	Make		
Engine	Governor	Electronic	
Engine	Cooling system	Water cooled	
Engine	Injection system	Direct	
Engine	Cycles	4 cycle	
Engine	Speed	1500 rpm	
Engine	Exhaust	Flexible bellows	
Alternator	Make		
Alternator	Bearing	Single	
Alternator	Pitch	2/3 pitch winding	
Alternator	Insulation class	H	
Alternator	Voltage regulation	1.50%	

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DATA SHEET 2 : STANDBY GENERATOR- 2 of 2			
Component	**Description**	**Required**	**Offered**
Alternator	IP rating	21	
Fuel tank	Capacity	800 litre	
Fuel tank	Fuel gauge	Electronic	
Fuel tank	Filler cap	included	
Fuel tank	Dished bottom	included	
Fuel tank	Drain	included	
Fuel tank	Plug	included	
Control panel	Controller	Deepsea 7320 c/w Modbus RS485	
Control panel	Switchgear		
Control panel	Change-over switch		
Control panel	Change-over switch	4 pole	
Control panel	Change-over switch	Mech. & Elec. Interlock	
Control panel	Mains circuit breaker		
Control panel	Alternator circuit breaker		
Control panel	MCB's & relays		
Control panel	Current transformers	on load side of change-over	
Control panel	Emergency stop	included	
Control panel	Battery charger	3A c/w short-cct protection	
Control panel	Battery	maintenance free lead calcium	
Control panel	Battery	ampere / hour rating	
General	Manufacturer in RSA	Yes	
General	Back-up	24h, 7 days a week in KZN	

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C2.3.5 Control & Instrumentation Schedules (for information)

The following Electrical Schedules are herewith provided for information:

- Instrument Cable Schedule
- Instrument Index

C2.3.6 Returnable Technical Data Schedule: Control & Instrumentation

The information requested on the following Mechanical Data Sheets shall be duly completed and signed by the Tenderer:

- Analyser Instruments
- Flow Instruments
- Level Instruments
- Pressure Transmitting Instruments
- Weighing Instruments

C2.3.7 Returnable Technical Data Schedule: Mechanical

The information requested on the following Mechanical Data Sheets shall be duly completed and signed by the Tenderer:

- Mech Data Sheet No 1: Chemical Dosing Equipment
- Mech Data Sheet No 2: Flocculation & Clarifier Unit
- Mech Data Sheet No 3: Pressure Filter System
- Mech Data Sheet No 4: Raw Water Abstraction Pump
- Mech Data Sheet No 5: Raw Water Feed Pumps
- Mech Data Sheet No 6: Filter Feed & Backwash Water Pumps
- Mech Data Sheet No 7: Clear Water High Lift Pumps
- Mech Data Sheet No 8: Sludge Sump Pump
- Mech Data Sheet No 9: Sludge Holding Tank Mixer
- Mech Data Sheet No 10: Sodium Hypochlorite Generating & Dosing System
- Mech Data Sheet No 11: Fabricated Steel Specials

MECH DATA SHEET No 1	
WATER TREATMENT PLANT – CHEMICAL DOSING EQUIPMENT	
STREAMING CURRENT DETECTOR (submit Technical Data Sheet)	
Make and Model	
Country of origin	
POLYELECTROLYTE BULK TANK (1 No)	
Fabricator / Supplier's Name	
Material of manufacture	
Height / Dia / Volume	m m litres
Load cell details (to determine weight of contents)	Provide Technical Data Sheets
POLYELECTROLYTE DILUTION & HOLDING TANKS (2 No)	
Fabricator / Supplier's Name	
Material of manufacture	
Height / Dia / Volume	m m litres
Load cell details (to determine weight of contents)	Provide Technical Data Sheets
POLYELECTROLYTE MIXER (submit Technical Data Sheet) (2 No)	
Make and Model	
Country of origin	
Motor rated power & speed	kW rpm
Mixer shaft speed	rpm
POLYELECTROLYTE DOSING PUMPS (submit Technical Data Sheet) (4 No)	
Make and Model	
Country of origin	
Rated motor power	kW
Max Pumping Head	m
Max Flow	l/min(max)
Min Flow	l/min(min)
IN-LINE STATIC FLASH MIXER (submit Technical Data Sheet or drawing) (2 No)	
Length & Diameter	m mm
Head Loss at Design Flow (incl recycle water)	m
Head Loss at Hydraulic Peak Flow (120% above)	m

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MECH DATA SHEET No 2	
WATER TREATMENT PLANT – FLOCCULATION & CARIFIER UNITS	
Design Flow	m^3/d
FLOCCULATION TANK	
Fabricator / Supplier's Name: (if not integral with clarifier)	
Dimensions:	
Height	m
Diameter	m
Volume	m^3
Material of construction	
Method of floc conditioning	
Method of adjusting shear gradient	
Retention period at Design Flow	min
CLARIFIER	
Fabricator / Supplier's Name:	
Number of modular units	Two
Material of construction	
Dimensions:	
Height	m
Length	m
Width	m
Overall volume	m^3
Transport weight of unit	kg
Side water depth	m
Retention period at Design Flow	min
Upflow rate at Design Flow (incl recycle flow)	m/h
Lamella Pack details	Supply Manufacturer / Supplier's brochure.
Method of settled water draw-off	Show on drawings
No of sludge hoppers & discharge valves	Show on drawings
Rate of desludging	l/s
Note:	General arrangement drawings of clarifier units must be submitted.

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MECH DATA SHEET No 3 – pg 1 of 3	
WATER TREATMENT PLANT – PRESSURE FILTER SYSTEM	
PRESSURE FILTERS	
Overall Design Hydraulic Capacity (filter mode)	m^3/h
Fabricator / Supplier's Name of pressure vessel	
Material of manufacture	
Number of Filter Units	4 No.
Internal dimensions of each filter:	
Height	m
Diameter	m
Maximum rated pressure	kPa
Filter Media	
Supplier	
Effective size	mm
Uniformity co-efficient	
Depth of layer	mm
Support media (if proposed):	
Supplier	
Effective size	mm
Uniformity co-efficient	
Depth of layer	mm
Normal Operating Pressure Differential:	
Clean media	kPa
Max when dirty	kPa
Filtration loading rate at DESIGN FLOW	m/h
Nozzle details	Supply Manufacturer's Technical Data Sheet
Spacing of nozzles	mm
No. of nozzles/m^2	
Nozzle slot width	mm
Water backwash rate:	
Per filter	m^3/h
Per unit area	m/h
Air scour rate at operating pressure:	m^3/h
Per filter	m^3/h
Per unit area	m/h
Operating Pressure	kPa

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Date

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MECH DATA SHEET No 3 – pg 2 of 3	
SETTLED WATER BALANCING TANK (for Filter Feed Pumps)	
Volume	m^3
Material of manufacture	
Dimensions:	
Height	m
Diameter	m
Name of fabricator	
FILTER FEED & BACKWASH PUMPS – See separate Data Sheet	
AIR BLOWERS (Roots type positive displacement)	
Make and Model	
Country of origin	
Speed of motor	rpm
Speed of blower	rpm
Motor rated power	kW
Absorbed power at normal operating head	kW
Type of drive (and number of belts if belt drive)	
Operating pressure	kPa
Delivery volume at operating pressure	m^3/h
Footprint dimensions of motor & blower unit	m x m
Outside dimensions of acoustic hood:	
Height	m
Width	m
Length	m
Sound pressure of blower operating (measured outside of acoustic hood):	Decibels at m
Diameter of inlet and outlets:	
Inlet	mm
Outlet	mm

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Date

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MECH DATA SHEET No 3 – pg 3 of 3	
WATER TREATMENT PLANT – PRESSURE FILTER SYSTEM	
VALVE ACTUATORS	
Make and Model of valves (& dia valves)	
Settled water inlet	
Filtered water outlet	
Air inlet	
Spent backwash outlet	
Make and Model of actuators	
Settled water inlet	
Filtered water outlet	
Air inlet	
Spent backwash outlet	
Note:	General arrangement drawings of filter units and Technical Data Sheets for blowers, valves and actuators and nozzles must be submitted.

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MECH DATA SHEET No. 4	
RAW WATER ABSTRACTION PUMPS (one installed, other packaged for storage)	
PUMPS	
Make and Model	
Country of origin	
Mass and speed	kg rpm
Diameter of inlet and outlet branches:	
Inlet	mm
Outlet	mm
Material used for casing	
Material used for impeller	
Type of seal	
Material of shaft	
Design Duty Point	l/s at m head
Max Power absorbed within allowable operating head and flow range	kW at m head and l/s flow
Allowable operating range:	
Min flow / max head	m head and l/s flow
Max flow / min head	m head and l/s flow
Max operating suction head for self-priming	m (below atmospheric)
MOTOR	
Manufacturer	
Country of origin	
Type	
Class of insulation	standard
Rated power and speed	kW rpm
Note:	Manufacturer's pamphlets, characteristic curves and layout of pipework and special indicating sizes, etc., must be submitted.

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Date

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Name & Surname

Company Stamp:

MECH DATA SHEET No. 5	
WATER TREATMENT PLANT – RAW WATER FEED PUMPS	
PUMPS (VSD controlled)	
Make and Model	
Country of origin	
Mass	kg
Speed	rpm
Diameter of inlet and outlet branches:	
Inlet	mm
Outlet	mm
Material used for casing	
Material used for impeller	
Type of seal	
Material of shaft	
Power absorbed with installed impeller at max flow	kW
Max pump delivery at max VSD setting	m^3/h at _____Hz
Operating head at max pump delivery	m
Power absorbed at max pump delivery	kW
Min pump delivery at min VSD setting	m^3/h at _____Hz
Coupling (if not direct coupled)	
MOTORS (information required at 50 Hz and rated voltage)	
Manufacturer	
Country of origin	
Type	
Rated power and speed	kW rpm
VARIABLE SPEED DRIVE	
Make and Model	
Country of origin	
Max Operating range of VSD:	Min Hz Max Hz
Note:	Manufacturer's pamphlets, characteristic curves and layout of pipework and special indicating sizes, etc., must be submitted.

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Company Stamp:

MECH DATA SHEET No. 6	
WATER TREATMENT PLANT – FILTER FEED & BACKWASH WATER PUMPS	
PUMPS	
Make and Model	
Country of origin	
Mass and speed	kg rpm
Diameter of inlet and outlet branches:	
Inlet	mm
Outlet	mm
Material used for casing	
Material used for impeller	
Type of seal	
Material of shaft	
Material of shaft sleeve	
Power absorbed with installed impeller	kW
Pump delivery at operating head	m^3/h
Operating head	m
Power absorbed at operating head	kW
Method of ensuring correct flow rate	
Coupling (if not direct coupled)	
Pump Plinth footprint dimensions (incl motor)	m x m
MOTORS (information required at 50 Hz and rated voltage)	
Manufacturer	
Country of origin	
Type	
Rated power and speed	kW rpm
Note:	Manufacturer's pamphlets, characteristic curves and layout of pipework and special indicating sizes, etc., must be submitted.

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Date

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Company Stamp:

MECH DATA SHEET No. 7	
CLEAR WATER HIGH LIFT PUMPS	
PUMPS	
Make and Model	
Country of origin	
Mass and speed	kg rpm
Diameter of inlet and outlet branches:	
Inlet	mm
Outlet	mm
Material used for casing	
Material used for impeller	
Type of seal	
Material of shaft	
Material of shaft sleeve	
Power absorbed with installed impeller	kW
Power absorbed with maximum size impeller	kW
Diameter of impeller installed	mm
Maximum diameter of impeller	mm
Pump delivery at operating head	m^3/h
Operating head	m
	kW
Power absorbed at operating head	
MOTORS (information required at 50 Hz and rated voltage)	
Manufacturer	
Country of origin	
Type	
Class of insulation	standard
Rated power and speed	kW rpm
Note:	Manufacturer's pamphlets, characteristic curves and layout of pipework and special indicating sizes, etc., must be submitted.

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Name & Surname

MECH DATA SHEET No. 8	
SLUDGE TRANSFER PUMP (Submersible)	
Make and Model	
Country of origin	
Mass and speed	kg rpm
Diameter of outlet	mm
Material used for casing	
Material used for impeller	
Type of seal	
Material of shaft	
Design Duty Point	l/s at m head
Max Power absorbed within allowable operating head and flow range	kW at m head and l/s flow
Allowable operating range:	
Min flow / max head	m head and l/s flow
Max flow / min head	m head and l/s flow
Rated power and speed	kW rpm
Note:	Manufacturer's pamphlets, characteristic curves and layout of pipework and special indicating sizes, etc., must be submitted.

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Date

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Name & Surname

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Company Stamp:

MECH DATA SHEET No 9		
SLUDGE HOLDING TANK MIXER (submit Technical Data Sheet) (1 No)		
Make and Model		
Country of origin		
Motor rated power & speed	kW	rpm
Mixer shaft speed		rpm

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MECH DATA SHEET No. 10	
WATER TREATMENT PLANT – SODIUM HYPOCHLORITE GENERATING & DOSING EQUIPMENT	
ENVIROCELL GENERATOR (submit Technical Data Sheet)	
Make and Model	
Supplier	
BATCHING TANK	
Fabricator / Supplier's Name	
Material of manufacture	
Overall height, diameter and volume	
Height	m
Diameter	m
Volume	litres
HYPO HOLDING TANK	
Fabricator / Supplier's Name	
Material of manufacture	
Number Overall Height, depth and volume:	No:
Height	m
Depth	m
Volume	litres
HYPO DOSING PUMPS (submit Technical Data Sheet) (4 No)	
Make and Model	
Country of origin	
Rated motor power	kW
Max Pumping Head and max and min Flow:	
Max Head	m
Max Flow	l/min(max)
Min Flow	l/min(min)

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Company Stamp:

MECH DATA SHEET No. 11	
FABRICATED STEEL PIPE SPECIALS	
1. GALVANISED MILD STEEL PIPEWORK (pumps and filter manifolds)	
Fabricator's name	
Fabricator's contact details	
Quality Control Plan	Submit Fabricator's generic QCP in respect of material of fabrication, weld testing, surface preparation, lining and coating application
Name of galvanizer	
2. FBE COATED AND LINED PIPEWORK	
Coating and lining	Submit Technical Data Sheets for FBE
Fabricator's name & contact details	

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